LAO PEOPLE'S DEMOCRATIC REPUBLIC PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY



The Poverty Reduction Fund

SOCIAL AND ENVIRONMENTAL GUIDELINES

April 2008

TABLE OF CONTENTS

LIS	ST OF ACRONYMS	3
1.	Objectives and Legal Framework of the Social and Environmental Safeguards	4
2.	Types of Prohibited Activities	6
3.	Framework for Resettlement and Acquisition of Land or Assets (FRALA)	
a)	Policy context and scope of coverage:	
b)	Guiding Principles for Involuntary Resettlement	
c)	Procedures for Voluntary Contributions and Contributions with Compensation	
d)	Right to complain and take legal action	
e)	Verification	
f)	Procedures to be adopted in relation to the FRALA	10
4.	Approach for Inclusion of All Ethnic Groups	14
a)	Introduction	14
b)	Ethnic Groups in Lao PDR	14
c)	Policy context	15
d)	Challenges faced by vulnerable ethnic groups	17
e)	Difficulties encountered during PRF cycles 1 to 5	17
f)	New strategies	
g)	Procedures that will be adopted after Cycle V	22
5.	Feedback and Conflict Resolution Mechanism	23
6.	Physical Cultural Resources	23
7.	Environmental Management Framework	25
a)	Environmental Management Strategies	
b)	Training	
	nex 1 – Subproject Proposal Form (Template) nex 2 – Simple Environmental Assessment Templates	

Annex 2 – Simple Environmental Assessment Templates Annex 3 – Typical Environmental Impacts and Mitigation Measures Annex 4 – Environmental Monitoring and Inspection Form (Template)

LIST OF ACRONYMS

BCC	Behaviour Change Communication
СР	Community Participation
DDF	District Develop Fund
ESSF	Environmental and Social Safeguards Framework
EG	Ethnic Groups
GoL	Government of Lao PDR
KB	Koumban
IEC	Information, Education, Communication
MBO	Mass-Based Organizations
MIS	Management Information System
NGO	Non-Governmental Organizations
NESDP	National Economic and Social Development Plan
NGPES	National Growth and Poverty Eradication Strategy
NTFP	Non Timber Forest Product
O&M	Operation and Maintenance
PAP	Person Affected by Project
PRA	Participatory Rural Appraisal
PRF	Poverty Reduction Fund
SESM	Social and Environmental Safeguards Manual
ТА	Technical Assistant
UNDP	United Nations Development Program
VNPA	Village Need Priority Assessment
VP	Village profile

1. Objectives and Legal Framework of the Social and Environmental Safeguards

The Social and Environmental Safeguards Guidelines (SESG) deal with the guidelines, policies and procedures to be used to avoid or minimize adverse environmental and social impacts of subprojects and to ensure that they meet with the requirements of the World Bank as described in its safeguards policies. Implementation will be carried out in accordance with Lao PDR's national policy and legislation, and will comply with the World Bank Safeguards Policies.

The objective of these guidelines is to provide the national, provincial and district government, the PRF team, consultants, village officials, private and public sector agencies with adequate guidance for effectively addressing environmental and social safeguards in designing and implementing PRF subprojects by adopting a community-driven approach in developing and implementing subprojects.

Since most subprojects are very small, no major environmental and adverse social impacts are expected. The program will, by the nature of the decision-making process, not fund any investment that is not acceptable to the majority of villagers involved, and to all of the villagers directly affected. Decisions on the allocation of funds are made by villagers themselves, through a negotiation process, and with information provided by program facilitators and technicians. The majority of the villagers in the districts in which PRF will be implemented are from vulnerable ethnic groups. Therefore the subprojects are designed to enhance the impact on and be inclusive of all ethnic groups.

However, small-scale civil works may require minor land acquisition or may have minor adverse social or environmental impacts. Thus, these guidelines prescribe a screening and review process for all subprojects that may cause adverse impacts on the environment or people; procedures to avoid or mitigate these impacts; feedback and conflict resolution mechanism; and procedures for monitoring and evaluation. Screening and review will take place prior to submission of subproject proposals to the district meeting.

Preliminary screening will also be needed to assess the presence of Unexploded Ordinances (UXOs) and the danger they may impose on local subproject activities. As many districts throughout the Lao PDR are adversely affected by the presence of UXOs clearance may be required as a preliminary stage of subproject activities. The Technical Guidelines provide the procedures to be used in this regard. The PRF should seek advice from UXO Lao and local communities and authorities during the subprojects' technical feasibility study in order to determine the levels of contamination of the subproject sites. (No contamination, moderate and high). In the areas with no contamination, subproject activities and construction can proceed without having to undertake any UXO screening activities.

The relevant WB safeguard policies are summarized in Table 1.

World Bank Policies	Summary of Core requirements	Public Consultation
Involuntary Resettlement and Land Acquisition (OP/BP 4.12)	While the broad principles of the policy and equivalent national laws provide a guiding approach, no involuntary resettlement will be allowed and thus the policy will not be triggered. These guidelines therefore lay out the procedures to ensure that all resettlement or land acquisition is voluntary, and either provided through voluntary contribution or with compensation provided by communities.	Consult program affected persons (PAPs) and host community; hold meetings to document contributions and agree on compensation to be provided by the community. Document agreements from all affected persons. Provide grievance mechanism.
Indigenous People (OP/BP 4.10)	The Program will follow the key principles of the WB's policy concerning ethnic groups which are to "ensure that indigenous peoples do not suffer adverse impacts during the development process," and that they receive "culturally compatible social and economic benefits." Ethnic groups in Lao PDR, include ethnic groups such as the Mon- Khmer, Hmong-Mien, Sino-Tibetan and Tai upland ethno-linguistic groups, who are vulnerable and who meet the characteristics used in the WB's policy. These groups form the majority in most of the districts in which the program works hence the whole program is designed to comply with the OP/BP 4.10.	Identify ethnic groups in each village and ensure they can engage fully in the participatory processes of the subproject. Recruit ethnic facilitators, and train facilitators to work with ethnic groups and prepare materials in local languages. Consult ethnic groups from subproject planning, implementation and monitoring and evaluation. Involve MBOs to assist in subproject planning and implementation.
Physical Cultural Resources (OP/BP 4.11)	The PRF will investigate and provide inventory of cultural resources that are potentially affected and where impacts cannot be avoided, mitigation measures will be funded from the subproject.	Consult and document affected resources with program affected groups, concerned national, provincial and district government offices/authority and relevant MBOs. Identify options to avoid impact, or agree on mitigation measures to be included in the subproject.
Environmental Assessment (OP/BP 4.01)	The World Bank's Environmental Assessment (EA) Policy is triggered due to some civil work being involved in subprojects. However, most adverse impacts will be highly localized to the subproject site, temporary in nature and easily mitigated through careful site selection, good construction practices and sensible management of the completed subproject. Environmental issues will be identified, mitigated and monitored using Environmental Management Framework in the SESG which is applicable for all the subprojects.	EA Policy requires that program proponent consults with program-affected groups and local NGOs about the subproject's environmental aspects and takes their views into account. This consultation will take place during subproject identification and design phases, and the results will be incorporated into the subproject design and mitigation measures

Table 1: Selected WB social safeguards policies and core requirements under each safeguard policy

A joint screening form will be applied during subproject design phase for all environmental and social safeguards. The following sections will detail the procedures for complying with each of these policies.

2. Types of Prohibited Activities

To avoid certain adverse impacts on the environment and people, a number of activities are excluded from the menu of eligible subproject investments. These activities concern both environment and social impacts and are described below.

The Program will not fund new roads; electrical, gasoline or diesel generators or pumps; chain saws, pesticides; insecticides; herbicides; asbestos; or other investments detrimental to the environment. No new settlement or expansion of existing settlements will be supported in critical habitats, protected areas or areas proposed for protection. Where settlements already exist proposals for funding should be in compliance with any local regulations on land management and other provisions of the protected area management plan. No road construction or rehabilitation of any kind will be allowed inside critical habitats and existing or proposed protected areas.

The Program will not *fund* the acquisition of land under any conditions and involuntary resettlement is not allowed. However some resettlement or land acquisition may occur on a voluntary basis or with compensation paid by the village's own funds in some of the subproject. These subprojects will undergo review by facilitators and any voluntary movement or resettlement of more than five households or household structures will need special approval from the National Executive Office in Vientiane prior to decision at the district level meeting.

The program will not support government programs involving village consolidation and/or resettlement that are not consistent with Bank policies.

Any activity unacceptable to vulnerable ethnic groups in a village of mixed ethnic composition cannot be funded without prior review. Activities that will have significant adverse impacts on vulnerable ethnic groups in villages and in neighboring villages cannot be funded.

3. Framework for Resettlement and Acquisition of Land or Assets (FRALA)

The Framework for Resettlement and Acquisition of Lands and Asset (FRALA) is designed to provide policy and implementation procedures covering all aspects of resettlement or acquisition of land or assets that need to be addressed in the implementation of the subproject.

a) Policy context and scope of coverage:

In Lao PDR, compensation principles and policy framework for land acquisition and resettlement are governed by several laws, decrees and regulations as follows: (a) The Constitution (1991), (b) the Land Law (2003)¹, (c) Road Law (1999). (d) Decree of the Prime Minister on Compensation and Resettlement of People Affected by Development Project (No. 192/PM, dated 7 July 2005), and (e) Regulations for Implementing Decree of the Prime Minister on Compensation and Resettlement of People Affected by Development Project (No. 2432/STEA, dated 11 November 2005). The Prime Ministers Decree 192/PM is broadly in line with the World Bank policy OP/BP 4.12 on Involuntary Resettlement and the guiding principles of these policies are espoused in the FRALA. These policies would apply to any

¹ The Land Law 04/NA of 21 October 2003 supersedes the earlier Law 01 /NA 12 April 1997.

involuntary resettlement related to the project. However, as no involuntary relocation will be allowed under the program, the policy is not triggered and there are no procedures described for implementation of it.

The guidelines and procedures therefore focus on monitoring and ensuring that all resettlement or acquisition of land or assets is indeed voluntary, and describing the procedures for resettlement or acquisition in the implementation of subprojects through voluntary contribution, or compensation by communities own funds.

The broad Program description and components can be found in section 1.5 of the Manual of Operation.

b) Guiding Principles for Involuntary Resettlement

The guiding principles for Involuntary Resettlement according to the laws of Lao PDR and the WB safeguard policies are:

- a. Acquisition of land and other assets should be avoided when feasible and otherwise minimized;
- b. If any persons are to be adversely affected, mitigation measures must provide them with sufficient opportunities to improve, or at least restore, incomes and living standards;
- c. Lost assets should be replaced in kind, or compensated at replacement cost;
- d. Compensation should be paid in full, net of taxes, fees or any other deductions for any purpose;
- e. If any persons are required to relocate, transfer costs and subsistence allowances will be paid in addition to compensation at replacement cost for lost structures and other assets.
- f. Absence of legal title to land or other affected assets will not be a barrier to compensation or other suitable forms of assistance;
- g. Adversely affected persons will be provided information relating to impacts and entitlements, will be consulted as to their preferences regarding implementation arrangements, and will be informed regarding methods and procedures for pursuing grievances.

No involuntary resettlement or land acquisition is allowed in the program and therefore no procedures have been included in the program manuals to address this. The Framework therefore defines terms and provides guidance for voluntary acquisition of land or other assets (including restrictions on asset use) caused by subproject implementation either through contribution or with compensation by communities and establishes principles and procedures to be followed to ensure equitable treatment for, and rehabilitation of, any persons adversely affected by subproject implementation. This Framework refers solely to PRF activities.

c) Procedures for Voluntary Contributions and Contributions with Compensation

The objective of these guidelines is to ensure that the acquisition of land is minimized and does not result in persons losing their home or suffering any decline in income, livelihood, or living standards as a result of the subproject implementation.

Principles of the Procedures

- Land acquisition will be kept to an absolute minimum and no person will be involuntarily displaced under the Program.
- The Program will not fund the acquisition of land under any conditions: it cannot approve the use of grant funds for any purchase or rental/lease agreement with any group or individual.
- Some land acquisition or relocation may occur in the implementation of subprojects, but only on a voluntary basis or with compensation (possibly in-kind) provided by the community.
- Subproject proposals that would require the demolition of houses or the acquisition of productive land, permanently or temporary, must be carefully reviewed by District Coordinators and approved by the Provincial PRF Office. The review process should confirm that no satisfactory alternative is available, that affected persons have been informed about their rights to compensation and ensure that they have agreed with the arrangements.
- A description of the resettlement or land acquisition impact must be included in the subproject proposal.
- Subprojects with more than 100 persons affected, in which more than 10% of an individual's holdings is affected, or for subprojects with more than five households or structures being resettled or moved will require preparation of a Land Acquisition and Resettlement Report which needs to be reviewed and approved at the national level.

As it will not be possible in many cases to eliminate the need for acquisition, the guidelines allow for acquiring assets through the following two methods:

Voluntary Contributions: Community members have the right to make a contribution of their land or other assets, or to move their homes temporarily or permanently, without seeking or being given compensation. This can often be justified because the subproject will either increase the value of the remaining property or provide some other direct benefit to the affected people. Voluntary contribution is an act of informed consent. District Facilitators must assure that voluntary contributions are made with the prior knowledge that other options are available, and are obtained without coercion or duress. Proposals including voluntary contributions will not be submitted for approval where they would significantly harm incomes or living standards of individual owners or users (the amount contributed on a voluntary basis should not exceed 5% of that individual's holding).

Contributions with compensation: Persons who contribute their land or other assets have the right to seek and receive compensation (the subproject grant cannot be used to pay compensation). In such cases, District Coordinators will ensure that the following means of compensation are agreed upon and provided before works are undertaken:

- a) Replacement of land with an equally productive plot or other equivalent productive assets;
- b) Materials and assistance to replace fully solid structures that will be demolished;
- c) Replacement of damaged crops, at market value;
- d) Other acceptable in-kind compensation.

Consultation Principles

The village must ensure that all the people affected by the subproject are consulted at a public meeting in the village. During this meeting, which should happen during the subproject design phase, their right to compensation must be explained, as well as such alternatives as found in the guidelines. Formal minutes of the meeting (to be filled in a compensation form) are made and will include the main points of discussion as well as any decisions reached, including:

- a) For voluntary contributions, the name of the affected person and details of the contribution;
- b) For compensated assets, the names of the persons receiving compensation, and details of the type and amount of compensation,
- c) In addition, the minutes will contain the signatures of the affected persons and the village chief. There will be notes about complaints made by the affected persons. Also, a map will show the location of the affected assets.

The koumban facilitator will deliver a copy of the above notes to all those people who are affected by the subproject, to determine directly their wishes in regards to compensation, their perception of whatever agreements had been reached, and their complaints (if any).

As the process of determining compensation is the responsibility of the village, wherein the facilitator has no decision-making power, the koumban facilitator is bound to do the following:

- He or she must delay final approval until all persons affected by the subproject are satisfied with the compensation they are to receive, even if this causes a stalemate, the changing of design, or lengthy negotiations. Outsiders must not intervene to impose a solution.
- He or she must delay implementation until compensation is realized. Whenever a subproject has reached the implementation stage, the senior consultants, government officials, and donor should assume that compensation has been successfully delivered.

Land Acquisition and Resettlement Report

A Land Acquisition and Resettlement Report is required where subprojects affect more than 100 people, or in which more than 10% of an individuals holding is affected, or for subprojects for which more than five households or structures are moved. District Coordinators will support the villagers in preparing the Report and provincial staff will provide input as needed. The Community Development Officers at the provincial office must first review the Report and then forward it to the National PRF Office for approval. No subproject requiring a Land Acquisition and Resettlement Report will be submitted to the District Decision Meeting unless the National PRF Office has approved it. A template for the Land Acquisition and Resettlement Report will be developed by the National Office.

d) Right to complain and take legal action

All complaints should be handled and solved at the village level. If the problem cannot be solved in the village, complaints and legal action against these guidelines, the implementation of agreements found in the minutes, or other grievances can be filed according to the procedures summarized in Section 4 of this chapter and detailed in Chapter 5.5 of the Manual of Operations dealing with the Feedbacks and Conflict Resolution Mechanism.

e) Verification

PRF will keep all forms in district offices. At any time, all records regarding compensation, including minutes of the meeting and proof of receiving compensation must be available for inspection by the District Coordinator, Provincial consultants, auditors, and persons assigned to monitor aspects of the subproject by the subproject Secretariat. The Village Minutes and evidence of compensation having been made shall be provided to the koumban facilitator assisting the village, to supervising engineers, auditors and socio-economic monitors when they undertake reviews under the subproject.

Step s	Description	Reference Tools	
Step 1. Training of program staff and facilitators	• PRF principles, procedures, rules, regulations, structure and organization, the subproject menu and prohibited activities, methods to conduct VNPA meetings during the 1 st year, the 2 nd year, the Social and Environmental Safeguards Guidelines, differences between PRF Phase 1 and 2	Training modules	
Step 2. Socialization and information dissemination	 During the socialization meetings and VNPA, the facilitators will explain the SESG and record the outcomes in the minutes; Refer to the meeting guidelines at the socialization and VNPA meetings 	 IEC tool in the form of a brochure explaining the FRALA, distributed at the village level IEC tool: separate pamphlet (to be placed on koumban news board) Develop meeting guidelines. 	
Step 3. Village profile to screen for migrations/ relocation	• In VP, two types of resettlements – physical relocation and administrative consolidation - will be tracked, distinguished from temporary (or seasonal) migration.	• Village Profile form in the Manual of Operations	

f) Procedures to be adopted in relation to the FRALA

S4 4		
Step 4. Training of Koumban teams Step 5.	 PRF principles, policies, process, working method, menu of eligible subprojects and prohibited activities. The SESG Training for the koumban team on how to complete form and write minutes Subprojects proposed for selection are 	 Training modules Meeting guidelines
Subproject proposal preparation	 described in details: what is to be built or carried out, size, beneficiaries (men, women, vulnerable ethnic groups), location and timing, responsibility in terms of implementation, organization for efficient operation and sustainable maintenance, estimated cost, community contribution (amount and nature: kind, labor or cash), amount of PRF grant and method for procurement. Environmental and social checklists and assessment templates 	 Social and Environment Assessment templates Revised subproject proposal form (including checklists); see Manual of Operations VNPA Meeting's Form
Step 6.	• Separate meeting with affected persons to	Meeting guidelines
Meeting to decide contribution or	agree on mitigation measures, contribution, or compensation.	• MIS Report providing the number of
compensation	• Form signed by each villager affected and village head	 subprojects that involve resettlement and acquisition of lands, number of villagers affected by resettlement and acquisition of lands IEC tool: Voluntary contribution Compensation by Communities Contribution and Compensation Form documenting each individual agreement and signed by all affected people
Step 7. Preparation of Land Acquisition and Resettlement report (if required)	• Facilitators assist villagers to prepare the report.	• Template for Land Acquisition and Resettlement report
Step 8. Verification and approval process	 Approval given during the district decision meeting by the village authorities at the koumban and district levels District Officers monitor procedures are followed, check and approve Contribution and Compensation meeting minutes LAR report checked by Community Development officer ad sent to National PRF Office for approval All approvals must be received before subproject implementation commences 	

Step 9. Monitoring	•	Monitoring will be carried out by the PRF. One report will be prepared by the koumban facilitators detailing the process related to resettlement and compensation.	• MIS forms and follow-up guidelines,
Grievance and feedbackMechanism•See related chapter in the Ma		Feedback and Conflict Resolution Mechanism See related chapter in the Manual of Operations	• Develop Feedback and Conflict Resolution Mechanism

Key definitions

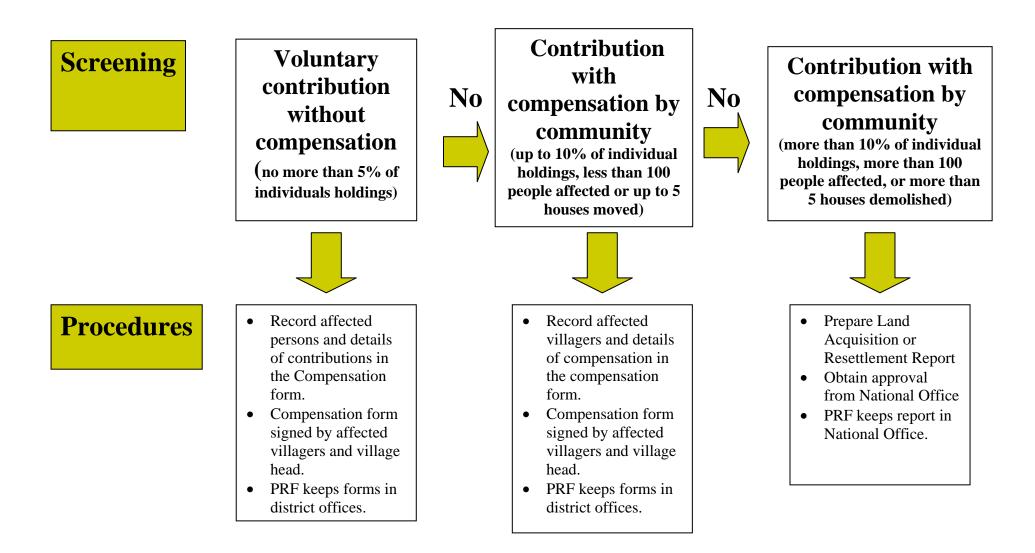
Land Acquisition: A process by which any person is compelled to relinquish ownership, possession, control or use of all or part of their land, structures, or other assets. This includes land or assets for which the possessor or user enjoys customary or uncontested access but lacks legal title (e.g. trees, grazing rights, cultivatable land).

<u>Program-Affected Person:</u> Any person who, on account of the execution of a subproject would have either their:

- (i) Right, title or interest in any house, land (including residential, agricultural and grazing land) or any other fixed or movable asset acquired or possessed, in full or in part, permanently or temporarily; or
- (ii) Business, occupation, work, place of residence or habitat adversely affected; or
- (iii) Standard of living adversely affected.

<u>Replacement Cost</u>: The principle of valuation used to determine appropriate compensation for lost land or other assets. Replacement cost refers to the amount necessary for actual replacement of the lost asset. To achieve replacement cost, assets cannot be depreciated for age or prior use. Replacement cost also is net of taxes, fees, or any other deductions for any other purpose. The Program funds cannot be used to pay such costs; therefore proposals must explain how the village will provide appropriate compensation where this is necessary.

Summary of FRALA



4. Approach for Inclusion of All Ethnic Groups

a) Introduction

The purpose of this Approach for Inclusion of All Ethnic Groups is to ensure that the Program follows the key principles of the World Bank's policy concerning ethnic groups (OP/BP 4.10 on Indigenous Peoples), which are to "ensure that indigenous peoples do not suffer adverse impacts during the development process... and that they receive culturally compatible social and economic benefits"; and also to ensure that the concerns of all ethnic groups are met through the design of the Program itself as well as in accordance to government policy. Thus, this Plan aims at assuring that throughout the PRF's subprojects' implementation the cultures of the multi-ethnic society are respected and that gender issues are integrated at all levels.

The PRF will be implemented in districts included on the government's list of 47 priority districts. These districts represent 20 percent of the population of Lao PDR, but an estimate of 55 percent of the poor population. Moreover, the population in the 47 priority districts is more than 80 per cent from non Lao-Tai ethnic groups. In this respect, the vast majority of the program beneficiaries are expected to be from the vulnerable ethnic groups and the subproject itself is designed to comply with OP/BP 4.10. The following sections provide background on the ethnic groups in Lao PDR and the issues they face, and explain the steps that will be taken in the program to ensure they benefit fully, and appropriately, from program activities.

These guidelines are also developed to ensure the full participation of vulnerable ethnic groups who i) speak a language different from the official language of the country; ii) maintain their own separate ethnic identity through their dressing codes and customary and traditional practices which are different to what is common in other parts of the country.

b) Ethnic Groups in Lao PDR

Lao PDR is characterized by a variety of cultural groups. Although their numbers have differed, specialists mostly agree on the following classification: there are four main ethno linguistic groups, including the majority Lao Tai which comprises 66 percent of the population. These four groups are further sub-divided into 49 officially recognized sub groups, and again into more than 200 smaller groups (See Table 2 for a summary of the main characteristics associated with the four ethno-linguistic groups).

Ethno- Linguistic	Language Family	Summary Characteristics	
Tai Kadai	Lao Phoutai	65% of the population, living mostly along the economically vibrant Mekong corridor along the Thai border or in Northern lowlands; settled cultivators or urban dwellers; migrated into Lao PDR since the 13th century; Buddhists.	

Table 2: Ethnicity of Population ²

² Lao People's Democratic Republic: Northern Region Sustainable Livelihoods Development Project, Indigenous Peoples Development Plan, Document Stage: Final Project Number: 35297, August 2006, Prepared by the Government of Lao People's Democratic Republic for the Asian Development Bank (ADB), page 5 and *NSC/CPI*, *ADB*, *SIDA and the World Bank*, 2006

Austroasiatic	Mon Khmer	24% of the population, living mainly in highland areas in the North and Central South, smaller groups (Khmou) live also in the Northern lowlands; the most diverse ethnic group and the first one to inhabit large areas of Lao PDR; animist and shifting cultivators; fairly assimilated due to hundreds of years of interaction with Lao-Tai, single communities live in isolation as hunter-gatherers.
Hmong - lu Mien	Hmong Yao	8% of the population, living mainly in mid- and upland areas in the North; Hmong is the largest subgroup; animist with strong ancestor cults, although many converted to Christianity; typically shifting cultivators, migrated to Lao PDR in the 19th century.
Chine – Tibetan	Tibeto Burman	3% of the population, living mainly in poorly-connected upland areas in the North; animist and shifting cultivators; migrated to Lao PDR in the 19th century.

c) Policy context

The official terminology for describing the diverse population of the Lao People's Democratic Republic is 'citizens of all ethnicity'. This terminology, introduced with the 1991 Constitution, acknowledges the need to incorporate all ethnic groups' concerns in all sectors of the developing policy.

While article 89 of the Constitution specifically indicates that "the Lao language and script are the official language and script."³; article 8 relates to ethnic groups as it specifies that there exists unity and equality among all groups, who also have the right to protect, preserve, and promote the customs and cultures of their own and that of the nation. Likewise, the State is committed to gradually develop and upgrade the socio-economic conditions of different ethnic groups and to prohibit all acts that could create division and discrimination among them. The basis of the GoL's approach to Ethnic Groups is articulated in the 1992 Resolution of Party Central Organization for which:

The main objectives are

- Accomplishment of equality between ethnic groups
- Increasing the level of solidarity among ethnic groups as members of the greater Lao nation
- Preventing problems which results from inflexible and vengeful thinking as well as economic and cultural inequality

In sum, this shall be achieved through:

- Strengthening of national thinking and feelings
- Gradually improving the living conditions of the ethnic groups
- Promoting the cultural heritage and ethnic identity of each group as well as their capacity to participate in the affairs of the nation (Pholsena 2003).

Furthermore, the National Growth and Poverty Reduction Strategy (2004) and the National Socio-Economic Development Plan 2006-2010, which integrates the NGPES, lay out the Government's policies on poverty reduction. In particular the poverty

³ Lao PDR: Proposed Sector Development Program Asian Development Fund Grants Lao People's Democratic Republic: Basic Education Sector Development Program, Gender and Ethnic Groups Development Plan, Document Stage: Draft, Project Number: 32312, July 2006, page 3.

reduction strategy articulated in the NESDP has five components, of which three are pertinent to the PRF:

- Provision and effective use of basic social services
- *Participation and empowerment*
- Development of the 47 poorest, and 25 poor areas which includes the following:
 - Preparation of focal area development plans for koumbans (groups of villages) in pilot districts
 - Targeted interventions including focal area development, village development funds, and poverty reduction fund.⁴

The NESDP also includes guidelines for remote village development which refers specifically to the ethnic groups who mostly inhabit these areas:

Develop and implement the socio economic development plan in remote, ethnic areas. Strive to supply the necessary infrastructure for these villages.

Reduce the disparity of living conditions among different ethnic groups.

Encourage and promote permanent settlement to ensure production. Upgrade living conditions in accordance with their traditions and based on the focus village arrangements

Improve and expand ... education, health care, culture, and information for ethnic groups.

Additionally, the Ethnic Groups Committee under the National Assembly is charged with responsibility for drafting and evaluating proposed legislation concerning ethnic minorities. Implementation of the Party's policy on ethnic groups is tasked to the Lao Front for National Construction (LFNC). The mandate of the Institute for Linguistic Research includes research on languages and writing systems, and coordination on matters of curriculum and research. The Ministry of Education has a Gender and Ethnic Minority Unit tasked with developing appropriate strategies and monitoring sector policies and impacts on these groups⁵.

Ethnic poverty in Lao PDR still remains concentrated in upland areas inhabited largely by remote ethnic communities. Moreover, the cultural and linguistic differences are greater among many of these upland communities. Actually, often due to their remote location, the ethnic groups have comparatively less access to government services. As such, this higher incidence of poverty makes them more vulnerable socially and economically. Furthermore, even though the quantitative analysis of the Lao Expenditure and Consumption Surveys (LECS) shows that poverty fell from 39 per cent in 1997-98 to 33 percent in 2002-03, there still exist wide regional and ethnic discrepancies.

⁴ Lao PDR Poverty and Social Impact Analysis: Impact of Poverty Reduction Programs on Ethnic Minorities and Women, draft, June 2007, Document of the World Bank, page 35

⁵ Additional Annex 11: Social Assessment and Ethnic Group Development Plan, Lao People's Democratic Republic: Second Education Development Project, page 3

http://www-

wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/07/22/000094946_03070304043562/Rendered/I NDEX/multi0page.txt

Rural poverty at 38 percent is far higher than urban poverty at 20 percent, and the majority Lao Tai group have a 25 percent poverty incidence while for the Mon Khmer the figure is more than twice as high at 54 percent⁶.

	% of National Population	Incidence of Poverty Headcount Index (% of pop.)
Total Lao PDR	100.0	
By Geographic Area		
Urban	23.0	19.7
Rural	77.0	37.6
With all-season road		31.4
Without all-season road		46.2
By Ethnic Group		
Lao-Tai	66.6	25.0
Mon-Khmer	20.6	54.3
Hmong-lu Mien	8.4	40.3
Chine-Tibet	3.3	45.8

Table 3: Ethnic Group Poverty Patterns in Lao PDR, 2002/3

Source: World Bank 2005 based on LECS3

d) Challenges faced by vulnerable ethnic groups

The challenges faced by vulnerable ethnic groups in Lao PDR can be grouped into three areas. The first is linked to transitions taking place in the uplands. Indeed, the marketeconomy, the changes taking place at the village level (for example mixed villages) and issues related to land use, have a direct impact on ethnic groups' lifestyles and quality of life; and may contribute to increasing the ethnic groups' vulnerabilities. In fact, it appears that vulnerable ethnic groups may not be able to make the most out of the marketeconomy opportunities with women being the least able to. Secondly, institutional changes, such as the creation of the koumban committees, also have a direct impact on vulnerable ethnic groups insofar as they demonstrate the difficulties faced by these groups in accessing information and being represented in decision-making; thus, contributing to negotiation discussions that may be imbalanced. Lastly, the changes mentioned above, also have an impact on traditional gender roles that may lead to persistent gaps between men and women, especially those belonging to vulnerable ethnic groups.

e) Difficulties encountered during PRF cycles 1 to 5

The first main difficulty encountered pertains to language obstacles that limit non-Lao speaking communities' participation. Also, *villages with very high proportions of poor households have difficulties in participating in the planning process*⁷ because of this language barrier. Furthermore, a *lack of translation services between Lao and the other ethnic groups' languages is a major constraint, especially on women's participation*⁸. Second, even though women are included in a formal sense; in the actual decision-making, at least on higher levels, they are only playing a marginal role. Additionally, large

⁶ Lao PDR Poverty and Social Impact Analysis: Impact of Poverty Reduction Programs on Ethnic Minorities and Women, draft, June 2007, Document of the World Bank, page 21

⁷ Participatory Poverty Assessment II (2006), Lao People's Democratic Republic, National Statistics Center, Asian Development Bank, James R. Chamberlain, October 2007, page 10

⁸ Community-Based Approaches in Lao PDR: A Review of the Poverty Reduction Fund (PRF) and Other Projects, November 6, 2007, page 22

numbers of women in the koumban team are illiterate; similarly it may be difficult for some women to get involved as village representatives because they do not speak Lao fluently and have limited ability to travel; thus, they cannot fully participate in the process and decision-making. Thirdly, in areas with large vulnerable ethnic groups koumbans have difficulties in finding *persons that are educated enough to operate financial transaction and bookkeeping*⁹.

In addition, throughout the PRF process, various problems have been identified and are presented in table 4.

⁹ Community-Based Approaches in Lao PDR: A Review of the Poverty Reduction Fund (PRF) and Other Projects, November 6, 2007, page 22

Issues	PRF until present	Procedures adopted to date	Potential measures for a greater integration
Language	 Ethnic groups' members who do not speak or understand Lao may be less likely to participate; and thus may not feel as motivated or empowered. The village representatives from the vulnerable ethnic groups may not understand the proceedings and may not be able to represent adequately his/her three (3) village needs. Therefore, at times the village may not be selected. This may also lead to animosity from the other villagers because his/her village was not selected. Most IEC tools used are in Lao; therefore, those who do not understand the language cannot comprehend them. PRF teams conduct the VNPA meetings at the village level in Lao. However, koumban facilitators are not fluent in Lao. Vulnerable ethnic groups cannot fully participate in KB and District meetings, which are carried out in Lao. 	 Interpreters are used during all the meetings. Community radio broadcasts concerning the Program's process are in vulnerable ethnic languages: strategy, financial management, subprojects' maintenance, community contribution. This has been accomplished in three districts: Ta Oi and Samoi in Saravanne Province and Khoun District in Xieng Khouang Province. 	 Elect one woman or man from each ethnic group to act as a koumban facilitator. Develop appropriate IEC tools: use visual aid (pictures, photos etc.) to explain the PRF Program. Youth, especially from vulnerable ethnic groups, broadcast radio spots in vulnerable ethnic languages.
Gender	 Difficulties in finding women who speak Lao Difficulties in electing women and/or men from vulnerable ethnic groups to act as koumban facilitators or as village representatives due to language barriers Women, at the community level, have limited mobility due to cultural/social constraints (some husbands do not authorize their wives to go to other villages and participate in meetings). Difficulties in increasing women's participation , especially those belonging to vulnerable ethnic groups 	 Separate women and men's meetings One facilitator is a woman When selecting the village's three priority needs; one must come from the women's group. 	 Initiatives to increase women's participation (for example the quadrant game) Provide training
Leadership/represent ativity	 Vulnerable ethnic group members may be shyer as their education level is different from that of other villagers. Both women and men are divided into two groups. In many remote villages, a woman in the women's group and a man in the men's group will speak more often than the rest of the group and will not facilitate the participation of the vulnerable ethnic groups' members. Difficulty in mixed villages for the newcomers to become leaders 		 Provide special training for vulnerable ethnic groups' village representatives so that they are better able to represent their village needs during the koumban meeting: Negotiation and Communication skills There should be the same number of facilitators as of various ethnic groups. Rearrange sitting arrangements so as to seat the villagers, especially those belonging to vulnerable ethnic groups, in the middle of the room.

Table 4: Issues identified during the PRF's subprojects' process

Ownership Facilitation by PRF and koumban facilitators	 Some vulnerable ethnic groups' villagers do not understand the O&M of their subproject; thus can not operate or maintain the infrastructure. Also, some cannot contribute to the maintenance fund at the village level due to lack of income. This may contribute to a reduced feeling of ownership towards the subproject. Some PRF and koumban facilitators do not use participatory tools (ex: group brainstorming, ranking exercises etc.), that would enable the Program not only to gather data on important issues, such as the community's vision of development or village poverty level but also would also facilitate the vulnerable ethnic groups' participation. 	 Community radio broadcasts in local language concerning the Program's process, including O&M. This has been accomplished in three districts: Ta Oi and Samoi in Saravanne Province and Khoun District in Xieng Khouang Province. Refresher training for the PRF team and koumban facilitators: Communication skills with special emphasis on vulnerable ethnic groups Gender issues Participatory planning process Organizing meetings (lessons learned) Present the poverty levels of different villages to establish a consensus amongst all villagers on who is actually poor; 	 Use appropriate IEC tools to sensitize the villagers. Share orally key Program documents into the language of vulnerable ethnic groups Youth, especially from vulnerable ethnic groups, broadcast radio spots Cross-visits to other areas Every time PRF team evaluates, monitors or supervises activities in the village, s/he must train the community in relevant issues such as subproject's maintenance; technical terms, planning (in relation to PRF work and the problems encountered in the area). Include local government and officials in training
PRF Guidelines	• The guidelines pertaining to the number of priority	• The principle "empathy" or siding with the poor is used to reinforce the consensus.	• Specify in the guidelines that the PRF will favor two
T Ki Guidelines	needs that women and men can express is not clear.		needs expressed by the women's group.
Subproject appraisal	• Sometimes subprojects are not feasible in villages solely inhabited by vulnerable ethnic groups due to the remoteness: it is difficult to bring the material needed for the subproject's implementation		• The koumban and PRF facilitators should use the problem tree analysis to identify the villagers' needs. Then it would be possible for them to understand the priorities expressed, identify the problems that would arise during the subproject's implementation and select the most appropriate one considering the village's resources and specificity.
Mixed village	• Newest people are the most vulnerable: no leadership position. They are living on state land.	• PRF does not work with resettled communities.	 The PRF will apply affirmative action towards an vulnerable ethnic group member from a mixed village and select him/her Village profile and participatory mapping on an annual basis

f) New strategies

The PRF Program seeks to empower vulnerable ethnic groups by enabling them to have better access to education, to health services and to roads; thus, a better quality of life; so that they may also take advantage of different market-economy possibilities. In addition, the Program aims at expanding the vulnerable ethnic groups' space for negotiation and interaction with the government while preserving their cultural specificities. Through this respect and empathy for diverse cultures, the PRF's proactive approach intends not only to provide information but also to increase vulnerable ethnic groups' participation in all of the subprojects' implementation cycle. As such, PRF's main objectives in relation to vulnerable ethnic groups are:

- To empower the vulnerable ethnic groups to benefit from development by building capacity through increasing access to information as well as encouraging part in decision-making;
- To empower the vulnerable ethnic groups in seizing the opportunities brought by the PRF's subprojects: access to education via the construction of schools, to market opportunities via the development of roads, to a better health via the building of health centers and water infrastructures.
- To promote gender equality and increase the participation of women at all levels of the PRF's subprojects' implementation.

In order to empower vulnerable ethnic groups, the strategies that will be adopted as of cycle V include some of the following:

- Training on gender and vulnerable ethnic groups provided not only to the PRF team as well as the koumban team and the district officials, so as to increase awareness and sensitization on these issues;
- Increasing the sense of ownership amongst vulnerable ethnic groups also through the oral sharing of key documents in their ethnic languages;
- Maintaining and expanding partnerships with Mass-based organizations, projects and others involved with vulnerable ethnic groups as well as women;
- Piloting new tools such as the IEC material and other Participatory Rural Appraisal (PRA) tools (participatory mapping, the pocket chart) as well as new initiatives (such as the quadrant game) in order to increase confidence and skills to participate as well as to better integrate vulnerable ethnic groups at the onset of the subprojects' implementation;
- Increasing access to information or development issues in general;
- Using an enhanced village profile that will lead to a better monitoring and evaluation of the subprojects' impacts on vulnerable ethnic groups as well as a better tracking of the differences in terms of ethnic groups' composition at the village level.

The following table presents other activities that may permit a better integration of vulnerable ethnic groups as of cycle V.

g) Procedures that will be adopted after Cycle V

- 1 Train PRF staff, koumban facilitators in gender and ethnic sensitization (See Training manual).
- 2 Share orally key Program documents into local language during the cross koumban meeting.
- 3 Village profile: include data on different ethnic groups living in the village and levels of poverty. Update data annually (See Manual of Operations). Simple mapping presenting ethnic groups' concentration in villages.
- 4 Provide capacity building to village representatives, especially those who belong to vulnerable ethnic groups (See Training manual).
- 5 Supervision in local ethnic language.
- 6 Conduct workshops and training on relevant issues for vulnerable ethnic groups (See Training manual).
- 7 Organize study visits between koumban facilitators working in villages where there are different ethnic groups on the methods, difficulties, solutions retained when integrating, socializing and mobilizing vulnerable ethnic groups.
- 8 Learning experience from other countries through research and study tours.
- 9 Link with key partners experienced in vulnerable ethnic groups' participation, mobilization (such as the following MBO: LWU, Lao Front for National Construction) in the areas of provision of training, monitoring and evaluation and other areas which are complementary.
- 10 Youth, especially those from vulnerable ethnic groups, broadcast radio spots on the community radio.
- 11 Exchange experiences among ethnic groups living in other villages.
- 12 Recruit qualified personnel from vulnerable ethnic groups, especially women.
- 13 Monitor and evaluate PRF vulnerable ethnic groups' coverage and support. This could also include ad hoc studies related to vulnerable ethnic groups done by consultants according to the Program's needs (ex: Studies to identify potential adverse effects on vulnerable ethnic groups to be induced by the Program, and to identify measures to avoid, mitigate, or compensate for these adverse effects).

5. Feedback and Conflict Resolution Mechanism

The Purpose of the Feedback and Conflict Resolution Mechanism is to ensure that the PRF has in place a system to receive feedbacks/complaints, listen to the voices of the poor and vulnerable, and resolve the issues effectively and expeditiously. Such a system will allow the PRF to be fully responsive to its beneficiary communities and empower the vulnerable ethnic groups and poor in villages.

Principle of the System

The Program encourages transparency and community ownership, and it is inevitable that there will be feedbacks/complaints registered as the subproject progresses. Also, at present the system incorporates the *anonymity* or *confidentiality* factor.

Source of Feedbacks/Complaints

In principle, feedbacks can be expressed by anyone involved in the PRF. However, this system will be setup exclusively to hear voices from villagers, especially from the poor and vulnerable (such as vulnerable ethnic groups and women), as these groups of people are expected to have less means to vocalize.

Means of Receiving Feedbacks

Feedbacks can be made verbally or in a written form. Feedback and Conflict Resolution Forms (FCRF-Form) are available at the Koumban level, where a "Feedback Box" is currently located. Plaintiff is encouraged to fill out the CPF-form for investigation, but the issue can also be explained on plain paper. All feedbacks in written form should be submitted to the Feedback Box.

Feedbacks can also be conveyed verbally by visiting PRF offices. All feedbacks received must be written on the CPF-Form by the PRF staff.

Types of Feedbacks

Feedbacks may include: misuse of funds; corruption allegations; inappropriate intervention by outside parties; and violation of Program policies and principles. Many times, the "feedbacks" may just be simple inquiries about subproject procedures or rules.

Organizational Structure

When a feedback has been referred for investigation, the Feedback and Conflict Resolution committee at Koumban level will investigate the feedbacks, to discuss and consult with the involved/affected parties. All feedbacks will initially be dealt with at the local level. If the feedback cannot be solved at the Koumban level it will be transferred to next level for further investigation.

For additional information, refer to chapter 5.5 of the Manual of Operation.

6. Physical Cultural Resources

The kinds of physical cultural resources that may be affected by subprojects are those that may have important social or cultural significance, or are part of the cultural identity or practices of the community, or specific ethnic groups within the community. All efforts will be made to mitigate impacts on such resources, however in the event that impact is unavoidable, the affected people should agree on appropriate mitigation actions. Mitigation activities may be included in the subproject proposal, and the costs, for example, can either be covered through voluntary contribution or included in the costs of the subproject. Activities in which the costs of mitigating impact to cultural resources exceed 2 percent of the total subproject costs will not be allowed. The procedures which will be followed are described below. Each step may be implemented in conjunction with the EA process provided in Section 6.

Steps	Description	Relevant documents
Step 1. Training and	Information about Physical	 Socialization Meeting
socialization	Cultural Resources and	guidelines
	procedures for mitigating	 Training modules
	impact included in	
	socialization and training for	
	staff and facilitators	
Step 2. Participatory planning	Facilitators identify physical	VNPA meeting guidelines
and subproject preparation	cultural resources at planning	
	stage	Subproject proposal format
	Community discuss options	
	for avoiding impact	
Step 2. Screening	Screening and checklist	Checklist included in
	included in subproject	subproject proposal
	proposal	
	District staff follow up where	
	impact is noted	
Step 3.Agreement on	At the Contribution and	Minutes of the meetings will
mitigation measures	compensation meeting, the	include the measures and be
	affected villages also discuss	signed by representatives of
	mitigation measures, or	the affected people
	measures to preserve or	
	restore cultural significance	
Step 4. Verification	District Coordinator will	
	verify that the steps are	
	appropriate and agreed by the	
	affected people	
Step 5. Grievance	The grievance mechanism	Grievance mechanisms in
	can be used by people	Chapter 4
	directly affected, to lodge	
	complaints	

When a subproject happens to encounter underground physical cultural resources during construction, the incident should be reported to a relevant authority in charge and the civil work is suspended until guidance from the authority is provided. In case the civil work is sub-contracted, such a 'chance finds' mechanism should be included in the contract obligations.

7. Environmental Management Framework

Although the impacts of PRF subprojects on the environment can not be denied, they will remain extremely limited because of the nature and scale of the subprojects.

The following table gives an indication of the land mobilized by the infrastructures funded by PRF and therefore of the very limited scope of the environmental impact.

Infrastructures	Maximum size	Number of subprojects	Total land surface
Schools	5 classrooms x 7m x 8 m = 280 m ²	354 schools	0.01 km ²
Roads	Width: 3.5 m	2420 km	8.47 km ²
Markets	25 m x 10 m = 250 m ²	9 markets	0.00 km ² (2,250 m ²)
Dispensaries	9 m x 11 m = 99 m ²	31	0.00 km ² (3,069 m ²)
Water reservoirs ¹⁰	Ø 100 m =7,850 m ²	60 Water reservoirs	0.47 km ²
Water tanks	$10 \text{ m}^3 = 6 \text{ m}^2$	1,012 Tanks	0.01 km ² (6,072 m ²)
		Total:	8.96 km ²

Land surface affected by PRF subprojects during the first four cycles.

The following figures (Cycle I - IV) give additional indications of the limited volume of the PRF activities in terms of environmental impact:

- Totality of irrigation channels built and renovated: 35 km
- Clean water distributed annually to villagers annually by clean water systems set up with PRF support: 4,250,000 m³

The PRF technical assessment¹¹ conducted in December 2006 assessed the environmental impacts of the Program and concluded that *most subprojects implemented by PRF had little or no impact on the environment. There were no major case of heavy landslide and the subproject location did not create any disturbance or prejudice to the villagers.*

a) Environmental Management Strategies

In order to minimize the subprojects' impact on the environment, the PRF has developed an Environmental Management Framework in compliance with the World Bank's Environmental Assessment Policy (OP/BP 4.01) aiming at:

- Screening and assessing the potential impacts of a proposed subproject before it is approved;

¹⁰ For the sake of this calculation, it is considered that half of the irrigation schemes involve the construction of one reservoir.

¹¹ MEK Consultants Co., Ltd and ACCMIN Consultants Co., Ltd. December 2006. *PRF Final Report for Technical Assessment*. Vientiane. Prime Minister Office.

- Mitigating the negative impacts of approved subprojects during their design, construction and implementation and in the long term.

1) Subproject identification phase

Before a subproject is approved, several meetings are facilitated by the PRF district staff at village, koumban and district level. During these meetings, the PRF staff inform the communities of the potential environmental risk of the subproject, raise awareness of communities about the protection of the environment by the communities, and gather information on areas where a subproject is implemented; for instance, the current land use of the site, existence of protected area, etc. If the subproject is found to include activities specified in the prohibited activities in Section 2, it will be screened out or reconsidered to exclude such activities.

2) Subproject design phase

Subprojects which are submitted by a village and which have been pre-selected during the koumban and the district prioritization meetings are then designed by the villagers with the technical support of the PRF teams.

The Subproject Proposal Form (SPPF) used to document the design includes a quick environmental screening (see Annex 1) which allows the team to check if there are any specific risks. PRF teams fill in the form based on the villagers' knowledge, on *in-situ* observations and on prior discussions with district government staff (in order, for example, to cross-check that the subproject will not be located in a protected area). At this stage, subproject activities specified as prohibited in Section 2 are completely excluded from the subproject. If sensitive environmental issues do not exist and the scale of the subproject is less than the threshold, further EA work is not required and the subproject follows the standard operating procedures in the Engineering and Technical Guidelines while environmental due diligence should be provided, as appropriate, using Annex 3 as a reference.

If a potential environmental risk is identified, a simple EA is conducted by the PRF district team (see the Simple Environmental Assessment Template in Annex 2). Typical environmental impacts and mitigation measures by subproject category are available in Annex 3 for a reference to conduct the EA and identify appropriate mitigation measures. A draft EA is disclosed to and consulted with the village members and other stakeholders to seek and incorporate their views into the subproject design and mitigation measures. Upon the completion of draft EA, the PRF team will send the draft EA to the district government technical staff for review and approval before the subproject is submitted for approval at district level (district decision meeting).

<u>Note</u>: The quick environmental screening included in the SPPF (see Annex 1) has been revised during the update of the PRF Manual of Operations at the beginning of 2008. Based on PRF experience, the main environmental risks are not linked to the size of the infrastructure but rather to the location chosen to build it. However, it is necessary to be particularly cautious when the size of one infrastructure is over PRF standards. As a result the size of the infrastructure is still an important

criterion triggering (or not) the EA but the thresholds were reviewed as indicated in the excerpt of the updated SPPF below:

	Rural roads, tracks and footpaths > 10 km		(YES – Tick
	Bridges, ramps and piers	> 20 m	(YES – Tick
Ŧ	Domestic Drinking Water systems	> 200 users	(YES – Tick
SCALE	Irrigation schemes	ALL	(YES – Tick
S	Buildings (community halls, health centres, schools, markets)	> 400 m ²	(YES – Tick
	Sanitation Facilities (latrines)	> 200 users	(YES – Tick
	Mini-hydro generators	ALL	(YES – Tick
Change	s are likely to occur in water use and/or water availability		(YES – Tick
	Protected area or area proposed for protection by the Government		

3) Subproject implementation phase

The implementation of mitigation measures as well as the monitoring and inspection of environmental consequences is the responsibility of subprojectimplementation communities. Training and awareness raising activities will be implemented to ensure that communities are aware of subprojects environmental risks and to ensure them to take actions to mitigate these risks and to increase their capacity to check that contractors are respecting their obligations in terms of environmental protection. IEC tools will be developed before the beginning of cycle VI and training sessions on environmental protection will be conducted by the PRF community development team at the inception and during the implementation of the subprojects.

Contract templates for sub-contracted work will also be modified to include specific clauses detailing sub-contractors' obligations in terms of environmental protection. PRF will also expand the clause detailing communities' commitments in terms of environment protection in the contract signed between the communities and PRF.

During the implementation phase, regular technical monitoring visits are conducted by the PRF team to monitor environmental impacts and inspect the implementation of mitigation measures. When the work is sub-contracted, a final inspection visit is organized before handing over the infrastructure. The PRF team uses a specific form to assess the quality of the work during the visits which includes an environmental monitoring and inspection checklist (see Annex 4).

4) Management of UXO related risks

When a proposal is prepared by communities with support from PRF team, villagers are asked whether there are UXO in the subproject site or in its vicinity. Their response is documented in the Subproject Proposal Form (SPPF) and cross-checked with UXO Lao (Lao National Unexploded Ordnances Disposal Program) district team. Additionally, UXO Lao district team participates in the district decision meeting and comment on all subprojects in relation to UXO risks.

If there is a potential risk and if the area had not been previously surveyed and / or cleared by UXO Lao, the PRF will send a letter with the list of all the subproject sites needing to be surveyed or cleared prior to the beginning of the implementation phase to UXO Lao both at district and provincial level so that the sites are included in UXO Lao work plan.

If a potential risk has been identified during the design phase, the PRF will not transfer the first budget Installment to the Koumban Team unless a clearance or survey certificate from UXO Lao is attached to the request.

b) Training

Before the beginning of cycle VI implementation, PRF will organize training to PRF teams on how to use the various checklists, table on typical environmental impacts and mitigation measures and conduct simple EA during the subproject cycle in order to ensure proper implementation of the Environmental Management Framework.

Annex 1 – Subproject Proposal Form (Excerpt from the template)

15. Social and Environmental impacts

a) <u>Er</u>	nvironmental Impact		Environmental Assessment	
	Rural roads, tracks and footpaths	> 10 km	$(YES - Tick \checkmark)$	
	Bridges, ramps and piers	> 20 m	$(YES - Tick \checkmark)$	
E	Domestic Drinking Water systems	> 200 users	$(YES - Tick \checkmark)$	
SCALE	Irrigation schemes	ALL	$(YES - Tick \checkmark)$	
Š	Buildings (community halls, health centres, schools, markets)	$>400 \text{ m}^2$	$(YES - Tick \checkmark)$	
	Sanitation Facilities (latrines)	> 200 users	$(YES - Tick \checkmark)$	
	Mini-hydro generators	ALL	$(YES - Tick \checkmark)$	
Change	s are likely to occur in water use and/or water availability		(YES – Tick ✓)	
	ed area or area proposed for protection by the Government		$(YES - Tick \checkmark)$ $(YES - Tick \checkmark)$	
Others Specify_			$(YES - Tick \checkmark)$	
b) <u>Im</u>	pact on Physical Cultural Resources		Assessment of Impact on PCR	
Subproj	ect location with known archaeological or paleontological value	$(YES - Tick \checkmark)$		
Subproject location with known historical value			(YES - Tick \checkmark)	
Subproject location (land, water source, forest, etc.) with known cultural or religious value (such as spirits or traditional meeting ground)			(YES - Tick ✔)	
Subproj	ect location with known unique natural values		(YES - Tick ✔)	
Others Specify_			(YES - Tick ✓)	
specify_ - c) <u>La</u>	nd Acquisition and Resettlement		(YES - Tick ✓) Specific meeting and use of the Contribution and Compensation Form	
specify_ - c) <u>La</u>			Specific meeting and use of the Contribution and	
Specify c) <u>La</u> Subproj	nd Acquisition and Resettlement ect involving voluntary contributions		Specific meeting and use of the Contribution and Compensation Form	
Specify	nd Acquisition and Resettlement ect involving voluntary contributions ect involving the voluntary resettlement of more than 100 persons		Specific meeting and use of the Contribution and Compensation Form (YES - Tick ✓) Submission of a Land Acquisition and	
Specify	nd Acquisition and Resettlement ect involving voluntary contributions		Specific meeting and use of the Contribution and Compensation Form (YES - Tick ✓) Submission of a Land Acquisition and Resettlement Report	

Annex 2 – Simple Environmental Assessment Templates

for Bridges, Culverts and Rural Road

Name of Subproject:
Subproject No:
Date of site visit:
Persons consulted
Description of Subproject (including objective, location, expected benefits and population served):
Are there environmentally sensitive areas through which the road passes? Yes No
If yes, describe

A. Environmental Effects Related to Subproject Location and Design

(Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact		
	Negligible/Small	Medium	Major
Natural habitat and wildlife			
Erosion and Silt Control			
Drainage Pattern			
Water Quality			
Land Use & Settlement			
Scenic, Historical & Cultural Sites			

Describe any environmental effects, alternatives considered and proposed mitigation measures

B. Environmental Effects Related to Construction and Operation (Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact		
	Negligible/Small	Medium	Major
Natural habitat and wildlife			
Land Use and Settlement			
Health and Safety			
Erosion and Silt Control			
Noise and Dust			
Spill of Hazardous Materials			
Water Quality			

Describe any environmental effects and proposed mitigation measures

•••••		 	 	
	••••••	 	 	
	•••••	 	 	

C.Does the subproject involve any land acquisition (circle answer)YesNoDoes the subproject involve relocating people (circle answer)YesNo

If yes, Provide specific information on the persons affected, impacts involved (e.g. land, trees, crops, houses and other structures), agreements reached, who at the community level is responsible for land acquisition and relocation and provide supporting evidence to show that both land acquisition and relocation of people have been dealt with appropriately. Verify that affected villagers have been consulted and are satisfied with the agreement for compensation.

.....

.....

D. Are there any vulnerable ethnic groups living in the area of the subproject or likely to be affected by the activities of the subproject (circle answer) Yes No

If yes, Provide specific information and provide supporting evidence to show that vulnerable ethnic groups have been consulted on the development subproject, that they do not face adverse impacts from the subproject and that they are satisfied with the arrangements.

	•••••			
	•••••			
	•••••			
••••••		••••••	••••••	
••••••		••••••	••••••	•••••
	•••••			

E. Does the subproject impact physical cultural resources (circle answer) Yes No

If yes, Provide a description of the impact, supporting evidence showing that consultation with affected people has been conducted, and the description and cost of the agreed mitigation plan.

Overall Assessment of Environmental and Social Impact of Rural Road Subproject (Circle one category only)

Negligible/Small

Medium

Major

For Irrigation and Well

Name of Subproject:
Subproject No:
Date of site visit:
Persons consulted
Description of Subproject (including objective, location, expected benefits and population served):
Are there environmentally sensitive areas through which the road passes? Yes No
If yes, describe

A. Environmental Effects Related to Subproject Location and Design

(Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact		
	Negligible/Small	Medium	Major
Impacts of the flooding on ecology			
Safety of upstream Dam or Reservoir			
Aquatic Ecology and Fish Resources			
Erosion and Silt Control			
Hydrology			
Drainage Pattern			
River Flow Regimes			
Water Quality			
Land Use and Settlement			
Scenic, Historical and Cultural Sites			

Describe any environmental effects, alternatives considered and proposed mitigation measures

••••••	•••••		

B. Environmental Effects Related to Subproject Construction/Operation

(Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact		
	Negligible/Small	Medium	Major
Impacts of the flooding on ecology			
Aquatic Ecology and Fish Resources			
Erosion and Silt Control			
Hydrology			
Drainage Pattern			
River Flow Regimes			
Water Quality			
Land Use and Settlement			
Scenic, Historical and Cultural Sites			
Health and Safety			
Erosion and Silt Control			
Noise and Dust			

Describe any environmental effects and proposed mitigation measures

C. Does the subproject involve any land acquisition (circle answer) Yes No Does the subproject involve relocating people (circle answer) Yes No If yes, Provide specific information on the persons affected, impacts involved (e.g. land, trees, crops, houses and other structures), agreements reached, who at the community level is responsible for land acquisition and relocation and provide supporting evidence to show that both land acquisition and relocation of people have been dealt with appropriately. Verify that affected villagers have been consulted and are satisfied with the agreement for compensation.

D. Are there any vulnerable ethnic groups living in the area of the subproject or likely to be affected by the activities of the subproject (circle answer) Yes No

If yes, Provide specific information and provide supporting evidence to show that vulnerable ethnic groups have been consulted on the development subproject, that they do not face adverse impacts from the subproject and that they are satisfied with the arrangements.

E. Does the subproject impact physical cultural resources (circle answer) Yes No

If yes, Provide a description of the impact, supporting evidence showing that consultation with affected people has been conducted, and the description and cost of the agreed mitigation plan.

Overall Assessment of Environmental and Social Impact of Subproject (circle answer)

Negligible/Small Medium Major

For School and Health Centre

Name of Subproject:
Subproject No:
Date of site visit:
Persons consulted
Description of Subproject (including objective, location, expected benefits and population served):
Are there environmentally sensitive areas through which the road passes? Yes No
If yes, describe

A. Environmental Effects Related to Subproject Location and Design

(Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact		
	Negligible/Small	Medium	
Natural Habitat and Wildlife			
Land Use and Settlement			
Drainage			
Water Quality			
Traffic Congestion			
Noise			
Health and Safety			

Describe any environmental effects, alternatives considered and proposed mitigation measures

B. Environmental Effects Related to Subproject Construction/Operation

(Tick against relevant category)

Type of Environmental Resource	Likely Effect/Impact	
	Negligible/Small	Medium
Natural Vegetation		
Land Use and Settlement		
Health and Safety (incl. health care waste disposal)		
Drainage Pattern		
Water Quality		
Noise and Dust		
Traffic Congestion		

Describe any environmental effects and proposed mitigation measures

C. Does the subproject involve any land acquisition (circle answer) Yes No Does the subproject involve relocating people (circle answer) Yes No

If yes, Provide specific information on the persons affected, impacts involved (e.g. land, trees, crops, houses and other structures), agreements reached, who at the community level is responsible for land acquisition and relocation and provide supporting evidence to show that

both land acquisition and relocation of people have been dealt with appropriately. Verify that affected villagers have been consulted and are satisfied with the agreement for compensation.

D. Are there any vulnerable ethnic groups living in the area of the subproject or likely to be affected by the activities of the subproject (circle answer) Yes No

If yes, Provide specific information and provide supporting evidence to show that vulnerable ethnic groups have been consulted on the development subproject, that they do not face adverse impacts from the subproject and that they are satisfied with the arrangements.

E. Does the subproject impact physical cultural resources (circle answer) Yes No

If yes, Provide a description of the impact, supporting evidence showing that consultation with affected people has been conducted, and the description and cost of the agreed mitigation plan.

••••••	••••		

Overall Assessment of Environmental and Social Impact of Subproject (circle answer) Negligible/Small Medium

Annex 3 – Typical Environmental Impacts and Mitigation Measures

Activity	Potential Effects	Possible Mitigation Measures			
Planning, Design and La	Planning, Design and Land Acquisition				
Setting Design Standards	If standards are too high excessive earthworks can cause other effects. (See activities under "3 Construction")	Set standards appropriate for class of road, traffic and terrain			
Design – General	Land requirements affect local people	Minimize land acquisition and resettlement in selecting alignment.			
	Existing buildings, possibly constructed within the subproject site could be affected	Attempt to negotiate a fair design or compensation solution which does not cause undue hardship.			
	Work on roads, bridges and culverts can affect existing trees.	Minimize impact on trees and replant when work is completed.			
	Access roads and bridges can have impacts on wildlife, virgin forest areas, cultural relics etc.	Avoid such areas as much as possible in the design.			
	Roads, bridges and culverts can cause an increase in traffic speeds and accidents affecting road users, local people and animals.	Ensure a safe design including speed restriction and warning signs, to control livestock as necessary and where possible discuss possible designs with local people.			
Design – Drainage	Can alter hydrological regimes and affect flooding and existing irrigation systems.	Ensure culvert, bridge and road are suitably designed to minimize effects on hydrology.			
	Can cause negative impacts of concentrating water and increasing scour and soil erosion.	Ensure design improves the drainage system by rectifying any existing problems such as scour of adjacent lands, which should be checked for during the monsoons. Include tree planting in design where possible.			

Environmental Effects and Mitigation Measures for Road Subprojects

Construction Preparation

-		
Mobilizing equipment	Air and noise pollution for any nearby settlements.	Control contractors' vehicle speeds and noise.
Mobilizing workforce	The introduction of an outside workforce can have a negative impact on the health and social well-being of local people.	Contractor employs local people where possible.
	Possible solution cause by domestic sewage and solid wastes.	Contractor installs and maintains a septic tank system and a system of disposing of solid wastes.
	Possible excessive or uncontrolled use of fuelwood in labor camp.	Contractor supplies alternative fuel for cooking and heating in the labor camp.
	Possible development of labor camp into a permanent settlement.	Contractor removes the labor camp at the completion of the contract.
	Possible hunting of wildlife for food.	Prohibit poaching and make contractor responsible for his workers.
Establishment and	Air and noise pollution for any nearby	Locate base camp and workshop away

Operation of Base Camp and Workshop.	settlements.	from any residential settlements.
	Possible surface water and ground water contamination by oil, grease, and fuel in yards.	Collect and recycle lubricants. Avoid spills and have a ditch around the area with a setting pond, oil trap at the outlet.
	Possible ground and water contamination by bitumen or solvents.	Avoid spills but surround area with a ditch with a settling pond/oil trap at the outlet.
	Cutting down trees to use as fuel for heating bitumen and stones.	The contractor does not use wood for heating during the processing of any materials.
Operating a borrow Pit.	Noise, vibration and dust could affect nearby settlements or other sensitive areas.	Locate plant away from any residential or other environmentally sensitive areas such as hospitals, intensive livestock production areas or wildlife breeding areas. Also avoid farmlands or forests as much as possible. Restrict work to daylight hours and limit the size and frequency of blasting.
	Changing the river bed could affect local fishing areas.	Discuss proposed locations with local people/fishermen and insist contractor obtains their approval.
Construction	1	
	Possible noise and vibration, especially if earthworks involve blasting, could affect nearby settlements or other sensitive areas.	Restrict work to daylight hours and limit the size and frequency of any blasting near settlements (especially hospitals) near intensive livestock production and wildlife breeding areas.
	Historical remains or cultural items could be uncovered.	Contractor to ensure all such finds are reported and discussed with representatives of the local people.
Drainage Improvement Works	Works can have temporary affects on irrigation or washing/drinking water supplies.	Ensure contractor takes into account local water uses. Temporary drainage may have to be constructed.
	Effect on traffic and pedestrian safety.	The contractor uses safe traffic control as necessary and causes the minimum possible disruption to all traffic.
Bituminous Surfacing.	Possible pollution of waterways or groundwater by bituminous products or solvates.	Strict control to avoid spills or clean up immediately after and prohibit work in rain.
Transport of Subproject Materials.	Air and Noise pollution for any nearby settlements and damage to existing roads.	Control contractors vehicles speeds, noise and weight of loads and control dust and flying debris by covering loads or wetting material if necessary. Construct temporary roads if necessary. Use locally available construction material wherever possible to minimize transport distances.

Environmental Effects and Mitigation Measures for Public Buildings (Markets, schools, health centers etc.)

Activity	Potential Effects	Possible Mitigation Measures
Before construction st	arts	
Brick moulding	Disturbance of habitats	Reallocation of farming land
	Loss of land	Possible use of cement block as an
	Land degradation	alternative
	Air pollution from dust	
	Pressure on existing water resources	Provision of boreholes
Brick curing	Deforestation	Afforestation (tree planting) Quotas per
	Pollution from smoke	construction (school, dispensary, markets etc.) community based woodlots

Construction

Civil works building	Noise and air pollutionPressure on existing water resourcesCreation of borrow pits	Establishment of additional possible water sources Landscaping
Carpentry	Deforestation Noise	The provision of timber by the community should be approved by the local authorities Use of alternative materials (bamboo, steel, reinforced concrete Afforestation (tree planting) Quotas per construction (school, dispensary, markets etc.) community based woodlots
Labourers	Faecal / other wastes	Provision of latrines

Operations

Provision of desks / furniture	Deforestation	The provision of timber by the community should be approved by the local authorities
		Use of alternative materials (bamboo, steel)
		Afforestation (tree planting) Quotas per construction (school, dispensary, markets etc.) community based woodlots
Disposal of medical wastes	Contamination and pollution in surrounding environment	Include incinerator in health centre subproject proposal

Activity	Potential Effects	Possible Mitigation Measures
Sitting	Loss of land	Consultation with communities
	Land degradation	Reallocation of land
	Nuisance and aesthetic impacts	Landscaping (planting of trees / crops)
Drilling	Disturbance of stream channels, aquatic	Re-vegetation
	fauna Social disruption by construction workers	Establish settlement location for workers out of village to mitigate social interactions
	Construction hazards New diseases (STD)	
Pump installation	Ground and surface water	Experienced drillers only
	contamination by oil, grease etc.	Enforcing standard safety procedures
Civil works	Waste water	Proper disposal
	Solid wastes	Drainage, soaking pits
Operation	Reservoirs may be breeding areas for water born diseases (worms, mosquitoes etc.)	Incorporate health and sanitation Education programme
	Water may be contaminated during transport or storage	Ensure adequate provision for the operation management and maintenance of facilities (Including
	Spills and leakage contamination of water	proper staff and community training)
	Reduction in water quality because of decomposed matter	
	Over pumping of ground water causing a lowering of ground water table	
	Disruption to downstream hydrology	

Environmental Effects and Mitigation Measures for Boreholes

Potential Negative Impacts and Mitigating Measures for Irrigation Schemes

Potential Negative Impacts	Mitigating Measures	
Soil Erosion	Proper design and layout of furrows or field avoiding too steep a gradient.	
	Land Levelling	
	Design of terraces on hillsides minimizing surface erosion hazard.	
	Maintain vegetation Cover	
Water logging of soils	Regulation of water application to avoid over-watering.	
	Installation and maintenance of adequate drainage system.	
	Use of lined canals or pipes to prevent seepage.	
	Accurate calculation of delivery of irrigation requirements.	
Salinization of soils	Measures to avoid water logging:	
	Leaching of salts by flushing soils periodically	

Scouring of canals Design of canal system to minimize risk Use of canals lined with rocks Clogging of canals by sediment Measures to minimize crossion on fields Design and management of canals to minimize sedimentation. Provision of access to canals for removal of weeds and sediments. Leaching of nutrients from soils Avoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizers (timing and quantity). Clogging of canals by weeds. Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds. Deterioration of river water quality below irrigation subproject and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria. Improved water management (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream sters. Sea water intrusion into freshwater systems. Location of Scheme Appropriate water management (sherics, users of water, dilution of pollutants. Compensatory measures where possible. Conduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisherics, users of water, dilution of pollutants. Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas. Threat to historical, cultural or aesthetic features. Chose subprojects' site to prevent loss. Salvage or protection of user take-off to minimize problems to exerve possible. Introduction or incidence of vaterr- borne or water-related discases.		Cultivation of crops with salinity tolerance.		
Clogging of canals by sediment Measures to minimize erosion on fields Design and management of canals to minimize sedimentation. Provision of access to canals for removal of weeds and sediments. Leaching of nutrients from soils Avoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizers (timing and quantity). Clogging of canals by weeds. Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds. Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Indication of local group water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users. Location of Scheme Sea water intrusion into freshwater systems. Relocation or redesign of subproject. Refecution of downstream flows affecting flood plain use, flood	Scouring of canals	Design of canal system to minimize risk		
Design and management of canals to minimize sedimentation. Provision of access to canals for removal of weeds and sediments.Leaching of nutrients from soilsAvoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and control of inputs (particularly pesticides and chemical fertilizers). Imposition of local ground water systems.Improved water management improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Reduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal vegetation and disturbance of coastal cosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing <b< td=""><td></td><td colspan="3"></td></b<>				
Design and management of canals to minimize sedimentation. Provision of access to canals for removal of weeds and sediments.Leaching of nutrients from soilsAvoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and control of inputs (particularly pesticides and chemical fertilizers). Imposition of local ground water systems.Improved water management improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Reduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal vegetation and disturbance of coastal cosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing <b< td=""><td></td><td></td></b<>				
Provision of access to canals for removal of weeds and sediments.Leaching of nutrients from soilsAvoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizer requirements.Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality contamination of local ground water (higher salinity, nutrients, agrochemical) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of houst (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Reduction of downstream flows affecting flood plain use, flood plain use, flood plain use, flood plain use, flood plain cology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installat	Clogging of canals by sediment	Measures to minimize erosion on fields		
Leaching of nutrients from soilsAvoidance of over-watering Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizer requirements.Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal cosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to exitent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borr		Design and management of canals to minimize sedimentation.		
Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizer requirements.Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing 		Provision of access to canals for removal of weeds and sediments.		
Replacement of nutrients by fertilizer and/or crop rotation. Accurate calculation of fertilizer requirements.Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing 	Leaching of nutrients from soils	Avoidance of over-watering		
Accurate calculation of fertilizer requirements.Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or aesthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads wat	Leaching of nutrients from sons			
Algal blooms and weed proliferation.Appropriate application of fertilizers (timing and quantity).Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Threat to historical, cultural or acsthetic features.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal cosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing				
Clogging of canals by weeds.Design and management of canals to minimize weed growth. Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		•		
Provision of access to canals for treatment or removal of weeds.Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing				
Deterioration of river water quality below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Improved water management; improved agricultural practices and control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	Clogging of canals by weeds.			
below irrigation subproject and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.control of inputs (particularly pesticides and chemical fertilizers). Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		Provision of access to canals for treatment or removal of weeds.		
(higher salinity, nutrients, agrochemicals) affecting fisheries and down stream users.Imposition of water quality criteria.Sea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	below irrigation subproject and			
agrochemicals) affecting fisheries and down stream users.Location of Scheme Appropriate water managementSea water intrusion into freshwater systems.Location of Scheme Appropriate water managementReduction of downstream flows affecting flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		Imposition of water quality criteria.		
systems.Appropriate water managementReduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	agrochemicals) affecting fisheries and			
Reduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Relocation or redesign of subproject. Regulation of takeoff to mitigate effects. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	Sea water intrusion into freshwater	Location of Scheme		
affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Regulation of takeoff to mitigate effects. Compensatory measures where possible. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	systems.	Appropriate water management		
ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.Regulation of takeoff to minigate effects. Compensatory measures where possible. Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas. Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		Relocation or redesign of subproject.		
fisheries, users of water, dilution of pollutants.Compensatory measures where possible.Encroachment on swamps and other ecologically sensitive areas.Chose subprojects' site to avoid or minimize encroachment on critical areas.Threat to historical, cultural or aesthetic features.Establishment of compensatory parks or reserved areas.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		Regulation of takeoff to mitigate effects.		
ecologically sensitive areas.critical areas.Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	fisheries, users of water, dilution of	Compensatory measures where possible.		
Establishment of compensatory parks or reserved areas.Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing				
Threat to historical, cultural or aesthetic features.Chose subprojects' site to prevent loss. Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing				
aesthetic features.Salvage or protection of cultural sites.Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	Threat to historical, cultural or			
Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves)Chose subprojects' site to less vulnerable area. Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing				
vegetation and disturbance of coastal ecosystems (e.g. mangroves)Limitation and regulation of water take-off to minimize problems to extent possible.Introduction or incidence of water- borne or water-related diseases.use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	Alteration or loss of flood plain			
eccosystems (e.g. mangroves) extent possible. Introduction or incidence of water- borne or water-related diseases. use of lined canals or pipes to discourage vectors avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	vegetation and disturbance of coastal			
borne or water-related diseases. avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing	ecosystems (e.g. mangroves)			
avoidance of stagnant or slowly moving water installation of gates at canal ends to allow complete flushing filling or drainage of borrow pits along canals and roads water testing		use of lined canals or pipes to discourage vectors		
filling or drainage of borrow pits along canals and roads water testing	borne or water-related diseases.	avoidance of stagnant or slowly moving water		
water testing		installation of gates at canal ends to allow complete flushing		
		filling or drainage of borrow pits along canals and roads		
		water testing		
disease prophylaxis and treatment		disease prophylaxis and treatment		
Disease and health problems from use Wastewater treatment (e.g. settling ponds prior to use).	Disease and health problems from use	Wastewater treatment (e.g. settling ponds prior to use).		

of wastewater irrigation.	Establishment and enforcement standards for wastewater use.
Conflicts over water supply and inequalities in water distribution throughout service area.	Means to ensure equitable distribution among users and monitor to assure adherence. Establishment of effective water users associations
Over-pumping of groundwater.	Limitation of withdrawal so that it does not exceed "safe yield"(recharge rate).
External	
Water quality deteriorated or made unusable by upstream land use and pollutants discharge.	Control of land use in watershed areas. Control of pollution sources Water treatment prior to use
Failure of upstream dams or reservoirs	Water treatment prior to use. Check of dam or reservoir safety prior to subproject implementation
on which the subproject activities depend.	

Annex 4 – Environmental Monitoring and Inspection Form (Template)

	Environment checklist	Yes / No	Remarks
1	Compliance with the planned mitigation measures and environmental obligations		
2	Occurrence of notable environmental pollution such as dust, water pollution, noise		
3	Encroachment to natural habitats and physical cultural properties		
4	Improper operation and maintenance of construction equipment, fuels and oils		
5	Occurrence of complaints		
6	Site cleaning upon completion		
7	Disposal of construction wastes		
8	Removal of temporal access roads upon completion		
9	Erosion prevention measures for used borrow pits		
10	Removal of temporary water flows' diversions or blockages upon completion		
11	Removal of construction camps upon completion		