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Environmental Guidelines on JICA Development Study for Agricultural and Rural Development Projects

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on
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Agricultural and Rural Development Projects

Japan International Cooperation Agency
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Preface to the First Edition

Understanding the importance of environmental considerations in the implementation of programs and projects to achieve sustainable development in developing countries, the Japan International Cooperation Agency (JICA) has promoted technical cooperation in the form of development studies with focus on the environmental aspects in recent years.

In view of this emphasis on environmental issues, JICA has prepared these Environmental guidelines on JICA development study for agricultural and rural development projects (hereinafter, the Guidelines) in order to assist in the screening and scoping procedures for environmental impact review of JICA development studies for projects specifically in the agriculture sector. The objective of the Guidelines is to support the sound formulation of development projects by facilitating a clear understanding of potential effects on the environment.

The Guidelines are designed to assist all those involved in assessing the environmental considerations in the preparatory work for JICA development study in the agriculture sector. This focus supports an important premise: that sustainable agricultural and rural development are achieved most efficiently when negative environmental impacts are identified and addressed at the earliest possible study stage. The Guidelines also provides fundamental information and common baselines on environmental considerations for agricultural and rural development projects, with focus on those operations with potential negative environmental impact.

The Guidelines are intended to be an easy-to-use reference manual; hence there are some overlaps and repetition in the checklist formats, which are designed to facilitate the frequent updating necessary in a rapidly changing field such as the environment in the agricultural sector. Comments are invited from users on the ways the Guidelines can better meet their needs. They will be reviewed, evaluated and supplemented on the basis of comments and suggestions by users under conditions of actual application in the field.

Definitions and Terminology

Environmental consideration

The process of studying and then assessing the potential or possible significant environmental impact of a proposed development project, and proposing practical measures to avoid or to mitigate negative impact.

The environmental consideration process proposed in the Guidelines, include Screening, Scoping, Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA).

Screening

To assess a proposed project and determine whether JICA development study requires IEE or EIA or not. JICA defines the screening done prior to a preparatory study based on available data and independent information as initial screening, and the screening done by the preparatory study mission jointly with a recipient country as joint screening.

Scoping

To identify significant impacts to be assessed through IEE or EIA for a JICA development study. These impact are listed in a file of potential environmental impact of a proposed project. JICA defines the scoping done prior to a preparatory study based on available data and information independently as initial scoping, and the scoping performed by a preparatory study mission jointly with a recipient country as joint scoping.

IEE : Initial Environmental Examination

Preliminary environmental review to assess whether EIA is necessary or not for a JICA development study.

Generally IEE is carried out over a short period with a limited budget and use of existing data and experience in similar projects. Major study components of IEE include identification of the project outline and of site environmental conditions (Project Description and Site Description), preliminary assessment of negative environmental impacts of the proposed project and evaluation of whether EIA is required in a JICA development study or not.

EIA: Environmental Impact Assessment

For a detailed investigation on potential environmental impact the proposed project identifies the assessment of potential environmental impact.

The EIA process consists of prediction of environmental impacts of the project and evaluation of the same, establishment of environmental protection criteria to be

observed, and recommendations or proposals of measures to avoid or mitigate negative impact.

Environmental Protection Measures

Measures to avoid or mitigate potential adverse environmental impacts which might result from the proposed project. The measures include environmental monitoring arrangements to detect adverse impact at an early stage and provisions to avoid or mitigate potential adverse impact. They also include, in a broad sense, as components of environmental protection, measures that strengthen of environmental administration institutions and develop of human resources in the environmental sector.

Sectoral Environmental Guidelines

The technical guidelines prepared for environmental considerations that are incorporated in the stages of project planning and implementation.

A guideline is usually prepared for each of the major development sectors such as agricultural and rural development, water resources development, etc.

PD : Project Description

Description of the outlines and components of a proposed project.

The project description should present information on: 1) project background ; 2) general information such as objectives, executing agency or agencies, beneficiaries and area of the proposed project; 3) project components and scale. The agricultural development sector to which the Guidelines apply can be divided into several project components such as irrigation, drainage, land clearing and leveling, sea / swamp reclamation, new land settlement, dams and reservoirs, and substantial changes in the farming system. Major environmental aspects and impacts to be reviewed or assessed in the environmental consideration process can be clearly defined once the aforementioned project components are identified in sufficient detail.

SD : Site Description

Description of environmental conditions with particular significance in the study area of a proposed project.

Under the Guidelines a proposed project has to take the natural and social environment of study areas into account. Natural environments of specific importance include arid and semi-arid lands, tropical forests, wetlands and wildlands. Social environments worthy of special attention are those which include ethnic minorities and historically important cultural assets. Major environmental aspects and impacts to be reviewed or assessed in the environmental consideration process can be clearly defined once these environmental features in study areas are identified in sufficient detail.

Environmental Category

Natural and social environments affecting the related populations of a project area.

In the Guidelines natural environmental categories consist of biological and ecological issues, soil and land resource issues, hydrology and air and water quality issues, and landscape and mineral resources. Social environmental categories include socio-economic issues, health and sanitary issues and cultural issues.

Environmental Impact

Significant adverse impact selected for assessment due to their probable occurrence as a result of a proposed project.

Major environmental impact covered in the Guidelines include desertification, soil erosion, soil salinization, involuntary settlement, increase in income disparity, adjustment and regulation of riparian rights and outbreak of endemic diseases.

Environmental Considerations in Development Study

Under the scope of a JICA development study the environmental impacts identified as insignificant through the process of screening and scoping also include minor adjustments of riparian rights, although EIA is not necessary in this case. Such impact, duly reviewed in the course of project planning under JICA development study and its related process, are to be clearly defined.

Chapter 1 Introduction

Chapter 1

Introduction

1.1 Background

In recent years, various approaches have been taken at the national and international levels to addressing global environmental issues such as ozone layer depletion, destruction of tropical forests, desertification and acid rain. Attempts have also intensified to solve serious environmental problems at the local level through the integrated rural development including small-scale irrigation, agroforestation and other appropriate agriculture projects. Many national and international agencies responsible for development cooperation have been increasingly focusing their efforts on environmental issues in developing countries.

The Japan International Cooperation Agency (JICA) formed a Study Group on the Environment Issues in Development Assistance Program (hereinafter, the Study Group) in 1988, aiming at strengthening and promoting international cooperation in the environmental sector. The report prepared by the Study Group proposes basic approaches to international cooperation in the environmental sector. The report also recommends follow-up studies to prepare the procedures for considering environmental issues in a JICA development project.

1.2 Basic Concepts for Environmental Consideration

In providing technical assistance to developing countries, many donors, including United Nations (UN) agencies and other international organizations, have recognized that some development projects have an adverse impact on the people's life and the environment, and have begun to take a new initiative. The Development Assistant Committee (DAC) member countries of the Organization for Economic Cooperation and Development (OECD) published an outline of the procedure for environmental consideration in the process of development project preparation and implementation.

JICA, which has undertaken the same initiative as other donor agencies defines environmental consideration as "(1) to study the environmental impact of a development; (2) to assess the results of the study; and (3) to formulate measures to prevent or alleviate the impact if necessary. "Environmental considerations should be regarded as the process

of the project planning in order to guarantee sustainable development.

Environmental considerations should be undertaken in accordance with the laws, regulations, guidelines and other relevant arrangements that recipient countries apply to environmental management. However, it often happens that laws or regulations covering environmental consideration are either non-existent or not applied as expected. What is more difficult is that policies and systems for environmental management differ from one country to another. It is essential, therefore, that environmental consideration procedures be based on the results of intensive consultations and discussions between JICA and the involved agencies of the recipient countries regarding environmental policies and regulations, institutional arrangements on environmental management, the state of environmental quality and the socio-economic situation.

The environmental consideration procedure in the process of JICA development studies involves, in compliance with the environmental requirements of recipient countries, working to secure sustainable development for improvement of living standards of peoples and ensuring that the relevant development projects are harmonious with the environmental quality in and around the project areas. For example, inappropriate consideration of the management of natural resources surrounding a project area may result in impediment of sustainable development due to degradation of the project area itself, which may in turn lead to deterioration in the living standard of local people and have adverse effects. Accordingly, for the sustainability of a proposed development, it is necessary to consider the balance between 1) the benefit and adverse effect of development and 2) natural resources management in and around a project area and the resources required for the social and economic activities of the affected population.

Therefore, the environmental consideration process is regarded as the procedures not only of predicting and assessing degrees of negative impact and to study environmental protection measures, but also of assessing the benefits of a project in a region and a district, the harmony between development and environment, and the degree of environmental enhancement of affected areas; and to monitor the environmental consequence.

The monitoring process includes arrangements for monitoring significant changes in the environment during construction of a project and environmental monitoring after the commencement of project operations.

Figure 1.1 suggests the environmental consideration guidelines which DAC has proposed for environmental impact assessment and monitoring of activities in a project

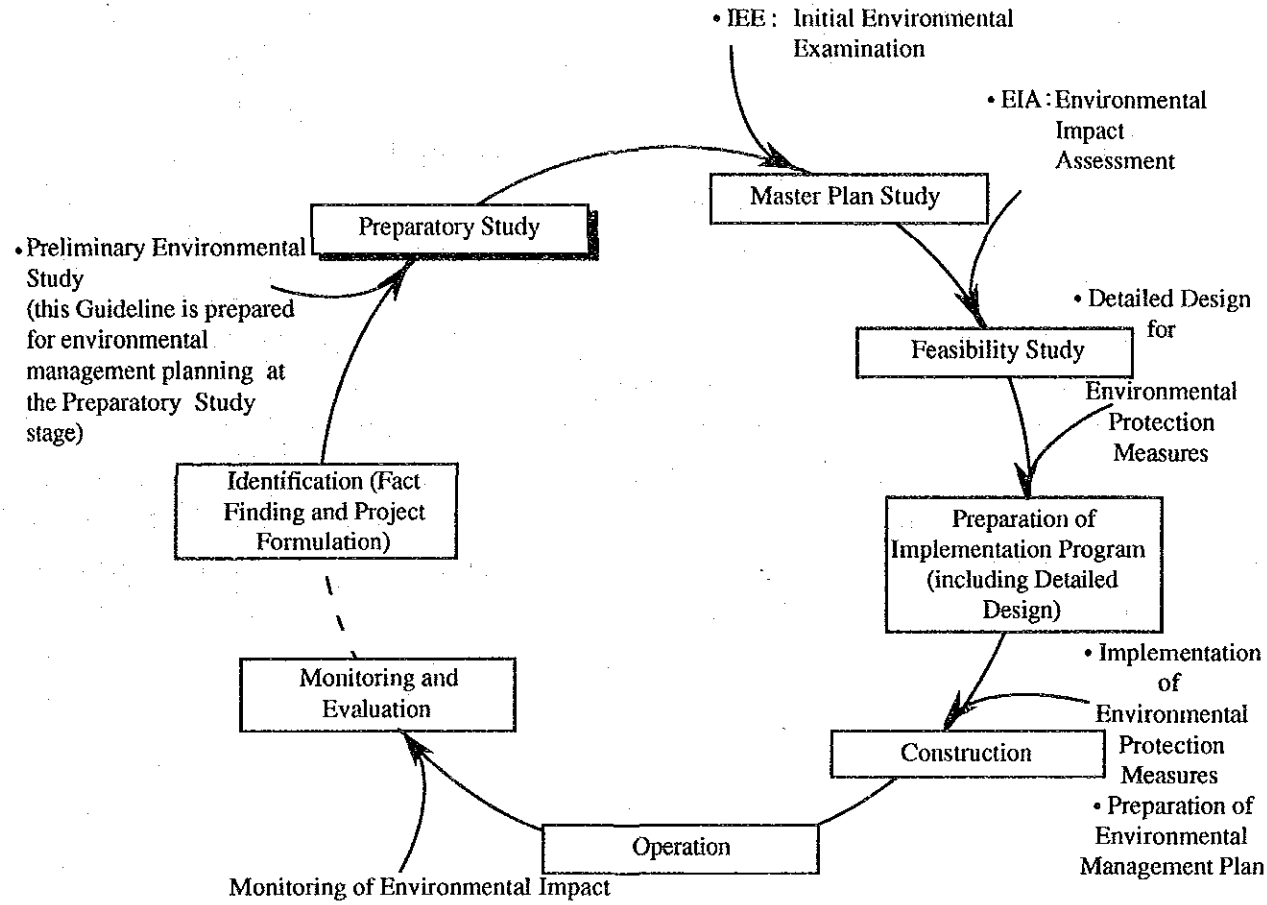

Figure - 1. 1 Process of Environmental Consideration in Project Cycle

cycle. The cycle of a development project consists of: 1) project identification and preparatory study; 2) project study, composed of master plan and/or feasibility study with EIA; 3) project implementation, consisting of preparation of implementation program and construction accompanied by execution of necessary environmental measures and preparation of an environmental management plan; 4) project operation with environmental monitoring; and 5) project monitoring and evaluation. The results and findings of monitoring and evaluations are then input into the project formulation of a future project. The environmental management plan in this cycle refers to monitoring environmental changes arising as a result of the implementation of a subject project.

The Guidelines are addressed to the process involved in the preparatory phase of a JICA development study, and outlines the scope of work involved in formulating the master plan, the basic design and the feasibility study for specific projects particularly agricultural and rural development projects.

Table 1.1 shows the environmental consideration process as it corresponds to each project implementation stage and Table 1.2 indicates environmental considerations applied under development studies undertaken by JICA.

Table - 1. 1 Project Implementation and Environmental Consideration

Stage of Project Implementation			Environmental Consideration Process
Conducted by JICA	Preparatory Study	Preparatory Study	Preliminary Environmental Study
	Master Plan Study	Feasibility Study	Initial Environmental Examination (IEE)
	Feasibility Study		Environmental Impact Assessment (EIA)
Implemented by Executing Agency	Preparation of Implementation Program (including Detailed Design)		Detailed Design for Environmental Protection Measures
	Construction		Implementation of Environmental Protection Measures Preparation of Environmental Management Plan
	Operation		Monitoring of Environmental Impact

Notes:

1. The correspondence between the respective stages and processes indicated above may vary slightly depending on the specific requirements of a project or recipient country.

2. IEE and/or EIA are not required in some projects.

3. Preparation of the Implementation Program includes the detailed design of construction work and necessary facilities for environmental protection measures.

Table - 1. 2 Environmental Consideration Process in JICA Development Studies

Process of Development Study		Environmental Consideration Procedures	Checking Items for Environmental Consideration
Project Identification	Identification(Fact finding and project formulation) Receipt of TOR for the requested Study ↓ Review of the TOR	(Initial Screening) To judge necessity of IEE or EIA ↓ (Initial Scoping) To tentatively assess potential SEIs	(Preparation of S/W and M/M) To examine representation of environmental study items agreed to on the basis of screening and scoping
Preparatory Study	Field study Consultation & agreement to S/W Preparation of Preparatory Study Report	(Joint Screening) To confirm results of Initial Screening (Joint Scoping) To confirm results of Initial Scoping and to conduct Joint Scoping on IEE or EIA To determine allocation of tasks to each government	(Reporting on Preparatory Study) To clarify screening and scope process and findings/agreed-upon items (Contents of TOR for Consultant Firms) To finalize IEE/EIA TOR and estimate man-months required for consultants
Selection of Consultant	Preparation of TOR for consultant firms Selection of consultant firms		(Selection of Consultants) To evaluate conformity of proposals to TOR (Technical Approach to IEE/EIA) To conduct consultation and to finalize EIA items and methodology in accordance with scoping results
Implementation of F/S or M/P	Preparation of and consultation on IC/R Preparation of and consultation on DF/R Preparation and submission of F/R	To conduct IEE/EIA	(Monitoring) To monitor whether appropriate study is conducted for IEE or EIA (Final Reporting) To clarify IEE or EIA results, recommendations,etc.

1.3 JICA Development Study

Formulation of any development plan/project is a complex task, requiring a variety of investigative and analytical activities and a wide range of skills. The Development Study Program, one of JICA's technical cooperation programs, intends to assist recipient countries in such activities as identifying, formulating and analyzing development plans or projects.

Studies carried out under this program are called development studies in JICA. Each study has a different purpose, in response to requests from the recipient countries.

The focus of this program, however, is on formulation of large-scale public sector plans/projects. Typical studies are those under taken for the preparation of a comprehensive master plan for national, regional or sectoral development ; formulation of a development project and analysis of its feasibility and viability; and detailed design of the proposed project.

The program encompasses a wide range of fields/sectors: urban planning, transportation, agriculture, water supply, etc. Some studies even cover several fields/sectors under an extensive development plan.

In carrying out development studies, the development " situation " needs to be considered from many angles, and more than one way of improving it should be incorporated in the results of the studies. Hence, development studies are usually conducted under a multidisciplinary approach, in which a team of individuals with different technical training and experience work together.

The program is divided into five phases, from identification to submission of results of the study. Each phase is briefly explained below to provide an overview of the process of development studies.

Phase 1: Identification

Identification of the need to conduct a development study can take various forms. In many cases, recipient countries themselves select, in accordance with their national development plan, a priority project which needs to be elaborated. Recently, JICA has dispatched Project Formulation Missions to identify promising projects worthwhile for undertaking development studies.

Once the need for the development study is identified, a request for assistance is submitted through diplomatic channels. A statement is to be attached (under the formal name of the Term of Reference) briefly describing the study concept, including its purposes and background, and requesting further work to see if it can be elaborated into a suitable plan/project.

JICA then examines the contents of the requested study. If the implementation of a development study is judged to be appropriate, JICA proceeds with the study.

Phase 2: Preparation

This phase includes all the activities necessary to prepare the ground for a sound study. JICA dispatches a preparatory study team to specify the objectives of the study and give a provisional definition of the study's boundaries in terms of geographical areas, sectors, institutions and target groups. On this basis, a working plan for the study is elaborated. The Scope of Work, the official document concerning the implementation of the development study, is produced as a result of this preparation, the contents of which are to be agreed to by the recipient country and JICA.

In accordance with the Scope of Work, JICA plans the allocation of tasks among the study team members and establishes a logistical framework and timetable for implementation of the study and selects the members of the study team from among the consulting companies.

Phase 3: Implementation of the Study

The study team carries out the study with the cooperation from the relevant government organizations of the recipient country.

The development study is also intended to facilitate on-the-job training of the counterpart personnel in surveying, analyses and reporting.

Phase 4: Analysis

A thorough assessment of the contents of the formulated plan/project is an essential part of the study. Typically, the criteria used for the assessment reflect financial, economic, social and environmental concerns.

Phase 5: Presentation of the Study Report

The product of the study is the study report, which enables government and funding agencies to consider the project's eligibility for planning, approval and assistance. The study report contains not only the implementation plan of the project but also alternative plans and conditions for the success of the proposed project.

The draft report is circulated for comment to ministries and individuals involved. The submission of the project document in its final form to the recipient country is the end point of the development study.

Chapter 2 Use of the Guidelines

Chapter 2

Use of the Guidelines

2.1 Objectives of the Guidelines

In formulating the development study plan for an agricultural and rural development project, it is essential to foresee potential significant environmental changes induced by the implementation of the proposed project, and to take necessary measures for ensuring appropriate environmental considerations.

Therefore, as a part of the environmental consideration process, the Guidelines have been prepared to assist screening and scoping prior to or in the course of the preparation for the work of the studies. The Guidelines aim at eliciting the benefits for environmental concern, and expediting the appropriate considerations in the subsequent development study conducted by JICA.

2.2 Scope of the Guidelines

(1) User

The Guidelines are designed to assist mainly JICA staff and mission members involved in the preparatory work for development studies.

(2) Studies to be applied

The Guidelines aims at guiding the preparatory work for the implementation of JICA development studies, i.e., feasibility studies (F/S), pre-feasibility studies (Pre F/S) or master plan studies (M/P) for agricultural and rural development in developing countries.

The Guidelines are inapplicable directly to small-scale studies such as basic design study under the grant aid program, detailed design survey for model infrastructure, or technical assistance by JICA for the investment and financing of development projects. However, the overall ideas for the environmental consideration process discussed in the Guidelines allow the user to apply these to small-scale studies as well.

2.3 Use of the Guidelines

The Guidelines are intended to be applied as follows.

(1) At the earliest possible stage, preferably in the identification of candidate projects for development study and the fact-finding of the officially requested development study, initial screening is begun in the JICA as in-house work based upon the documents, relevant data and information submitted from the recipient country in order to decide whether Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) are required for the study.

(2) The results of the initial screening are reviewed with the authorities of the recipient country during the JICA preparatory study mission. The formats and checklists appended to the Guidelines are to be used during the review. The environmental impact which would have a significant effect on the project implementation are identified and screened out. If the joint screening concludes that the proposed project is not expected to result in significant environmental impacts (SEIs), IEE and EIA are judged to be unnecessary.

(3) In cases where an IEE or EIA is judged necessary for the project, the probable SEIs are evaluated based on the appended checklists, and the scope of the IEE or EIA is then worked out. Accordingly, the outcome will clearly be stipulated in the S/W, which the JICA mission and the authorities of recipient country will agree upon. In this scoping, an effort must be made to foresee appropriately and concretely the probable SEIs, fully employing the Appendix - A "Significant Environmental Impacts and Issues." The SEIs that cannot be clearly identified in this scoping stage should be further refined at subsequent stages.

(4) According to the S/W agreed upon, the terms of reference for the consulting services are prepared so as to organize the best-suited study team for the EIA or IEE; this team will subsequently compose an integral part of the M/P and F/S (hereinafter including Pre F/S as well).

2.4 Preparatory Stage for Development Study

A development study is generally divided into the following two stages:

(1) The study preparation stage, which consists of scrutiny and identification of the official request for the study, preparatory study, and selection of consultants.

(2) The implementation stage of the F/S or M/P by the JICA consultants.

Figure 2.1 illustrates the procedure at these stages.

The F/S and M/P are classified into two study components, as described below:

- ***Main development study***, which is directly related to the envisioned specific agricultural development, and consists of studies on the present status of the project area, analysis of development constraints, formulation of the development plan, facility planning, operation and maintenance plan, estimation of costs and benefits, economic and financial analysis, etc.

- ***Environmental study***, which is carried out only when required, and consists of IEE, Pre EIA* or EIA.

The major environment-related work during preparation of the F/S and M/P is outlined below and shown in Figures 2.1 and 2.2.

1) Collection of Environmental Data and Information

Data and information such as project outlines and environmental conditions are collected from the project documents and other sources at this stage. The Japanese Embassy and the JICA field office will ask the recipient authority to submit the environmental data and information with the project documents which include TOR of the development study.

2) In-house Preparatory Work

① Preparation of PD and SD Forms

The PD and SD Forms clarify the project outline, environmental conditions, environmental authorities and institutions, environmental policies, laws, regulations and guidelines, possible mitigation measures mitigating environmental impact, etc.

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* Pre-EIA: In some developing countries, Pre-EIA is required by local guidelines. The pre-EIA is intermediate between the IEE and EIA and consists of a description of positive and negative environmental impacts and simple mitigation measures.

② **Initial Screening and Scoping**

The members of the preparatory study mission carry out the initial screening and scoping in Japan prior to their field work for the preparatory study. This consists of foreseeing and evaluating the potential SEIs and formulating the field work components necessary for effective environmental consideration.

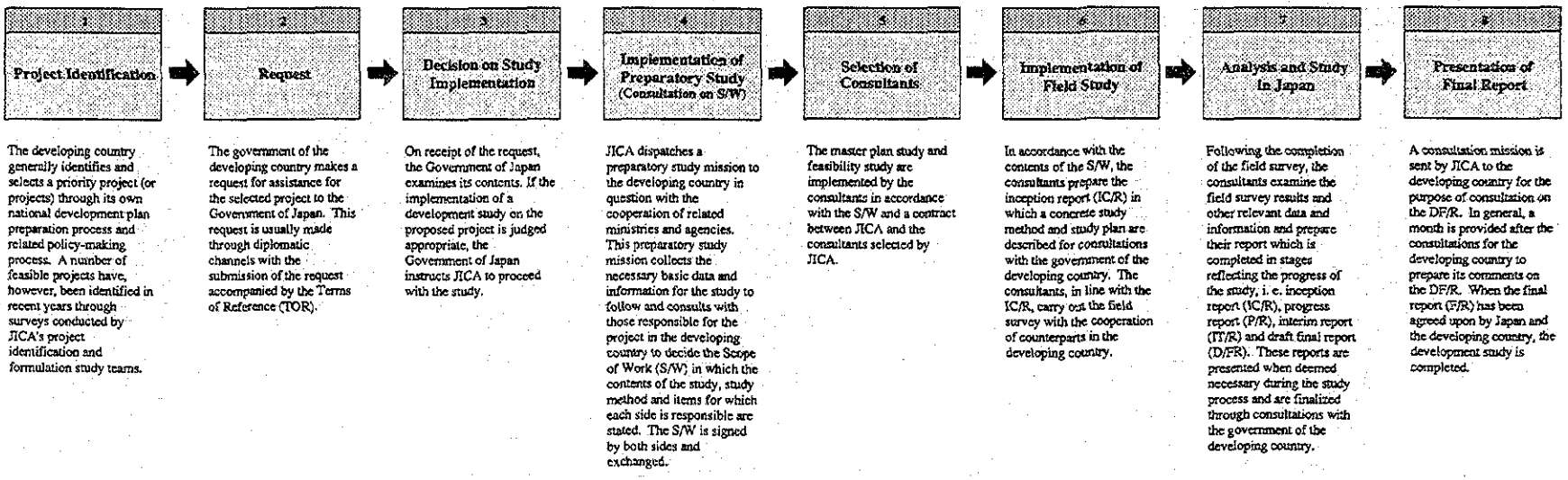

Figure - 2.1 Implementation of Development Study and Associated Environmental Consideration

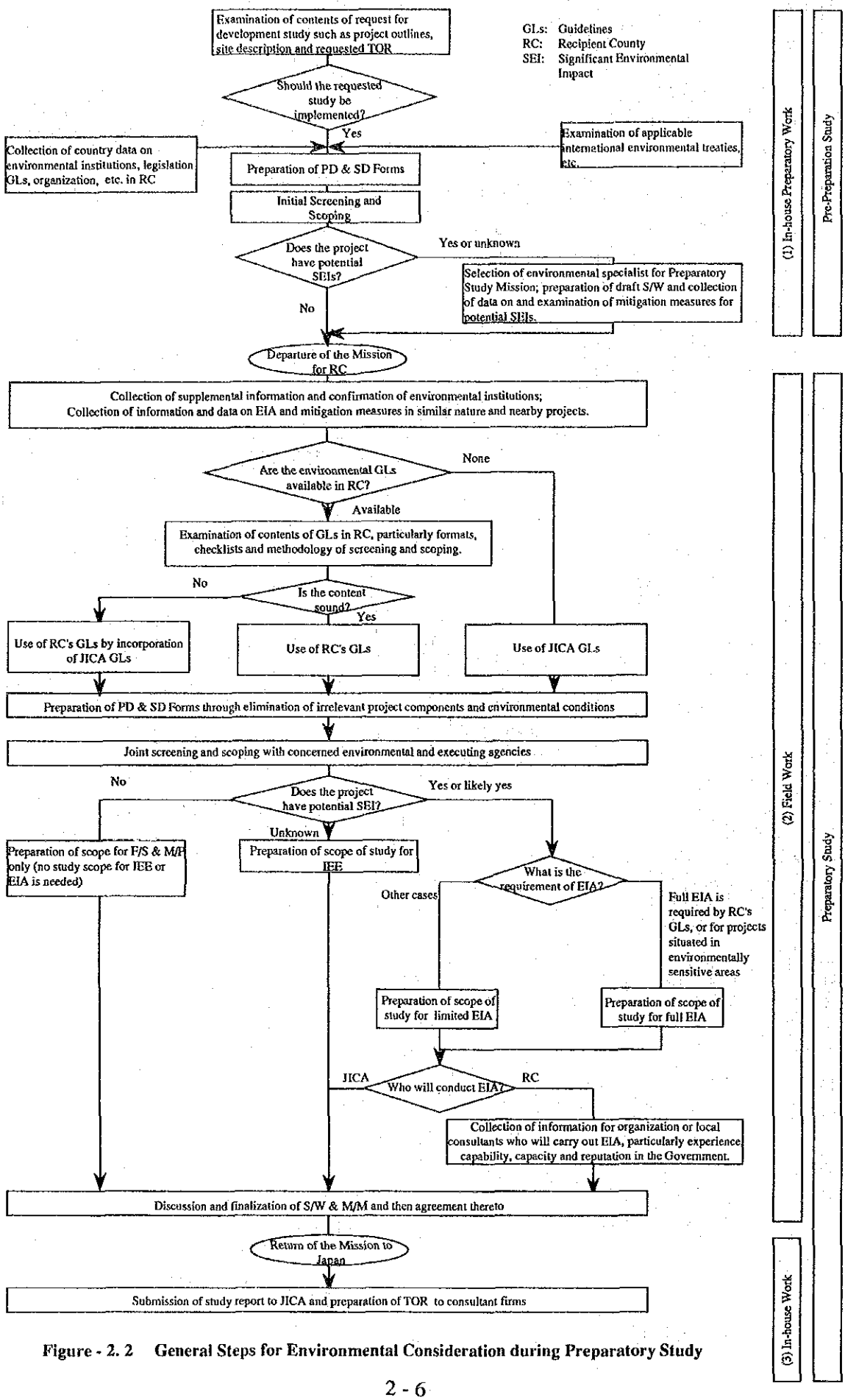

Figure - 2. 2 General Steps for Environmental Consideration during Preparatory Study

3) Field Work

① Study in Recipient Country

It is to be confirmed, in line with the field work plan, that the data and information for the project outline, environmental conditions, environmental authorities and institutions, environmental laws and regulations, particularly the EIA system implemented in the recipient country, mitigation measures, etc. which were collected in japan .

② Joint Screening and Scoping

On the basis of the collected information, the preparatory study mission and the responsible agencies in the recipient country carry out the joint screening and scoping for EIA. (Participation of a high-level decision-maker from the environmental authority is requested as needed.)

Careful attention should be given to the laws, regulations and guidelines on EIA which are in force in the recipient country.

③ Agreement on Scope of Environmental Study

When the IEE or EIA to be conducted in the M/P or F/S is agreed upon as the result of joint screening and scoping, the scope and implementation of such study are discussed in further detail. Then, both parties sign the S/W agreement after they reach a conclusion. If some special conditions need to be explicitly set out, a Minutes of the Meeting (M/M) is prepared.

4) In-house Work

① Reporting on Preparatory Study Mission

The preparatory study mission summarizes the findings and results of the study in the preparatory study report and submits it to JICA.

② Preparation of Terms of Reference for Environmental Study

The mission and responsible JICA officials prepare the terms of reference for the consulting firms that will carry out the M/P or F/S and for the environmental study, as necessary.

2.5 Composition of the Guidelines

The Guidelines for screening and scoping hereinafter have been structured as follows:

(1) Preparation of PD and SD Forms

a. General
b. Project Description (PD) Form
c. Site Description (SD) Form
d. Sample PD and SD Forms

(2) Checklists for Initial Screening and Scoping

a. General
b. Checklist for Initial Screening
c. Checklist and Reference Matrices for Initial Scoping
d. Sample Checklists for Initial Screening and Scoping

(3) Checklists for Joint Screening and Scoping

a. General
b. Checklist for Joint Screening
c. Checklist for Joint Scoping
d. Sample Checklists for Joint Screening and Scoping

2.6 Important Considerations in the Use of the Guidelines

(1) Environmental Institutions in the Recipient Country

It is important that the Guidelines be utilized with due consideration to the environmental policy and situation in the recipient country, particularly with regard to institutions, legislation, guidelines, etc..

In countries where environmental regulations or guidelines requiring IEE or EIA have been established, the screening and scoping should be conducted in accordance with these regulations or guidelines.

In countries where there are no such requirements, the screening and scoping are to be conducted in accordance with the Guidelines, with proper briefing to the recipient authority to avoid unnecessary friction and to achieve a smooth consensus thereupon.

(2) Duplication of Studies

Unnecessarily duplication of specific study items should be avoided, particularly socioeconomic issues, which are already included in the scope of the main development study of the F/S or M/P, among the environmental study components.

(3) Improvement of the Guidelines

The process of implementing a development study comprises a sequence of stages including examination of the requested study, fact finding, preparatory study, selection of consultants and implementation of the M/P or F/S. The necessary environmental consideration corresponding to each of these steps should accordingly be conducted at each stage.

With reference to the figure and tables presented in Chapter 1, it is therefore prerequisite to clearly understand the issues which define the environmental study and its role in each corresponding stage. Based upon this understanding, the preparatory work for the development study should proceed step by step so as to meet the specific requirements in the recipient country. The formats that appear in the Guidelines may be improved, when necessary, in accordance with the localized social, economic and environmental quality and conditions.

Chapter 3 Preparation of PD and SD Forms

Chapter 3

Preparation of PD and SD Forms

3.1 General

(1) Purpose of Project Description (PD) and Site Description (SD) Forms

Forms for the Project Description (PD) and Site Description (SD) of the proposed project (hereinafter referred to as "the Project") are prepared to summarize the basic data required for screening and scoping activities on the requested development study for an agricultural and rural development project.

(2) Preparation

1) Preparation of PD and SD Forms in In-house Work

In line with the request document for the development study of the proposed project, preliminary PD and SD forms are prepared on the basis of the available data and information submitted by the recipient government. Information necessary for preparing the forms includes:

- Background information and objectives of the proposed project in the requested development study (clear long-and short-term objectives and background information necessary for justifying the proposed project);
- Brief description of the proposed project;
- Major components and development scale of the proposed project;
- Information on national and local environmental authorities concerned and on relevant environmental laws, regulations, and guidelines, particularly for EIA procedures;
- Information on the socio-economic and natural conditions of the proposed project area;
- Information on environmentally sensitive areas in and around the proposed project site.

Although the available information for the proposed project is usually limited at this stage, it is essential to collect, to the extent possible, the country environmental profiles that include the following information:

- Country data on agricultural and rural development, relevant environmental considerations, and environmental information published by the United Nations and other international organizations;
- Adopted international environmental treaties for conservation of wetlands, fauna and flora, etc., that apply to the proposed project site and vicinity, if any.

2) Completion of PD and SD Forms in Field Work

In order to conduct appropriate and precise screening and scoping on the proposed project, it is necessary in course of the field work to improve and supplement the forms with additional data and information available in the recipient country. The preliminary PD and SD Forms prepared in the in-house work are refined accordingly, and thus completed.

3.2 Project Description (PD) Form

(1) PD Form

Major items on the PD Form (attached Form 1) to be filled in are as follows:

1) Study Title (Project Name);
2) Background Information and Objectives of Project (long-and short-term objectives, justification and other background information on proposed project);
3) Brief Description of Project;
4) Major Components and Development Scale of Project.

Project Description (PD) Form

Form 1

1. Study Title (Project Name)

_____

2. Background Information and Objectives of Project

_____

_____

3. Brief Description of Project

Outline of Project Area : _____

Beneficiaries & Benefited Area : _____ persons _____ ha. _____

Major Project Components : _____

Executing Agencies : _____

Environmental Agencies Concerned : _____

4. Major Components and Development Scale of Project

(1) Main Project Components		(2) Type of Project		(3) Scale of Project		(4) Remarks
	(Development activity)	New project	Rehabilitation	Area, etc.	Dimensions of major facilities	
a.	Irrigation	❑	❑	_____ ha.	_____	_____
b.	Drainage	❑	❑	_____ ha.	_____	_____
c.	Land clearing & leveling	❑	❑	_____ ha.	_____	_____
d.	Sea/swamp reclamation	❑	❑	_____ ha.	_____	_____
e.	Land consolidation	❑	❑	_____ ha.	_____	_____
f.	New land settlement	❑	❑	_____ households	_____	_____
g.	Dam and reservoir	❑		Number of reservoirs _____ reservoirs;	Reservoir area Storage capacity ha. _____ m^3	_____
h.	Substantial changes in farming system	❑	❑	_____ ha.	Name of new crops _____	_____
i.	Other	❑	❑	_____	_____	_____

(2) Filling in the PD Form

In line with the items detailed below and shown on the PD Form, required details should be entered clearly and briefly.

1) Study Title (Project Name):

Study title (project name) of the project that is proposed by the recipient country.

2) Background Information and Objectives of Project

Objectives and justification of the proposed project, as well as any related long-term or regional development plan, policy or strategy.

3) Brief Description of Project :

(i) Outline of Project Area

- Location (name of the country, province, district and nearby major city).
- Present situation and features of the project area.

(ii) Beneficiaries and Benefited Area

Benefited population and area.

(gross area, affected both directly and indirectly, is acceptable, however, "gross area" must be indicated as such.)

(iii) Major Project Components

Summary of project components which appear in item 4, "Major Components and Development Scale of Project", below.

(iv) Executing Agencies

Name of the executing agencies for the proposed project and any related agencies.

(v) Environmental Agencies Concerned

- Names of the environment-related government organizations at the national and regional levels or the environmental department of the local government.
- Name of NGOs which are active in the proposed project area

(those, if any, which oppose implementation of the proposed project should also be named.)

4) Major Components and Development Scale of Project

(i) Main Project Components

Projects for agricultural and rural developments are categorized by 9 major components hereunder, with brief descriptions. The component(s) applicable to the Project should be identified and marked with "*" in each column corresponding to the development type of the project (whether new project or rehabilitation). Where a project consists of several components, each component is to be marked with "*", depending on the nature of the project.

a. Irrigation

Introduction of water to the project area, either on the surface or underground .

b. Drainage

Scheme to remove/drain surface or underground water from agricultural land.

c. Land clearing and leveling

Conversion of non-cultivated land to paddy or upland field by land clearing and leveling.

d. Sea/swamp reclamation

Reclamation of land from sea, estuary, or swampy and habitually flood-prone areas, protecting the area from inundation or flooding by provision of dikes, etc.

e. Land consolidation

Readjustment of existing farmland blocks and lots, including provision of on-farm irrigation and drainage facilities, related rural roads and subsoil improvement.

f. New land settlement

Planned agricultural settlement associated with new irrigation schemes, land clearing and leveling, sea/swamp reclamation, etc.

g. Dam and reservoir

Construction of a dam or intake barrage for water impounding (raising the height of a dam is classified as rehabilitation).

h. Substantial changes in farming system

- Extensive agricultural mechanization;
- Introduction of new crops
  (e.g., conversion of upland field, grass land or tree crop land to irrigated paddy field);
- Substantial change in agricultural support services
  (e.g., increased use of agrochemicals, etc.).

i. Other

Development or improvement activities/schemes other than those listed above.

(ii) Type of Project

Projects are classified as new projects or rehabilitation, Projects and should be marked individually as noted above.

(iii) Scale of Project

a. Area, etc.

In this column the following are entered:

- net benefit areas for irrigation, drainage, land clearing and leveling, sea/swamp reclamation and land consolidation components;
- number of settler households for the settlement components;
- number of dams and total reservoir area for the dam and reservoir components.

b. Dimensions of major facilities

Under the column for "dimensions of major facilities" on the form, the representative dimensions of the principal facility related to that component are to be given (for example, length in the case of a road or canal, floor area in the case of buildings, etc.), except for the "dam and reservoir" component, which specifically calls for reservoir capacity, and the "substantial changes in farming system" component, which calls for the new crops introduced.

(iv) Remarks

Relevant local regulations which may require execution of IEE or EIA depending on development scale (for example: size of irrigated area, size of inundated area due to construction of reservoir, etc.), should be listed here.

3.3 Site Description (SD) Form

(1) SD Form

The present socioeconomic status and the natural conditions of the project area are described on the SD Form (see attached Form 2). Environmentally sensitive areas should specially be examined on the form. The description focuses, in particular, on the following site environmental conditions:

1) Study Title (Project Name)

Name of project used in the request from the recipient country.

2) Present Socio-economic Status of Project Area:

Land ownership, land use, economic activities, customs, host people or community, public health conditions, population, etc.;

3) Natural Conditions of Project Area:

Climate, topography, hydrology and drainage conditions, soils, vegetation, rare species or ecology, etc.;

4) Environmentally Sensitive Areas in Project Site or Vicinity

- Area under specific designation as national park, forest reserve, bird sanctuary, etc.;
- Socio-economically sensitive areas ;
- Environmentally sensitive natural land ;

5) Other Information

Description of cases where SEIs were observed in a project area, in its vicinity or in similar sites.

Site Description (SD) Form - 1/2

Form 2

1 Study Title (Project Name)

---

2 Present Socio-economic Status of Project Area

(1) Land ownership and land use, etc. :

(2) Economic activities in and around the project area :

(3) Customs (riparian rights, water rights, etc.) :

(4) Host people or community :

(5) Public health conditions :

(6) Population :

(7) Other :

3 Natural Conditions of Project Area

(1) Climate :

(2) Topography :

(3) Hydrology and drainage conditions :

(4) Soils :

(5) Vegetation :

(6) Rare species or fragile ecology :

(7) Other :

Site Description (SD) Form - 2/2

Form 2

4 Environmentally Sensitive Areas in Project Site or Vicinity

Environmentally Sensitive Area	Applicable or Not					
	In Project Area			Vicinity of Project Area		
	Appl.	N.A	Unknown	Appl.	N.A	Unknown
** Area under specific designation **						
S1. Habitat of fauna and flora listed in CITES	❑	❑	❑	❑	❑	❑
S2. Wetland designated under the Ramsar Convention	❑	❑	❑	❑	❑	❑
S3. Heritage sites listed in the World Heritage Convention						
S4. National parks, nature reserves, etc.	❑	❑	❑	❑	❑	❑
S5. Other ( )	❑	❑	❑	❑	❑	❑
** Socioeconomically sensitive areas **						
S6. Areas inhabited by indigenous peoples, ethnic minorities, nomads, etc.	❑	❑	❑	❑	❑	❑
S7. Historical remains, cultural assets, aesthetic sites	❑	❑	❑	❑	❑	❑
S8. Area likely to suffer from significant negative economic impact	❑	❑	❑	❑	❑	❑
S9. Other ( )	❑	❑	❑	❑	❑	❑
** Environmentally sensitive natural land **						
S10. Arid and semi-arid lands (including savanna, rangeland, etc.)	❑	❑	❑	❑	❑	❑
S11. Tropical rain forests and wildlands	❑	❑	❑	❑	❑	❑
S12. Wetlands or peat lands	❑	❑	❑	❑	❑	❑
S12.1 Wetlands	❑	❑	❑	❑	❑	❑
S12.2 Peat lands	❑	❑	❑	❑	❑	❑
S13. Coastal zones	❑	❑	❑	❑	❑	❑
S13.1 Mangrove forests	❑	❑	❑	❑	❑	❑
S13.2 Coral reefs	❑	❑	❑	❑	❑	❑
S14. Mountainous, steep-sloped, erodible or devastated lands	❑	❑	❑	❑	❑	❑
S15. Closed water bodies such as lakes, swamps or reservoirs	❑	❑	❑	❑	❑	❑
S16. Other ( )	❑	❑	❑	❑	❑	❑

5 Other Information

(2) Filling in the SD Form

In line with the items indicated on the SD form and detailed in 1), 2) and 3) hereunder, required information about the project area should be filled in clearly and briefly.

1) *Study Title (Project Name)*

Name of the proposed project used in the request for the development study;

2) Present Socioeconomic Status of Project Area

(i) Land ownership and land use, etc.:

Proportion of the area owned by large land owners and the area cultivated by tenant farmers, recent agrarian reform, relevant laws, regulations, etc.;

(ii) Economic activities in and around the project area:

Major agricultural and industrial activities in and around the project area;

(iii) Customs:

Riparian rights, water rights, fishery rights, etc.;

(iv) Host people or community:

Ethnic and tribal groups or nomadic peoples;

(v) Public health conditions:

Water-related diseases such as schistosomiasis, malaria, onchocerciasis and elephantiasis;

(vi) *Population:*

Population, density and distribution, growth rate, etc.;

(vii) Other:

Other socioeconomic factors relevant to development under the Project;

3) Natural Conditions of Project Area

(i) Climate:

Mean annual precipitation, dry and wet seasons, highest and lowest temperatures, etc.;

(ii) Topography:

Topographic parameters such as altitude and dominant land tilt;

(iii) Hydrology and drainage conditions:

Main features of large rivers and other water bodies (discharge, size of catchment area, etc.);

(iv) Soils:

Special soils, i.e., peat soils, acid sulfate soils and saline soils, if any ;

(v) Vegetation:

Major crops and popular vegetation cover;

(vi) Rare species or fragile ecology:

Endangered fauna and flora or valuable ecological systems (refer to Red Data Book, International Union for Conservation of Nature and Natural Resources: IUCN, CITES, etc.);

(vii) Other:

Other natural factors relevant to development under the Project;

4) Environmentally Sensitive Areas in Project Site or Vicinity

In cases where any of the following environmentally sensitive areas are located in the project site and vicinity, the corresponding column for applicable (Appl.), not applicable (N.A.) or not readily known (Unknown) should be marked with an "x". *"In Project Area"* indicates the area under the project. *"Vicinity of Project Area"* means nearby area including upstream or downstream basins, that may be adversely affected by the implementation of the project.

a. Area under specific designation

S1. Habitat of fauna and flora listed in CITES:

The countries which are signatories to the Convention on International Trade in Endangered Species of Wild Fauna and Flora are listed in Appendix B.

S2. Wetland designated under the Ramsar Convention:

The countries that are signatories to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (concluded in Ramsar) are listed in Appendix B.

S3. Heritage sites listed in the World Heritage Convention

The countries that are signatories to the World Heritage Convention are listed in Appendix B.

S4. National parks, nature reserves, etc.:

The protected areas designated by the national or the local authority in the recipient country should be listed, when the areas are located in or around the project site.

S5. Other:

applicable area under specific designation, if any, other those listed stated above

b. Socioeconomically sensitive areas

S6. Areas inhabited by indigenous peoples, ethnic minorities, nomads, etc.;

S7. Historical remains, cultural assets, aesthetic sites;

S8. Area likely to suffer from significant negative socioeconomic impact

(riparian rights, etc.);

S9. Other:

Other socioeconomically sensitive areas where human life, existing institution, customary practices, etc. are likely to be adversely affected.

More detailed definition of the above socioeconomic items are presented in Appendix A, "Significant Environmental Impacts and Issues".

c. Environmentally sensitive natural land

S10. Arid and semi-arid lands (including savanna and rangeland):

Arid and semi-arid lands are normally defined as drylands which receive average annual rainfall of 200 - 1000 mm. a year.

S11. Tropical rain forests and wildlands:

These are tropical rain forests and wildlands which have been disturbed only slightly by human activities and are thus characterized by extreme biological diversity.

S12. Wetlands or peatlands

s12.1 Wetlands:

Wetlands are defined as marshes, fens, herbaceous or wooded swamps, lagoons, etc.

s12.2 Peatlands:

Peat lands mean specifically tropical peat soils in the Guidelines.

S13. Coastal zones

s13.1 Mangrove forests.

s13.2 Coral reefs.

S14. *Mountainous, steep-sloped, erodible or devastated lands:*

Those lands which are subject to soil erosion or landslides.

S15. Closed water bodies such as lakes, swamps or reservoirs:

Closed inland bodies of water such as lakes, swamps and reservoirs located downstream of a project site are, in some cases, affected by the project through water level changes or contamination.

S16. Other:

Natural lands other than those referred to above, and which are susceptible to the SEIs, are listed and marked with "x" on the format.

More detailed definition of each of the above listed natural land areas is given in Appendix A, "Significant Environmental Impacts and Issues".

5) Other Information

Any available information pertining to the following cases should be described briefly:

- Description of cases where SEIs were observed in or in the vicinity of the project area, or at a similar project site.
- Flight course and return destination of migratory birds.
- Other.

3.4 Sample PD and SD Forms

Completed samples of PD and SD Forms are attached for reference.

Sample of Project Description (PD) Form

Sample Form 1

1. Study Title (Project Name)

Feasibility Study on "A" River Basin Agricultural Development Project

2. Background Information and Objectives of Project

In order to cope with increased demand for rice to meet population growth at 3 % per annum, the Government of "B" country proposes to construct a dam in the upper basin of "A" river and thereby to develop paddy field with an area of 5,000 ha. in the downstream savanna area of the dam. This project is one of the priority projects listed in the 5th 5-Year Development Plan. The Government has requested technical assistance to carry out the F/S for the project, which includes a settlement plan.

3. Brief Description of Project

Outline of Project Area	:	Savanna area located on the left bank of "A" river and to the west of "D" city in "C" Province
Beneficiaries & Benefited Area	:	About 25,000 persons 5,000 ha.
Major Project Components	:	Irrigation, drainage, land clearing and leveling, new land settlement, dam and reservoir, and substantial change in farming system
Executing Agencies	:	Ministry of Agriculture
Environmental Agencies Concerned	:	Ministry of Natural Resources and Environment

4. Major Components and Development Scale of Project

(1) Main Project Components		(2) Type of Project		(3) Scale of Project			(4) Remarks
	(Development activity)	New project	Rehabilitation	Area, etc.		Dimensions of major facilities	
a.	Irrigation	☒	☐	5,000	ha.	Unknown	EIA is required for irrigation area more than 12,000 ha.
b.	Drainage	☒	☐	5,000	ha.	Unknown	
c.	Land clearing & leveling	☒	☐	5,000	ha.	Unknown	
d.	Sea/swamp reclamation	☐	☐				
e.	Land consolidation	☐	☐				
f.	New land settlement	☒	☐	Unknown	households		
g.	Dam & reservoir	☒	☐	Number of reservoirs	Reservoir area	Storage capacity	EIA is required for reservoir area more than 1,500 ha.
				1 reservoir;	200 ha.	100 million m^3	
h.	Substantial changes in farming system	☒	☐	2,000	ha.	(Name of new crops) Paddy	
i.	Other	☐	☐				

Sample of Site Description (SD) Form - 1/2

Sample Form 2-1

1 Study Title (Project Name)

Feasibility Study on "A" River Basin Agricultural Development Project

2 Present Socio-economic Status of Project Area

(1) Land ownership and land use, etc.	:	Unknown (but not Government land)
(2) Economic activities in and around the project area	:	Agriculture (cotton and vegetables) and animal husbandry are practiced in the project and surrounding areas.
(3) Customs (riparian rights, water rights, etc.)	:	Unknown (water right appears to exist)
(4) Host people or community	:	Nomadic peoples use the project area as pasture land and passage route.
(5) Public health conditions	:	Malaria prevails in similar and nearby project sites.
(6) Population	:	Total of 40,000 peoples including 15,000 peoples in nearby "F" town. Rate of annual population growth is 2.8 percent.
(7) Other	:	None

3 Natural Conditions of Project Area

(1) Climate	:	Annual average rainfall of 300 mm concentrated from June to August in the wet season. Annual mean temperature is 28 °C.
(2) Topography	:	More or less flat land with a slope of 1/5,000 from upstream to downstream.
(3) Hydrology and drainage conditions	:	Catchment area of "A" river is 2,000 km^2 at the proposed dam site and mean discharge is 20 m^3/s in the low flow season and 2,000 m^3/s in the flood season.
(4) Soils	:	Sandy loam
(5) Vegetation	:	Mainly grassland with scattered pockets of brush land and bare areas.
(6) Rare species or fragile ecology	:	Unknown
(7) Other	:	None

Sample of Site Description (SD) Form - 2/2

Sample Form 2-2

4 Environmentally Sensitive Areas in Project Site or Vicinity

Environmentally Sensitive Area	Applicable or Not					
	In Project Area			Vicinity of Project Area		
	Appl.	N.A	Unknown	Appl.	N.A	Unknown
** Area under specific designation **						
S1. Habitat of fauna and flora listed in CITES	☐	☐	☒	☒	☐	☐
S2. Wetland designated under the Ramsar Convention	☐	☒	☐	☐	☒	☐
S3. Heritage sites listed in the World Heritage Convention	☐	☐	☐	☐	☐	☐
S4. National parks, nature reserves, etc.	☐	☒	☐	☐	☒	☐
S5. Other (None)	☐	☒	☐	☐	☒	☐
** Socioeconomically sensitive area **						
S6. Areas inhabited by indigenous peoples, ethnic minorities, nomads, etc.	☒	☐	☐	☒	☐	☐
S7. Historical remains, cultural assets, aesthetic sites	☐	☒	☐	☐	☒	☐
S8. Area likely to suffer from significant negative economic impact	☐	☒	☐	☐	☒	☐
S9. Other (None)	☐	☒	☐	☐	☒	☐
** Environmentally sensitive natural land **						
S10. Arid and semi-arid lands (including savanna, rangeland, etc.)	☒	☐	☐	☒	☐	☐
S11. Tropical rain forests and wildlands	☐	☒	☐	☐	☒	☐
S12. Wetlands or peat lands	☐	☒	☐	☐	☒	☐
S12.1 Wetlands	☐	☒	☐	☐	☒	☐
S12.2 Peat lands	☐	☒	☐	☐	☒	☐
S13. Coastal zones	☐	☒	☐	☐	☒	☐
S13.1 Mangrove forests	☐	☒	☐	☐	☒	☐
S13.2 Coral reefs	☐	☒	☐	☐	☒	☐
S14. Mountainous, steep-sloped, erodible or devastated lands	☐	☒	☐	☐	☒	☐
S15. Closed water bodies such as lakes, swamps or reservoirs	☐	☒	☐	☐	☒	☐
S16. Other (None)	☐	☒	☐	☐	☒	☐

5 Other Information

a. Precious animal species such as elephants and crocodiles are observed in the area surrounding the project site; however, the existence of the same is not clearly identified in the project site. A wildlife reserve is located 500 km east of the project site; however, the project will not have direct impact on the reserve.

b. The study requires measures for nomadic peoples who use a part of the project area as pasture land and passage route for their livestock.

c. Malaria control programs are not being vigorously pursued in similar and nearby project areas.

d. The height of the dam proposed for the project has not been determined; however, the project will not have significant negative impact if the height is lower than around 20 m.

e. The project requires measures to secure wood fuel sources for new settlers.

Chapter 4 Initial Screening and Scoping

Chapter 4

Initial Screening and Scoping

4.1 General

(1) Purpose of Initial Screening and Scoping

Initial screening is the first step in determining whether the requested development study requires particular environmental consideration procedures (i.e., IEE or EIA) or not, and is carried out during the in-house preparatory work on the basis of the request document for the proposed project from the recipient country and PD and SD forms.

The checklist for initial screening is used to identify the SEIs among those potential environmental impacts which may be induced by the implementation of the proposed project, and to elicit major study subjects for the subsequent field work to be conducted by the preparatory study mission.

(2) Initial Screening and Scoping Procedure

Since the countries to which technical assistance is extended for development studies exhibit diverse socio-economic and natural environments, there are no absolute criteria for screening to evaluate the degree of environmental impact.

The evaluation in the initial screening is, hence, carried out in accordance with: (i) criteria for recipient countries' regulations for IEE and EIA, (ii) the presence of areas specifically designated under international environmental treaties, and areas such as national parks, natural preserves, etc., and (iii) the potential significance of the following key issues to be addressed under the initial screening procedure.

I. Social Environment

1. Socio-economic Issues

Whether the project significantly affects socio-economic activities such as daily human life, economic activities, transportation, community structure and dynamics, and institutions, or not.

2. **Health and Sanitary Issues**

Whether the project significantly affects hygiene or induces water-related diseases, or not.

3. **Cultural Asset Issues**

Whether some historically, culturally, aesthetically or scientifically important areas are situated in the project area, or not.

II. Natural Environment

4. **Biological and Ecological Issues**

Whether or not habitats for rare species or ecologically fragile areas are located in the project or surrounding areas.

5. **Soil and Land Resources**

Whether the project significantly induces land devastation, soil erosion, soil contamination, etc., or not.

6. **Hydrology and Air and Water Quality**

Whether the Project significantly affects the hydrological regime of rivers, lakes and swamps; groundwater hydrology; air or water quality, or not.

7. **Landscape and Mining Resources**

Whether or not the project significantly affects landscape or mining resources in the area.

(Note: Although it is the intention under the Guidelines that initial screening be carried out as the basis for subsequent initial scoping, the Guidelines user may find during actual application in the field that it is helpful to refer to the checklist for initial scoping with regard to each of the above issue categorie issues in order to identify the requirements of further environmental study concerning a specific issue.)

4.2 Checklist for Initial Screening

(1) Checklist Form for Initial Screening

In the initial screening the attached Form 3, Checklist for Initial Screening (1), is to be first completed; the potential SEIs which will be induced by the proposed project are then tentatively identified on the Checklist for Initial Screening (2).

This initial screening on the said Checklist (2) can be further reinforced, as discussed in the note above, by the initial scoping checklist (attached in section 4.3) on which the SEIs are identified.

In the identification of these potential SEIs, it is advisable to refer to Appendix 1, in which typical relations among SEIs, development activities, and mitigation measures in planning, construction and operation stages are suggested.

In cases where the available information is limited for the initial scoping, it is also advisable that reference matrices for scoping (attached in section 4.3) be used.

Checklist for Initial Screening (1)

Form 3

1 Study Title(Project Name): _____

_____

2 Name of Country : _____

3 Criteria for Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) in Recipient Country

Main Project Components (Development Activity)	Type of Project (Type of Activity)	Development Scale: Initial Environmental Examination(IEE)	Development Scale: Environmental Impact Assessment(EIA)
Irrigation	New project	_____ ha or more	_____ ha or more
	Rehabilitation	_____ ha or more	_____ ha or more
Drainage	New project	_____ ha or more	_____ ha or more
Land clearing & leveling	– ditto –	_____ ha or more	_____ ha or more
Sea/swamp reclamation	– ditto –	_____ ha or more	_____ ha or more
Land consolidation	– ditto –	_____ ha or more	_____ ha or more
New land settlement	– ditto –	_____ households or more	_____ households or more
Dam and reservoir	– ditto –	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more
	Rehabilitation	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more
Substantial changes in farming system	New project	_____ ha or more	_____ ha or more
Other		_____ ha or more	_____ ha or more

4 Area under Specific Designation

	Environmentally Sensitive Area	Applicable or Not: In Project Area Appl.	In Project Area N.A	In Project Area Unknown	Vicinity of Project Area Appl.	Vicinity of Project Area N.A	Vicinity of Project Area Unknown
a.	Habitat of fauna and flora listed in CITES	❑	❑	❑	❑	❑	❑
b.	Wetland designated in Ramsar Convention	❑	❑	❑	❑	❑	❑
c.	Heritage sites under the World Heritage Convention	❑	❑	❑	❑	❑	❑
d.	National park, nature reserve, etc.	❑	❑	❑	❑	❑	❑
e.	Other( )	❑	❑	❑	❑	❑	❑

Checklist for Initial Screening (2)

Form 3

5 Checklist for Initial Screening

Environmental Issues	Potential SEI	Evaluation	Evaluation Bases
I. Social Environment			
1. Socio-economic Issues The Project significantly affects socio-economic activities in and around the Project site, such as daily human life, economic activities, transportation, community, institution, and customary practices.	1. Planned residential settlement 2. Involuntary resettlement 3. Substantial changes in way of life 4. Conflict among communities or peoples 5. Impact on native peoples 6. Population increase 7. Drastic change in population composition 8. Changes in bases of economic activities 9. Occupational change and loss of job opportunity 10. Increase in income disparities 11. Adjustment and regulation of water or fishing (riparian) rights 12. Changes in social and institutional structures 13. Changes in existing institutions and customs	Yes No Unknown	
2. Health and Sanitary Issues The Project significantly affects hygiene in and around the Project area or induces water-related diseases.	1. Increased use of agrochemicals 2. Outbreak of endemic diseases 3. Spreading of epidemic diseases (schistosomiasis, malaria, onchocerciasis, elephantiasis) 4. Residual toxicity of agrochemicals 5. Increase in domestic and other human waters	Yes No Unknown	
3. Cultural Asset Issues Some historically, culturally, aesthetically or scientifically important assets may be located in the Project site.	1. Impairment of historic remains and cultural assets 2. Damage to aesthetic sites	Yes No Unknown	
II. Natural Environment			
4. Biological and Ecological Issues Some habitats for rare species or ecologically sensitive areas are located in the Project or surrounding areas.	1. Changes in vegetation 2. Negative impacts on important or indegenous fauna and flora (extinction of or decrease in species) 3. Degradation of ecosystems with biological diversity 4. Proliferation of exotic and/or hazardous species 5. Destruction of wetlands and peatlands 6. Encroachment into tropical rainforests and wildlands 7. Destruction or degradation of mangrove forests 8. Degradation of coral reefs	Yes No Unknown	
5. Soil and Land Resources The Project significantly induces land devastation, soil erosion, soil contamination, ect.	1. Soil erosion 2. Soil salinization 3. Degradation of soil fertility 4. Soil contamination by agrochemicals and others 5. Devastation or desertification of land 6. Devastation of hinterland 7. Ground subsidence	Yes No Unknown	
6. Hydrology and Air and Water Quality The Project significantly affects hydrological regime of river, lake and swamp, groundwater hydrology, and air or water quality.	1. Changes in surface water hydrology 2. Changes in groundwater hydrology 3. Inundation and flooding 4. Sedimentation 5. Riverbed degradation 6. Impediment of inland navigation 7. Water contamination and deterioration of water quality 8. Water eutrophication 9. Salt water intrusion 10. Changes in temperature of water 11. Air pollution	Yes No Unknown	
7. Landscape and Mining Resources The Project significantly affects landscape or mining resources.	1. Damage to landscape 2. Impediment of mining resource exploitation	Yes No Unknown	
Overall Evaluation:		Yes No Unknown	

(2) Filling in the Checklist for Initial Screening

1) Study Title (Project Name)

Title of the project for the development study used in the request from the recipient government (Name of the proposed project in the request for the development study)

2) Name of Country

Name of the country where the proposed development study is to be carried out

3) Criteria for IEE and EIA in Recipient Country

In some recipient countries, IEE and EIA procedures are requested, depending on project components, development type and development scale, e.g., irrigation area and reservoir capacity, by the environmental laws, regulations and guidelines on IEE and EIA. Guideline users, hence, should fill in such criteria and requirements, on the basis of the information provided for the PD form.

4) Area under Specific Designation as National Parks, Natural Reserves, etc.

In cases where the following areas under specific designation are in the project area or in its vicinity, corresponding columns for applicable (Appl.), not applicable (N.A.) or not readily known (Unknown) should be marked with an "x".

a. Habitat of fauna and flora listed in CITES
b. Wetland designated under the Ramsar Convention
c. Heritage sites under the World Heritage Convention
d National park, nature reserve, bird sanctuary, etc.
e. Other

5) Screening Items

I. Social environment
1. Socio-economic issues
2. Health and sanitary issues
3. Cultural asset issues

II. Natural environment
4. Biological and ecological issues
5. Soil and land resources
6. Hydrology and air and water quality

7. Landscape and mining resources

Even where the ecological systems are foreseen to be affected by the project, there may be some cases where adverse impacts are judged as acceptable vis-à-vis the positive benefits to be obtained through the project implementation. In such a case, however, distribution of similar ecosystems must be carefully examined in order to justify the project.

(3) Evaluation of Each Screening Item

The seven items of the social and natural environments for screening indicated in the previous paragraph are evaluated as follows, on the basis of summarizing the potential SEIs discussed in the Checklist for initial scoping (attached Form 4 in section 4.3).

a. Even if only one potential SEI is identified (marked with "A") in the Checklist for initial scoping for each issue, the corresponding column for "Evaluation" for the same issue in the Checklist for initial screening should then be marked "Yes".

b. If no potential SEI is identified (marked with "C") in the Checklist for initial scoping for each issue, then the "Evaluation" column is marked "No" in the Checklist for initial screening.

c. If a combination of SEIs marked "No" and SEIs marked "Unknown" ("C" and "B") are identified in the checklist for each issue, then the "Evaluation" column is marked "Unknown" in the Checklist for initial screening.

(4) Overall Evaluation

The necessity of further environmental study during the field work for the preparatory study is evaluated by summarizing the evaluation results of the above seven items as shown below:

The overall evaluation is made as follows:

a. Even if only one "Yes" is observed for an environmental item in the "Evaluation" column in the initial screening checklist, the item for overall evaluation is then marked "Yes". In such a case, further careful study and scrutiny are required during the field work for the preparatory study focussing on such potential SEIs.

b. If "No" is observed for all the items, the item for overall evaluation is marked as "No". Nevertheless, in this case, the conclusion of this overall evaluation derived from the initial screening checklist should be confirmed during the field work for the preparatory study.

c. If a combination of "No" and "Unknown" are observed, "Unknown" is marked for overall evaluation. In this case, further information collection is required during the field work for the preparatory study to conclusively identify the potential SEIs.

4.3 Checklist and Reference Matrices for Initial Scoping

(1) Checklist Form for Initial Scoping

The initial scoping is conducted according to the attached Checklist for initial scoping (Form 4), in order to preliminary identify the potential SEIs which may be induced by the project implementation.

(2) Filling in the Checklist for Initial Scoping

1) Study Title (Project Name)

Title of the project used in the request from the recipient government.

2) Evaluation of the SEIs

The degree of possible environmental impact is assessed and classified into three categories (A, B or C), which will be filled in the column of the Checklist Form for Initial Scoping. Environmental impact items are assigned to one of the following three applicable categories (A, B, or C) in the column for the relevant development activity:

A: As SEI is identified or expected, further scrutiny is required.
B: Since SEI is not sufficiently clarified through the preliminary evaluation, further study is required.
C: As SEI is recognized to be nil, no further study is required.

Checklist for Initial Scoping (1)

Form 4

The Study Title (Project Name): _____

I. Social Environment

Category of Environmental Impact 1/	Initial Evaluation 2/ Main Project Components 3/										Remarks
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.	Others	
	New	Rehb.									
1. Socio-economic Issues											
(1) Social Issues											
1. Planned residential settlement											
2. Involuntary resettlement											
3. Substantial changes in way of life											
4. Conflict among communities and peoples											
5. Impact on native peoples											
6. Other											
(2) Demographic Issues											
1. Population increase											
2. Drastic change in population composition											
3. Other											
(3) Economic Activities											
1. Changes in bases of economic activities											
2. Occupational change and loss of job opportunity											
3. Increase in income disparities											
4. Other											
(4) Institutional and Custom Related Issues											
1. Adjustment and regulation of water or fishing (riparian) rights											
2. Changes in social and institutional structures											
3. Changes in existing institutions and customs											
4. Other											
2. Health and Sanitary Issues											
1. Increased use of agrochemicals											
2. Outbreak of endemic diseases											
3. Spreading of epidemic diseases											
4. Residual toxicity of agrochemicals											
5. Increase in domestic and other human wastes											
6. Other											
3. Cultural Asset Issues											
1. Impairment of historic remains and cultural assets											
2. Damage to aesthetic sites											
3. Other											

1/ Definition of each category of environmental impact is presented in Appendix A, "Significant Environmental Impacts and Issues".

2/ Each applicable item is marked with the following classifications:
- A: As SEI is identified or expected, further scrutiny is required.
- B: Since SEI is not fully clarified through the preliminary evaluation, further study is required.
- C: As SEI is recognized to be nil, no further study is required.

3/ Main project components are abbreviated hereunder:

I.R. : Irrigation	D.A. : Drainage	L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation	L.C. : Land consolidation	N.S.: New land settlement
D.R.: Dam and reservoir	S.C. : Substantial changes in farming system	
New: New project	Rehb. : Rehabilitation	

Checklist for Initial Scoping (2)

Form 4

II. Natural Environment

Category of Environmental Impact 1/	Initial Evaluation 2/										Remarks
	Main Project Components 3/										
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.	Others	
	New	Rehb.									
4. Biological and Ecological Issues											
1. Changes in vegetation											
2. Negative impacts on important or indigenous fauna and flora											
3. Degradation of ecosystem with biological diversity											
4. Proliferation of exotic and/or hazardous species											
5. Destruction of wetlands and peatlands											
6. Encroachment into tropical rain-forests and wildlands											
7. Destruction or degradation of mangrove forests											
8. Degradation of coral reefs											
9. Other											
5. Soil and Land Resources											
(1) Soil Resources											
1. Soil erosion											
2. Soil salinization											
3. Degradation of soil fertility											
4. Soil contamination by agrochemicals and others											
5. Other											
(2) Land Resources											
1. Devastation or desertification of land											
2. Devastation of hinterland											
3. Ground subsidence											
4. Other											
6. Hydrology and Air and Water Quality											
(1) Hydrology											
1. Changes in surface water hydrology											
2. Changes in groundwater hydrology											
3. Inundation and flooding											
4. Sedimentation											
5. Riverbed degradation											
6. Impediment of inland navigation											
7. Other											
(2) Water Quality and Temperature											
1. Water contamination and deterioration of water quality											
2. Water eutrophication											
3. Salt water intrusion											
4. Change in temperature of water											
5. Other											
(3) Atmosphere											
1. Air pollution											
2. Other											
7. Landscape and Mining Resources											
1. Damage to landscape											
2. Impediment of mining resources exploitation											

1/ Definition of each category of environmental impact is presented in Appendix A. "Significant Environmental Impacts and Issues".

2/ Each applicable item is marked with the following classifications:

A: As SEI is identified or expected, further scrutiny is required.

B: Since SEI is not fully clarified through the preliminary evaluation, further study is required.

C: As SEI is recognized to be nil. no further study is required.

3/ *Main project components are abbreviated hereunder.*

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

(3) Reference Matrices for the Initial Scoping

The reference matrices are presented in attached Forms 5-1 to 5-7 for social and natural environments. These matrices are prepared to assist the Guidelines users in initial screening and scoping. However, the matrices should be used with discretion, depending on the specific environmental situation in and around the proposed project site.

The list of the reference matrices is as follows:

Project Site	Social Environment	Natural Environment
Arid and Semi-arid Lands, Savanna, Rangeland, etc.	Form 5-1 Reference Matrix (1)	Form 5-2 Reference Matrix (2)
Tropical Rain Forest, Wildlands	- ditto -	Form 5-3 Reference Matrix (3)
Wetlands, Peat lands	- ditto -	Form 5-4 Reference Matrix (4)
Coastal Zones, Mangrove Forests, Coral Reefs	- ditto -	Form 5-5 Reference Matrix (5)
Mountainous, Steep Sloped, Erodible or Devastated Lands	- ditto -	Form 5-6 Reference Matrix (6)
Closed Water Bodies (lakes, swamps, or reservoirs)	- ditto -	Form 5-7 Reference Matrix (7)

Reference Matrix of Checklist for Initial Scoping (1)

Form 5-1

I. Social Environment (Common Matrix)

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
1. Socio-economic Issues									
(1) Social Issues									
1. Planned residential settlement						△	O		
2. Involuntary resettlement				O	O			O	
3. Substantial changes in way of life				O	O		O	○	○
4. Conflict among communities and peoples	○	△	○	○	○		○	○	○
5. Impacts on native peoples				○	○		○	○	
(2) Demographic Issues									
1. Population increase				○	○		○		
2. Drastic change in population composition	○		○	○	○		O	○	○
(3) Economic Activities									
1. Changes in bases of economic activities	○		△	O	O	○	O	O	△
2. Occupational change and loss of job opportunity	○	△	△	○	O		○	○	○
3. Increase in income disparities	○	△		○	○		○		○
(4) Institutional and Custom Related Issues									
1. Adjustment and regulation of water of fishing (riparian) rights	O	○	△		O			O	
2. Changes in social and institutional structures	○	△		○	○	○	○		O
3. Changes in existing institutions and customs	△				○	○	O		O
2. Health and Sanitary Issues									
1. Increased use of agrochemicals									O
2. Outbreak of endemic diseases	○	△	○		△		○	△	
3. Spreading of epidemic diseases	O	○	○	△	△		○	△	
4. Residual toxicity of agrochemicals									○
5. Increase in domestic and other human wastes							O	○	
3. Cultural Asset Issues									
1. Impairment of historic remains and cultural assets	○	△	○	○	△	△	○	O	
2. Damage to aesthetic sites				○	○			○	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (2)

Form 5-2

II. Natural Environment: Arid and Semi-arid Lands, Savanna and Rangeland

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation	○			**O**				○	△
2. Negative impacts on important or indigenous fauna and flora				**O**			○	**O**	△
3. Degradation of ecosystems with biological diversity				△			△	△	
4. Proliferation of exotic and/or hazardous species	○	△	○	○			△	○	△
5. Destruction of wetlands and peatlands									
6. Encroachment into tropical rain forests and wildlands									
7. Destruction or degradation of mangrove forests									
8. Degradation of coral reefs									
5. Soil and Land Resources									
(1) Soil Resources									
1. Soil erosion				**O**		△		○	△
2. Soil salinization	**O**	○	△						△
3. Degradation of soil fertility	○	△	△	○					△
4. Soil contamination by agrochemicals and others									△
(2) Land Resources									
1. Devastation or desertification of land	**O**	○	○	**O**					△
2. Devastation of hinterland				○			○		
3. Ground subsidence									
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	**O**	○	△	**O**				**O**	
2. Changes in groundwater hydrology	**O**	○	○	△				△	
3. Inundation and flooding	○	△	○	△				**O**	
4. Sedimentation			△	○				○	
5. Riverbed degradation								**O**	
6. Impediment of inland navigation	○							○	
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△	○			○	△	△
2. Water eutrophication			△	○			△		△
3. Salt water intrusion	○	△						△	
4. Change in temperature of water								△	
(3) Atmosphere									
1. Air pollution				△					△
7. Landscape and Mining Resources									
1. Damage to landscape	△		△					○	
2. Impediment of mining resources exploitation	△		△					△	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (3)

Form 5-3

II. Natural Environment: Tropical Rain Forests and Wildlands

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation				O			△	○	
2. Negative impacts on important or indigenous fauna and flora	○	△	○	O			△	O	
3. Degradation of ecosystems with biological diversity	○	△	○	O			△	O	
4. Proliferation of exotic and/or hazardous species	△		△	O			△	○	
5. Destruction of wetlands and peatlands									
6. Encroachment into tropical rain forests and wildlands	○	△		O				O	
7. Destruction or degradation of mangrove forests									
8. Degradation of coral reefs									
5. Soil and Land Resources									
(1) Soil resources									
1. Soil erosion				O				○	
2. Soil salinization									
3. Degradation of soil fertility				○					
4. Soil contamination by agrochemicals and others				○					
(2) Land Resources									
1. Devastation or desertification of land				○					
2. Devastation of hinterland				○			○		
3. Ground subsidence									
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	O	△	△	○				O	
2. Changes in groundwater hydrology	O		○					△	
3. Inundation and flooding	○	△	△	○				O	
4. Sedimentation			△	○				○	
5. Riverbed degradation								O	
6. Impediment of inland navigation	○							○	
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△	○			△		
2. Water eutrophication			△	○			△		
3. Salt water intrusion									
4. Change in temperature of water								○	
(3) Atmosphere									
1. Air pollution				△					
7. Landscape and Mining Resources									
1. Damage to landscape	△		△					○	
2. Impediment of mining resources exploitation	△		△					△	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (4)

Form 5-4

II. Natural Environment: Wetlands and Peatlands

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation				O	O			○	△
2. Negative impacts on important or indigenous fauna and flora				O	O		○	O	△
3. Degradation of ecosystems with biological diversity				O	O		△	○	
4. Proliferation of exotic and/or hazardous species	○	△	○	○	○		△	○	△
5. Destruction of wetlands and peatlands			O	O	O			△	
6. Encroachment into tropical rain forests and wildlands									
7. Destruction or degradation of mangrove forests									
8. Degradation of coral reefs									
5. Soil and Land Resources									
(1) Soil resources									
1. Soil erosion				△					
2. Soil salinization	△	△						△	
3. Degradation of soil fertility				△	△				
4. Soil contamination by agrochemicals and others									△
(2) Land Resources									
1. Devastation or desertification of land									
2. Devastation of hinterland				○	○		○		
3. Ground subsidence	○	△	O	○	○				
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	O	△	△	△	O			O	
2. Changes in groundwater hydrology			O		○			△	
3. Inundation and flooding	△		○	△	△			O	
4. Sedimentation				○					
5. Riverbed degradation								O	
6. Impediment of inland navigation					O			○	
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△	○	△		△		△
2. Water eutrophication			△	○			△		○
3. Salt water intrusion									
4. Change in temperature of water								△	
(3) Atmosphere									
1. Air pollution				△					△
7. Landscape and Mining Resources									
1. Damage to landscape	△		△					○	
2. Impediment of mining resources exploitation	△		△					△	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (5)

Form 5-5

II. Natural Environment: Coastal Zones, Mangrove Forests and Coral Reefs

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation				O	O		△		△
2. Negative impacts on important or indigenous fauna and flora				O	O		△	O	△
3. Degradation of ecosystems with biological diversity				O	O		△	O	
4. Proliferation of exotic and/or hazardous species				O	O		△	○	△
5. Destruction of wetlands and peatlands									
6. Encroachment into tropical rain forests and wildlands									
7. Destruction or degradation of mangrove forests			O		O		△	O	
8. Degradation of coral reefs			O		O		△	△	
5. Soil and Land Resources									
(1) Soil Resources									
1. Soil erosion									
2. Soil salinization	○	△			○			△	
3. Degradation of soil fertility									△
4. Soil contamination by agrochemicals and others									△
(2) Land resources									
1. Devastation or desertification of land									
2. Devastation of hinterland					○		○		
3. Ground subsidence									
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	○	△			△			O	
2. Changes in groundwater hydrology	○	△	○		○			○	
3. Inundation and flooding								○	
4. Sedimentation			○	○				O	
5. Riverbed degradation								△	
6. Impediment of inland navigation					O			○	
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△	○			△		△
2. Water eutrophication			△	○			△		△
3. Salt water intrusion	○	○	△		○				
4. Change in temperature of water									
(3) Atmosphere									
1. Air pollution				△					
7. Landscape and Mining Resources									
1. Damage to landscape	△		△					○	
2. Impediment of mining resources exploitation	△		△					△	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (6)

Form 5-6

II. Natural Environment: Mountainous, Steep Sloped, Erodible or Devastated Lands

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation				O			△	○	△
2. Negative impacts on important or indigenous fauna and flora				O			△	O	△
3. Degradation of ecosystems with biological diversity				O			△	○	
4. Proliferation of exotic and/or hazardous species	○	△	○	○			△	○	△
5. Destruction of wetlands and peatlands									
6. Encroachment into tropical rain forests and wildlands									
7. Destruction or degradation of mangrove forests									
8. Degradation of coral reefs									
5. Soil and Land Resources									
(1) Soil resources									
1. Soil erosion	○	△	○	O		△	○	○	○
2. Soil salinization									
3. Degradation of soil fertility				○					△
4. Soil contamination by agrochemicals and others				○					△
(2) *Land Resources*									
1. Devastation or desertification of land				O					○
2. Devastation of hinterland									
3. Ground subsidence				○			○		
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	△	△		○				O	
2. Changes in groundwater hydrology									
3. Inundation and flooding								○	
4. Sedimentation				○				O	
5. Riverbed degradation								O	
6. Impediment of inland navigation									
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△	○			○	○	○
2. Water eutrophication			△	○				○	△
3. Salt water intrusion									
4. Change in temperature of water								△	
(3) Atmosphere									
1. Air pollution				△					
7. Landscape and Mining Resources									
1. Damage to landscape	△		△					○	
2. Impediment of mining resources exploitation	△		△					△	

Relation between project component and potential environmental impact

O: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

Reference Matrix of Checklist for Initial Scoping (7)

Form 5-7

II. Natural Environment: Closed Water Bodies (lakes, swamps or reservoirs located in the upstream or downstream of the Project site)

Category of Environmental Impact	Main Project Components 1/								
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.
	New	Rehb.							
4. Biological and Ecological Issues									
1. Changes in vegetation									
2. Negative impacts on important or indigenous fauna and flora	●	△	●						
3. Degradation of ecosystems with biological diversity	○	△	○						
4. Proliferation of exotic and/or hazardous species			○						
5. Destruction of wetlands and peatlands									
6. Encroachment into tropical rain forests and wildlands									
7. Destruction or degradation of mangrove forests									
8. Degradation of coral reefs									
5. Soil and Land Resources									
(1) Soil Resources (not applicable)									
(2) Land Resources (not applicable)									
6. Hydrology and Air and Water Quality									
(1) Hydrology									
1. Changes in surface water hydrology	○	△	○						
2. Changes in groundwater hydrology	△		△						
3. Inundation and flooding			△						
4. Sedimentation			△						
5. Riverbed degradation									
6. Impediment of inland navigation									
(2) Water Quality and Temperature									
1. Water contamination and deterioration of water quality			△						△
2. Water eutrophication			△						△
3. Salt water intrusion									
4. Change in temperature of water									
(3) Atmosphere (not applicable)									
7. Landscape and Mining Resources (not applicable)									

Relation between project component and potential environmental impact

●: closely related ○: normally related △: occasionally related

1/ Main project components are abbreviated hereunder:

I.R. : Irrigation
D.A. : Drainage
L.L. : Land clearing and leveling
S.R. : Sea/swamp reclamation
L.C. : Land consolidation
N.S.: New land settlement
D.R.: Dam and reservoir
S.C. : Substantial changes in farming system
New: New project
Rehb. : Rehabilitation

4.4 Sample Checklists for Initial Screening and Scoping

Filled-in samples of Checklists for initial screening and scoping are attached hereunder for reference.

Sample of Checklist for Initial Screening (1)

Sample Form 3

1 Study Title(Project Name) : Feasibility Study on "A" River Basin Agricultural Development Project

2 Name of Country : "B country"

3 Criteria for Initial Environmental Examination(IEE) and Environmental Impact Assessment(EIA) in Recipient Country

Main Project Components (Development Activity)	Type of Project (Type of Activity)	Development Scale: Initial Environmental Examination(IEE)		Environmental Impact Assessment(EIA)	
Irrigation	New project	N.A	ha or more	12,000	ha or more
	Rehabilitation	N.A	ha or more	12,000	ha or more
Drainage	New project	N.A	ha or more	N.A	ha or more
Land clearing & leveling	– ditto –	N.A	ha or more	N.A	ha or more
Sea/swamp reclamation	– ditto –	N.A	ha or more	N.A	ha or more
Land consolidation	– ditto –	N.A	ha or more	N.A	ha or more
New land settlement	– ditto –	N.A	households or more		households or more
Dam and reservoir	– ditto –	Reservoir area: N.A ha or more	Storage capacity: N.A m^3 or more	Reservoir area: 1,500 ha or more	Storage capacity: N.A m^3 or more
	Rehabilitation	Reservoir area: N.A ha or more	Storage capacity: N.A m^3 or more	Reservoir area: N.A ha or more	Storage capacity: N.A m^3 or more
Substantial changes in farming system	New project	N.A	ha or more	N.A	ha or more
Other		N.A	ha or more	N.A	ha or more

4 Area under Specific Designation

	Environmentally Sensitive Area	Applicable or Not: In Project area Appl.	N.A	Unknown	Vicinity of Project Area Appl.	N.A	Unknown
a.	Habitat of fauna and flora listed in CITES	☐	☐	☒	☒	☐	☐
b.	Wetland designated in Ramsar Convention	☐	☒	☐	☐	☒	☐
c.	Heritage sites under the World Heritage Convention	☐	☐	☐	☐	☐	☐
d.	National park, nature reserve, etc.	☐	☒	☐	☐	☒	☐
e.	Other (none)	☐	☐	☐	☐	☐	☐

Sample of Checklist for Initial Screening (2)

Sample Form 3

5 Checklist for Initial Screening

Environmental Issues	Potential SEI	Evaluation	Evaluation Bases
I. Social Environment			
1. Socio-economic Issues The Project significantly affects socio-economic activities in and around the Project site, such as daily human life, economic activities, transportation, community, institution, and customary practices.	1. Planned residential settlement 2. Involuntary resettlement 3. Substantial changes in way of life 4. Conflict among communities or peoples 5. Impacts on native peoples 6. Population increase 7. Drastic change in population composition 8. Change in bases of economic activities 9. Occupational change and loss of job opportunity 10. Increase in income disparities 11. Adjustment and regulation of water or fishing (riparian) rights 12. Changes in social and institutional structures 13. Changes in existing institutions and customs	(Yes) No Unknown	
2. Health and Sanitary Issues The Project significantly affects hygiene in and around the Project area or induce water related diseases.	1. Increased use of agrochemicals 2. Outbreak of endemic diseases 3. Spreading of epidemic deseases (schistosomiasis, malaria, onchocerciasis, elephantiasis) 4. Residual toxicity of agrochemicals 5. Increase in domestic and other human wastes	(Yes) No Unknown	
3. Cultural Asset Issues Some historically, culturally, aesthetically or scientifically important assets may be located in the Project site.	1. Impairment of historic remains and cultural assets 2. Damage to aesthetic sites	(Yes) No Unknown	
II. Natural Environment			
4. Biological and Ecological Issues Some habitats for rare species or ecologically sensitive areas are located in the Project or surrounding areas.	1. Change in vegetation 2. Negative impacts on important or indegenous fauna and flora (extinction of or decrease in species) 3. Degradation of ecosystems with biological diversity 4. Proliferation of exotic and/or hazardous species 5. Destruction of wetlands and peatlands 6. Encroachment into tropical rain forests and wildlands 7. *Destruction or degradation of mangrove forests* 8. Degradation of coral reefs	(Yes) No Unknown	
5. Soil and Land Resources The Project significantly induces land devastation, soil erosion, soil contamination, etc.	1. Soil erosion 2. Soil salinization 3. Degradation of soil fertility 4. Soil contamination by agrochemicals and others 5. Devastation or desertification of land 6. Devastation of hinterland 7. *Ground subsidence*	(Yes) No Unknown	
6. Hydrology and Air and Water Quality The Project significantly affects hydrological regime of river, lake and swamp, groundwater hydrology, and air or water quality.	1. Changes in surface water hydrology 2. Changes in groundwater hydrology 3. Inundation and flooding 4. Sedimentation 5. Riverbed degradation 6. Impediment of inland navigation 7. Water contamination and deterioration of water quality 8. *Water eutrophication* 9. Salt water intrusion 10. Change in temperature of water 11. Air pollution	(Yes) No Unknown	
7. Landscape and Mining Resources The Project significantly affects landscape or mining resources.	1. Damage to landscape 2. Impediment of mining resources exploitation	(Yes) No Unknown	
Overall Evaluation:		(Yes) No Unknown	

Sample of Checklist for Initial Scoping (1)

Sample Form 4

The study Title (Project Name): Feasibility Study on "A" River Basin Agricultural Development Project

I. Social Environment

Category of Environmental Impact	Initial Evaluation 2/										Remarks
	Main Project Components 3/										
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.	Others	
	New	Rehb.									
1. Socio-economic Issues											
(1) Social Issues											
1. Planned residential settlement							A				
2. Involuntary resettlement				B				A			
3. Substantial changes in way of life				B			A	B	A		
4. Conflict among communities and peoples	C		C	B			B	B	B		
5. Impact on native peoples				B			B	B			
6. Other											
(2) Demographic Issues											
1. Population increase				B			A				
2. Drastic change in population composition	C		C	B			A	C	C		
3. Other											
(3) Economic Activities											
1. Changes in bases of economic activities	C		C	B			A	A	C		
2. Occupational change and loss of job opportunity	C		C	B			B	A	C		
3. Increase in income disparities	B			B			B	C	B		
4. Other											
(4) Institutional and Custom Related Issues											
1. Adjustment and regulation of water or fishing (riparian) rights	A		B					A			
2. Changes in social and institutional structures	A			B			A		B		
3. Changes in existing institutions and customs	A						A		B		
4. Other											
2. Health and Sanitary Issues											
1. Increased use of agrochemicals									A		
2. Outbreakes of endemic diseases	B		B				B	B			
3. Spreading of epidemic diseases	A		A	C			A	B			
4. Residual toxicity of agrochemicals									B		
5. Increase in domestic and other human wastes							A	B			
6. Other											
3. *Cultural Asset Issues*											
1. Impairment of historic remains and cultural assets	B		B	B			B	A			
2. Damage to aesthetic sites				B				A			
3. Other											

1/ Definition of each category of environmental impact is presented in Appendix A, "Significant Environmental Impacts and Issues".

2/ Each applicable item is marked according to the following classifications:

A: As SEI is identified or expected, further scrutiny is required.
B: Since SEI is not fully clarified through the preliminary evaluation, further study is required.
C: As SEI is recognized to be nil, no further study is required.

3/ Main project components are abbreviated hereunder:

I.R. : Irrigation
S.R. : Sea/swamp reclamation
D.R.: Dam and reservoir
New: New project
D.A. : Drainage
L.C. : Land consolidation
S.C. : Substantial changes in farming system
Rehb. : Rehabilitation
L.L. : Land clearing and leveling
N.S.: New land settlement

Sample of Checklist for Initial Scoping (2)

Sample Form 4

II. Natural Environment

Category of Environmental Impact 1/	Initial Evaluation 2/										Remarks
	Main Project Components 3/										
	I.R.		D.A.	L.L.	S.R.	L.C.	N.S.	D.R.	S.C.	Others	
	New	Rehb.									
4. Biological and Ecological Issues											
1. Changes in vegetation	A			A				A	C		
2. Negative impacts on important or indigenous fauna and flora				A			B	A	B		
3. Degradation of ecosystems with biological diversity				A			B	A	B		
4. Proliferation of exotic and/or hazardous species	B		B	C			C	A	C		
5. Destruction of wetlands and peatlands											
6. Encroachment into tropical rain forests and wildlands											
7. Destruction or degradation of mangrove forests											
8. Degradation of coral reefs											
9. Other											
5. Soil and Land Resources											
(1) Soil resources											
1. Soil erosion				A				B			
2. Soil salinization	A		A								
3. Degradation of soil fertility	B		C	B							
4. Soil contamination by agrochemicals and others									B		
5. Other											
(2) Land Resources											
1. Devastation or desertification of land	A		C	B					C		
2. Devastation of hinterland				B			A				
3. Ground subsidence											
4. Other											
6. Hydrology and Air and Water Quality											
(1) Hydrology											
1. Changes in surface water hydrology	A		B	B				A			
2. Changes in groundwater hydrology	A		B	C				B			
3. Inundation and flooding	A		B	C				A			
4. Sedimentation	B		B	B				A			
5. Riverbed degradation								A			
6. Impediment of inland navigation	B							B			
7. Other											
(2) Water Quality and Temperature											
1. Water contamination and deterioration of water quality			B	B			B	B	B		
2. Water eutrophication			B				B		B		
3. Salt water intrusion	C							C			
4. Change in temperature of water								C			
5. Other											
(3) Atmosphere											
1. Air pollution				B					C		
2. Other											
7. Landscape and Mining Resources											
1. Damage to landscape				B					C		
2. Impediment of mining resources exploitation	C								C		

1/ Definition of each category of environmental impact is presented in Appendix A. "Significant Environmental Impacts and Issues".

2/ Each applicable item is marked according to the following classifications:

A: As SEI is identified or expected, further scrutiny is required.
B: Since SEI is not fully clarified through the preliminary evaluation, further study is required.
C: As SEI is recognized to be nil. no further study is required.

3/ Main project components are abbreviated hereunder.

I.R. : *Irrigation* D.A. : *Drainage* L.L. : *Land clearing and leveling*
S.R. : Sea/swamp reclamation L.C. : Land consolidation N.S.: New land settlement
D.R.: Dam and reservoir S.C. : Substantial changes in farming system
New: New project Rehb. : Rehabilitation

Chapter 5 Joint Screening and Scoping

Chapter 5

Joint Screening and Scoping

5.1 General

(1) Purpose of Joint Screening and Scoping

Joint screening and scoping are conducted by the preparatory study mission in cooperation with the responsible agencies of the recipient country during the field work. The responsible environmental agencies should participate in the joint screening and scoping as necessary.

Prior to the joint screening and scoping, information about the environmental agencies and related institutions and data collected during the in-house work and used in initial screening are, first of all, confirmed for accuracy in the recipient country. Supplemental information is then collected, which includes past and ongoing EIA and measures employed to avoid, mitigate or compensate for negative impact in the vicinity of the project area and at similar project sites.

The recipient country's guidelines and screening and scoping formats are utilized, in principle, if such have been established, and the checklists in the Guidelines subsequently function as reference.

(2) Joint Screening and Scoping Procedures

Joint screening is undertaken based on the Checklist for joint screening (attached Form 6) to determine whether the development study under consideration requires environmental consideration procedures, i.e., IEE, Pre-EIA or EIA. If such is judged necessary, joint scoping is then carried out.

The Checklist for initial scoping prepared during the in-house work is, if necessary, modified or revised on the basis of the additional information collected in the field work, referring to the Reference Matrices aforementioned.

The Checklist for joint scoping (attached Form 7) is thus completed, and the identification of the proposed development project and the information on environmental

site conditions obtained is then applied as criteria in evaluating and finally determining the scope of the IEE, Pre-EIA or EIA to be undertaken jointly by the preparatory study mission together with the related agencies in the recipient country.

5.2 Checklist for Joint Screening

(1) Checklist Form for Joint Screening

The form and the contents of the Checklist for Joint Screening (attached Form 6) are the same as the Checklist for Initial Screening and are filled in making the necessary modifications as required based upon the result of the field work.

(2) Filling in the Checklist for Joint Screening

Same as described previously for the Checklist for Initial Screening .

(3) Evaluation of Each Screening Item

The screening items, which consist of the seven issues discussed under the Initial Screening are evaluated as follows, in the same manner set out for the Checklist for Initial Screening .

a. Even if only one potential SEI under a certain issue is judged to be induced by the Project (marked "A") in the joint scoping checklist or likely to be induced ("B"), the corresponding column under "Evaluation" for the same issue in the Checklist for Joint Screening is marked "Yes".

b. If no potential SEI is foreseen (marked "C") in the Checklist for Joint Scoping , then the "Evaluation" column is marked "No" in the Checklist for Joint Screening .

c. If a combination of no SEI and no clear SEI is obtained (mark "C" and "D", respectively), then the "Evaluation" column is marked "Unknown" in the joint screening checklist.

(4) Overall Evaluation

a. Even if only one "Yes" is observed for the environmental item in the column of "Evaluation" in the Checklist for Joint Screening , the item for overall evaluation is

marked "Yes" in the Joint Screening checklist. In such case, EIA or Pre-EIA is required in the M/P or F/S, focusing on the relevant potential environmental impact.

b. If a combination of "No" and "Unknown" is observed in any of issues, then overall evaluation is marked "Unknown".
In this case, IEE is required in the early stage of the M/P or F/S in order to clearly identify the potential SEIs.

c. If "No" is observed for all issues, then "No" is marked for overall evaluation.
In this case, no environmental study is further required in the M/P or F/S, unless otherwise required by the guidelines of the recipient country, etc.

Checklist for Joint Screening (1)

Form 6

1 **Study Title(Project Name) :** _____

2 **Name of Country :** _____

3 **Criteria for Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) in Recipient Country**

Main Project Components (Development Activity)	Type of Project (Type of Activity)	Development Scale: Initial Environmental Examination(IEE)	Environmental Impact Assessment(EIA)
Irrigation	New project	_____ ha or more	_____ ha or more
	Rehabilitation	_____ ha or more	_____ ha or more
Drainage	New project	_____ ha or more	_____ ha or more
Land clearing & levelling	– ditto –	_____ ha or more	_____ ha or more
Sea/swamp reclamation	– ditto –	_____ ha or more	_____ ha or more
Land consolidation	– ditto –	_____ ha or more	_____ ha or more
New land settlement	– ditto –	_____ households or more	_____ households or more
Dam and reservoir	– ditto –	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more
	Rehabilitation	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more	Reservoir area: _____ ha or more Storage capacity: _____ m^3 or more
Substantial changes in farming system	New project	_____ ha or more	_____ ha or more
Other		_____ ha or more	_____ ha or more

4 **Area under Specific Designation**

	Environmentally Sensitive Area	Applicable or Not: In Project Area			Vicinity of Project Area		
		Appl.	N.A	Unknown	Appl.	N.A	Unknown
a.	Habitat of fauna and flora listed in CITES	❑	❑	❑	❑	❑	❑
b.	Wetland designated in Ramsar Convention	❑	❑	❑	❑	❑	❑
c.	Heritage sites under the world Heritage Convention	❑	❑	❑	❑	❑	❑
d.	National park, nature reserve, etc.	❑	❑	❑	❑	❑	❑
e.	Other ( )	❑	❑	❑	❑	❑	❑

Note: It should be noted that there may be cases where a final decision to abandon a particular development study is reached after thorough field survey and discussion with concerned officials in the recipient country, if (i) the project area is located within one of the areas of specific designation in (4) above, or (ii) the results of screening indicate that the project will have a range of significant and adverse environmental impact.

Checklist for Joint Screening (2)

Form 6

5 Checklist for Joint Screening

Environmental Issues	Potential SEI	Evaluation	Evaluation Bases
I. Social Environment			
1. Socio-economic Issues Will the Project significantly affect socio-economic activities in and around the Project site, such as daily human life, economic activities, transportation, community, institution, and customary practices ?	1. Planned residential settlement 2. Involuntary resettlement 3. Substantial changes in way of life 4. Conflict among communities or peoples 5. Impacts on native peoples 6. Population increase 7. Drastic change in population composition 8. Change in bases of economic activities 9. Occupational change and loss of job opportunity 10. Increase in income disparities 11. Adjustment and regulation of water or fishing (riparian) rights 12. Changes in social and institutional structures 13. Changes in existing institutions and customs	Yes No Unknown	
2. Health and Sanitary Issues Will the Project significantly affect hygiene in and around the Project area or induce water-related diseases ?	1. Increased use of agrochemicals 2. Outbreak of endemic diseases 3. Spreading of epidemic diseases (schistosomiasis, malaria, onchocerciasis, elephantiasis) 4. Residual toxicity of agrochemicals 5. Increase in domestic and other human wastes	Yes No Unknown	
3. Cultural Asset Issues Are any historically, culturally, aesthetically or scientifically important sites located in the Project area ?	1. Impairment of historic remains and cultural assets 2. Damage to theoretic aesthetic	Yes No Unknown	
II. Natural Environment			
4. Biological and Ecological Issues Are any habitats for rare species or ecologically sensitive areas located in the Project or surrounding areas ?	1. Deterioration or degradation of vegetation 2. Negative impact on important or indegenous fauna and flora (extinction of or decrease in species) 3. Degradation of ecosystems with biological diversity 4. Proliferation of exotic and/or hazardous species 5. Destruction of wetlands and peatlands 6. *Encroachment into tropical rain forests and wildlands* 7. Destruction or degradation of mangrove forests and wildlands 8. Degradation of coral reefs	Yes No Unknown	
5. Soil and Land Resources Will the Project significantly induce land devastation, soil erosion, soil contamination, etc. ?	1. Soil erosion 2. Soil salinization 3. Degradation of soil fertility 4. Soil contamination by agrochemicals and others 5. Devastation or desertification of land 6. Devastation of hinterland 7. Ground subsidence	Yes No Unknown	
6. Hydrology and Air and Water Quality Will the Project significantly affect hydrological regime of river, lake and swamp, groundwater hydrology, and air or water quality ?	1. Changes in surface water hydrology 2. Changes in groundwater hydrology 3. Inundation and flooding 4. Sedimentation 5. Riverbed degradation 6. Impediment of inland navigation 7. Water contamination and deterioration of water quality 8. Water eutrophication 9. Salt water intrusion 10. Change in temperature of water 11. Air pollution	Yes No Unknown	
7. Landscape and Mining Resources Will the Project significantly affect landscape or mining resources ?	1. Damage to landscape 2. Impediment of mining resources exploitation	Yes No Unknown	
Overall Evaluation:		Yes No Unknown	

5.3 Checklist for Joint Scoping

(1) Checklist Form for Joint Scoping

Joint scoping is conducted according to the attached Checklist for Joint Scoping (Form 7) in order to identify only those significant environmental impacts among the range of various negative impacts considered to be induced by implementation of the project.

(2) Filling in the Checklist for Joint Scoping

1) **Applicable development activities** (see PD):
Irrelevant development activities shown on the checklist should be deleted.

2) **Applicable development type** (see PD):
Irrelevant development types shown on the checklist should be deleted.

3) **Applicable environmentally sensitive area** (see SD):
Irrelevant environmentally sensitive areas shown on the checklist should be deleted.

4) **Evaluation of the SEIs**
Based on the results of the field work, the degree of a possible impact is assessed and classified into one of four categories (A, B, C, or D), which is entered in the column of the Checklist Form for Joint Scoping. Each environmental impact shown on the checklist is evaluated and then marked according to the following four categories:

A: The subject SEI is unquestionably induced by the Project
B: The subject SEI is likely to be induced by the Project
C: There is no possibility of the subject SEI being induced by the Project
D: The SEI is not fully known (it cannot be confirmed at this stage whether the subject SEI is likely or unlikely to occur)

Checklist for Joint Scoping (1)

Form 7

1) Applicable development activities:
   Irrigation; Drainage; Land clearing and leveling; Sea/swamp reclamation; Land consolidation; New land settlement; Dam and reservoir, or Substantial change in farming system
2) Applicable development type:
   New project or Rehabilitation
3) Applicable environmentally sensitive area:
   Arid and semi-arid lands; Tropical rain forest; Wildlands; Wetlands; Peat lands; Coastal zones; Mangrove forests; Coral reefs; Mountainous, steep sloped, erodible, or devastated lands; or Closed water bodies in the upstream or downstream

(Irrelevant items in the above are deleted)

I. Social Environment

Category of Environmental Impact	Evaluation of SEI 1/				Evaluation Base 2/
	A	B	C	D	
1. Socio-economic Issues					
(1) Social Issues					
1. Planned residential settlement					
2. Involuntary resettlement					
3. Substantial changes in way of life					
4. Conflict among communities and peoples					
5. Impacts on native peoples					
6. Other					
(2) Demographic Issues					
1. Population increase					
2. Drastic change in population composition					
3. Other					
(3) Economic Activities					
1. Changes in bases of economic activities					
2. Occupational change and loss of job opportunity					
3. Increase in income disparities					
4. Other					
(4) Institutional and Custom Related Issues					
1. Adjustment and regulation of water or fishing (riparian) rights					
2. Changes in social and institutional structures					
3. Changes in existing institutions and customs					
4. Other					
2. Health and Sanitary Issues					
1. Increased use of agrochemicals					
2. Outbreak of endemic diseases					
3. Spreading of epidemic diseases					
4. Residual toxicity of agrochemicals					
5. Increase in domestic and other human wastes					
6. Other					
3. Cultural Asset Issues					
1. Impairment of historic remains and cultural assets					
2. Damage to aesthetic sites					
3. Other					

1/ Applicable columns with the following impact degree are marked with "x"
   A: The subject SEI is unquestionably induced by the Project
   B: The subject SEI is likely to be induced by the Project
   C: There is no possibility of the subject SEI being induced by the Project
   D: The SEI is not fully known

2/ Potential impact, etc., are filled in referring to Appendix A, "Significant Environmental Impacts and Issues"

Checklist for Joint Scoping (2)

Form 7

1) Applicable development activities:
   Irrigation; Drainage; Land clearing and leveling; Sea/swamp reclamation; Land consolidation; New land settlement; Dam and reservoir, or Substantial change in farming system
2) Applicable development type:
   New project or Rehabilitation
3) Applicable environmentally sensitive area:
   Arid and semi-arid lands; Tropical rain forest; Wildlands; Wetlands; Peat lands; Coastal zones; Mangrove forests; Coral reefs; Mountainous, steep sloped, erodible, or devastated lands; or Closed water bodies in the upstream or downstream

(Irrelevant items in the above are deleted)

II. Natural Environment

Category of Environmental Impact	Evaluation of SEI 1/				Evaluation Base 2/
	A	B	C	D	
4. Biological and Ecological Issues					
1. Changes in vegetation					
2. Negative impacts on important or indigenous fauna and flora					
3. Degradation of ecosystems with biological diversity					
4. Proliferation of exotic and/or hazardous species					
5. Destruction of wetlands and peatlands					
6. Encroachment into tropical rain Forests and wildlands.					
7. Destruction or degradation of mangrove forests					
8. Degradation of coral reefs					
9. Other					
5. Soil and Land Resources					
(1) Soil Resources					
1. Soil erosion					
2. Soil salinization					
3. Degradation of soil fertility					
4. Soil contamination by agrochemicals and others					
5. Other					
(2) Land Resources					
1. Devastation or desertification of land					
2. Devastation of hinterland					
3. Ground subsidence					
4. Other					
6. Hydrology and Air and Water Quality					
(1) Hydrology					
1. Changes in surface water hydrology					
2. Changes in groundwater hydrology					
3. Inundation and flooding					
4. Sedimentation					
5. Riverbed degradation					
6. Impediment of inland navigation					
7. Other					
(2) Water Quality and Temperature					
1. Water contamination and deterioration of water quality					
2. Water eutrophication					
3. Salt water intrusion					
4. Change in temperature of water					
5. Other					
(3) Atmosphere					
1. Air pollution					
2. Other					
7. Landscape and Mining Resources					
1. Damage to landscape					
2. Impediment of mining resources exploitation					

1/ Applicable columns with the following impact degree are marked with "x"
   A: The subject SEI is unquestionably induced by the Project
   B: The subject SEI is likely to be induced by the Project
   C: There is no possibility of the subject SEI being induced by the Project
   D: The SEI is not fully known

2/ Potential impact, etc., are filled in referring to Appendix A, "Significant Environmental Impacts and Issues"

5.4 Sample Checklists for Joint Screening and Scoping

(1) Filled-in Samples of Checklists for Joint Screening

Same as the sample shown previously in 4.4 (1) Filled-in Samples of Checklists for Initial Screening.

(2) Filled-in Samples of Checklists for Joint Scoping

Samples of Checklists for Joint Scoping are attached hereinafter for reference.

Sample of Checklist for Joint Scoping (1)

Sample Form 7

1) Applicable development activities:
   Irrigation; Drainage; Land clearing and leveling; Sea/swamp reclamation; Land consolidation; New land settlement; Dam and reservoir, or Substantial change in farming system
2) Applicable development type:
   New project or Rehabilitation
3) Applicable environmentally sensitive area:
   Arid and semi-arid lands; Tropical rain forest; Wildlands; Wetlands; Peat lands; Coastal zones; Mangrove forests; Coral reefs; Mountainous, steep sloped, erodible, or devastated lands; or Closed water bodies in the upstream or downstream

(Irrelevant items in the above are deleted)

I. Social Environment

Category of Environmental Impact	Evaluation of SEI 1/ A	B	C	D	Evaluation Base 2/
1. Socio-economic Issues					
(1) Social Issues					
1. Planned residential settlement	x				settlement plan to be considered
2. Involuntary resettlement			x		no houses exist in the site
3. Substantial changes in way of life	x				settler's lifestyle to be studied
4. Conflict among communities and peoples			x		based on survey results in similar projects
5. Impacts on native peoples	x				passage route of nomad to be studied
6. Other			x		none
(2) Demographic Issues					
1. Population increase	x				social infrastructure to studied
2. Drastic change in population composition	x				education facilities to be studied
3. Other			x		none
(3) Economic Activities					
1. Change in bases of economic activities		x			agricultural support services to be studied
2. Occupational change and loss of job opportunity		x			agricultural support services to be studied
3. Increase in income disparities		x			agricultural support services to be studied
4. Other			x		none
(4) Institutional and Custom Related Issues					
1. Adjustment and regulation of water or fishing (riparian) rights			x		no SEI is foreseen for the Project
2. Changes in social and institutional structures			x		support services to be considered in main study
3. Changes in existing institutions and customs			x		based on survey results in similar projects
4. Other			x		none
2. Health and Sanitary Issues					
1. Increased use of agrochemicals			x		based on survey results in similar projects
2. Outbreak of endemic diseases				x	further study needed for settlers
3. Spreading of epidemic diseases	x				malaria and schistosomiasis to be focused on
4. Residual toxicity of agrochemicals				x	applied agrochemical to be carefully selected
5. Increase in domestic and other human wastes		x			measures to be considered for settlers
6. Other			x		none
3. Cultural Asset Issues					
1. Impairment of historic remains and cultural assets			x		not applicable
2. Damage to aesthetic sites			x		not applicable
3. Other			x		none

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   B: The subject SEI is likely to be induced by the Project
   C: There is no possibility of the subject SEI being induced by the Project
   D: The SEI is not fully known

2/ Potential impact, etc., are filled in referring to Appendix A, "Significant Environmental Impacts and Issues"

Sample of Checklist for Joint Scoping (2)

Sample Form 7

1) Applicable development activities:
   Irrigation; Drainage; Land clearing and leveling; Sea/swamp reclamation; Land consolidation; New land settlement; Dam and reservoir, or Substantial change in farming system
2) Applicable development type:
   New project or Rehabilitation
3) Applicable environmentally sensitive area:
   Arid and semi-arid lands; Tropical rain forest; Wildlands; Wetlands; Peat lands; Coastal zones; Mangrove forests; Coral reefs; Mountainous, steep sloped, erodible, or devastated lands; or Closed water bodies in the upstream or downstream

(Irrelevant items in the above are deleted)

II. Natural Environment

Category of Environmental Impact	Evaluation of SEI 1/				Evaluation Base 2/
	A	B	C	D	
4. Biological and Ecological Issues					
1. Changes in vegetation	x				pasture land is converted to paddy field
2. Negative impacts on important or indigenous fauna and flora		x			potential habitats for elephants and crocodiles
3. Degradation of ecosystems with biological diversity				x	based on survey results in similar projects
4. Proliferation of exotic and/or hazardous species			x		not applicable
5. Destruction of wetlands and peatlands			x		not applicable
6. Encroachment into tropical rain Forests and wildlands			x		not applicable
7. Destruction or degradation of mangrove forests			x		not applicable
8. Degradation of coral reefs			x		not applicable
9. Other			x		none
5. Soil and Land Resources					
(1) Soil Resources					
1. Soil erosion			x		attention needed in construction stage
2. Soil salinization			x		based on survey results in similar projects
3. Degradation of soil fertility			x		based on survey results in similar projects
4. Soil contamination by agrochemicals and others			x		based on survey results in similar projects
5. Otherx			x		none
(2) Land Resources					
1. Devastation or desertification of land			x		based on survey results in similar projects
2. Devastation of hinterland		x			study needed in settlement plan
3. Ground subsidence			x		based on survey results in similar projects
4. Other			x		none
6. Hydrology and Air and Water Quality					
(1) Hydrology					
1. Changes in surface water hydrology	x				impact to downstream to be studied
2. Changes in groundwater hydrology			x		impact may be insignificant
3. Inundation and flooding		x			drainage plan to be carefully formulated
4. Sedimentation			x		impact may be insignificant
5. Riverbed degradation			x		impact may be insignificant
6. Impediment of inland navigation			x		not applicable
7. Other			x		none
(2) Water Quality and Temperature					
1. Water contamination and deterioration of water quality			x		based on survey results in similar projects
2. Water eutrophication			x		based on survey results in similar projects
3. Salt water intrusion			x		not applicable
4. Change in temperature of water			x		based on survey results in similar projects
5. Other			x		none
(3) Atmosphere					
1. Air pollution			x		based on survey results in similar projects
2. Other			x		none
7. Landscape and Mining Resources					
1. Damage to landscape			x		based on survey results in similar projects
2. Impediment of mining resources exploitation			x		none

1/ Applicable columns with the following impact degree are marked with "x"
   A: The subject SEI is unquestionably induced by the Project
   B: The subject SEI is likely to be induced by the Project
   C: There is no possibility of the subject SEI being induced by the Project
   D: The SEI is not fully known

2/ Potential impact, etc., are filled in referring to Appendix A, "Significant Environmental Impacts and Issues"