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Environmental assessment:

Local Government Infrastructure Fund

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Environmental Assessment
for the
Local Government Infrastructure Fund Project
(USAID Project Number 492-0463)

Final Report

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List of abbreviations

ADB	Asian Development Bank
AIDAB	Australian International Development Assistance Bureau
BEC	Bureau Environmental Coordinator
BOD	Biological oxygen demand
BOI	Board of Investments
BPI	Bank of the Philippine Islands
CAR	Cordillera Autonomous Region
CEPR	Center for Economic Policy Research
CENRO	Community Environment and Natural Resources Officer/Office
CFR	Code of Federal Regulations
CIAP	Construction Industry Authority of the Philippines
CMES	Construction management and engineering services
CWP	Concerned Women of the Philippines
DA	Department of Agriculture
DAO	DENR Administrative Order
DBM	Department of Budget and Management
DECS	Department of Education, Culture and Sports
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
D&M	Dames & Moore International
DOF	Department of Finance
DOH	Department of Health
DPWH	Department of Public Works and Highways
EA	Environmental Assessment
ECA	Environmentally Critical Area
ECAs	Environmentally Critical Areas
ECC	Environmental Compliance Certificate
ECP	Environmentally Critical Project
ECPs	Environmentally Critical Projects
EDPITAF	Educational Projects Implementing Task Force
EGF	Environmental Guarantee Fund
EIA	Environmental Impact Assessment
EIARC	EIA Review Committee
EIS	Environmental Impact Statement/Study
EMB	Environmental Management Bureau
EPZA	Export Processing Zone Authority
ESF	Economic Support Fund
ESFS	Economic Support Fund Secretariat
EU	Environmental Unit
FASPO	Foreign-Assisted and Special Projects Office
FPA	Fertilizer and Pesticide Authority
GI	Galvanized iron
GOP	Government of the Philippines

HLURB	Housing and Land Use Regulatory Board
HUC	Highly Urbanized Cities
IBRD	International Bank for Reconstruction and Development/The World Bank
ICC	Investment Coordination Committee
IEE	Initial Environmental Examination
IESAM	Institute of Environmental Science and Management
IRC	Implementation Review Committee
JICA	Japan International Cooperation Agency
LDAP	Local Development Assistance Program
LDAP-PMO	LDAP-Project Management Office
LDCs	Local Development Councils
LGA	Local Government Academy
LGIF	Local Government Infrastructure Fund
LGIF-PMO	LGIF-Project Management Office
LGUs	Local government units
LLDA	Laguna Lake Development Authority
MBA	Military Bases Agreement
MDC	Municipal Development Council
MEO	Mission Environmental Officer
MMINUTE	Metro Manila Infrastructure Utilities and Engineering Project
MOA	Memorandum of Agreement
MPE-PMO	Mount Pinatubo Emergency-Project Management Office
NEDA	National Economic and Development Authority
NCR	National Capital Region
NGOs	Non-government organizations
NM	National Museum
NMIC	National Meat Inspection Commission
OCP	Office of the Capital Projects
ODRM	Office of Development Resources Management
OECF	Overseas Economic Cooperation Fund
OFFPVC	Office of Food for Peace and Voluntary Cooperation
ONRAD	Office of Natural Resources, Agriculture and Decentralization
PD	Presidential Decree
PD	Project Description
PDC	Provincial Development Council
PDCr	Planning and Development Coordinator
PEA	Programmatic EA
PEN	Philippine Ecological Network
PENRO	Provincial Environment and Natural Resources Officer/Office
PJH	Philippine-Japan Highway
PO	Private organization
PPFP	Provincial Physical Framework Plan
PREMIUMED	Program for Essential Municipal Infrastructure,

	Utilities, Maintenance and Engineering Development
RCDP	Regional Cities Development Project
RDCs	Regional Development Councils
RDF	Regional Development Fund
RED	Regional Executive Director
RFTP	Request for Technical Proposals
RIF	Rural Infrastructure Fund Project
ROW	Right-of-way
RTD	Regional Technical Director
SEAP	Strengthening Environmental Assessment Project
SOW	Scope of Work
SURP	School for Urban and Regicnal Planning
SWIS	Subsurface wastewater infiltration systems
TOR	Terms of Reference
TR&D	Tropical Research and Development, Inc.
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UP	University of the Philippines
USAID	United States Agency for International Development
USEPA	US Environmental Protection Agency
WB	World Bank

Technical abbreviations

bd. ft.	board feet
°C	degrees Centigrade
°F	degrees Fahrenheit
hr	hour
kgs	kilograms
km	kilometers
kw-hrs	kilowat hours
l	liters
lm	linear meter
m	meters
mg	milligram
m^2	square meters
m^3	cubic meters
pcs	pieces

Exchange rate -- 25 Philippine pesos = 1 US dollar

Executive summary

The U.S. Agency for International Development (USAID) is proposing to fund the Local Government Infrastructure Fund (LGIF) Project, which will provide for construction of small-scale public infrastructure by local government units (LGUs).

The need to conduct a programmatic environmental assessment (EA) for the proposed project was established through an initial environmental examination (IEE) conducted by USAID in August 1991. The IEE made a positive determination that the LGIF Project could result in potentially significant environmental impacts in light of the diversity of both the types of projects that could be funded and geographic locations of recipient communities.

Based on preliminary IEE findings, the defined purpose of the programmatic EA is as follows:

- identify and qualify environmental impacts associated with construction of small-scale infrastructure as proposed under the LGIF Project;
- assess standard mitigative measures that could be adopted to avoid or to minimize potentially negative environmental impacts; and
- define implementation guidelines and procedures, based on developed screening criteria, to assure compliance with environmental regulations and requirements of both USAID and the Government of the Philippines.

This final report provides an assessment document sufficient to support an objective evaluation of potential project impacts on a programmatic level. As a working document, the programmatic EA is designed to identify net impacts derived from predicted environmental conditions with or without implementation of project components and to define specific actions to be taken during subsequent project implementation phases to mitigate these net impacts.

Five groups of sub-projects were identified for consideration under the LGIF Project: public markets, roads, school buildings, slaughterhouses and community health care facilities[1].

Under the LGIF Project, local government units (LGUs) will be allocated a budget for sub-project expenditures within which they will determine the composition and mix of sub-projects most appropriate for their community and propose them for funding to the LGIF Project management office (PMO). The LGIF-PMO will be responsible for monitoring project implementation to assure that sub-projects are completed and meet specifications of standard designs for each sub-project. Each sub-project selected for implementation must undergo an examination of potential environmental impact at the feasibility study stage of project development. This examination will include a review of the environmental acceptability of the sub-project by the regional office of the Department of Environment and Natural Resources (DENR) to assure that it will conform to regulatory requirements.

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1 As described within the project descriptions (Appendix D) community health care facilities will primarily be considered under the Natural Disaster Component of the LGIF Project.

The geographical setting of eligible LGUs is described as nationwide. Eventual siting of the various component sub-projects is anticipated to be within existing sites or rights-of-way in urban or intra-community environments. The project's defined goal of supporting private-sector-led growth and decentralization, coupled with the type and limited scale of proposed sub-projects, reinforces the belief that the project's focus and potential environmental impacts will be primarily within existing and relatively highly developed human settlement areas.

According to estimates of available funding, the LGIF Project may initially extend assistance to perhaps 20 LGUs nationwide. The proposed selection process of LGUs for participation in the project will be based on eligibility criteria of need -- high unemployment, low family income and overcrowded classrooms, performance -- in terms of LGU tax collection efficiency and capability of the LGU to implement the sub-projects. Eligibility criteria will be further refined during the initial phase of the project to target those communities that have the most pressing need and demonstrated performance in implementing small-scale infrastructure projects.

Based on a history of small-scale public infrastructure projects in the Philippines, recent site surveys of a number of constructed facilities and public comments received during this study, primarily positive environmental impacts have been identified for the sub-projects proposed under the LGIF Project. For example, significant health benefits have been repeatedly related to improving conditions of existing public markets and slaughterhouses, particularly through provision of on-site sanitation facilities and wastewater treatment.

Similar facilities constructed under previous projects from which the LGIF standard designs were derived are generally referred to as state-of-the-art or as the showcase of the recipient community. These similar facilities include the Economic Support Fund (ESF) infrastructure program. While these comparable sub-projects are acknowledged as being well-engineered and well-constructed, seemingly endemic sanitation problems often reappear during operation of these facilities. These sanitation problems are the result of an apparent lack of adequate maintenance, such as regular cleaning of drains and septic tanks, or lack of complementing public services.

Potentially negative impacts, which might occur during the construction and/or operation phases, also have been identified in a preliminary environmental screening of the proposed LGIF sub-projects. Table ES-1 provides a list of identified negative impacts and recommended mitigation measures, which should be implemented before and during construction and operation of the proposed sub-projects to ensure that anticipated socioeconomic benefits are sustainable. Among the impacts that could be realized during the construction of the various sub-projects are as follows:

- an increase in soil erosion, which may result in sedimentation and increased turbidity of nearby water bodies, and eventual siltation of sensitive coastal resources such as coral reefs as a result of stormwater runoff, alteration of surface water drainage and improper disposal of spoils;

- induced localized pollution from discharged solid and liquid wastes -- wastewater and solid waste from the labor force, miscellaneous construction and site clearing debris; construction chemicals, such as paints, cleaning solvents and soil poisons; and petroleum products, such as oils, fuels, lubricants, kerosene and grease;

- an increase in noise and dust emission levels as a result of traffic congestion or disruption and type of construction equipment used;
- direct and indirect encroachment upon agricultural lands and forests;
- an increase in depletion of non-renewable natural resources, such as tropical hardwoods;
- relocation/dislocation of existing residences, businesses or livelihoods within densely populated urban sitings; and
- destruction of archaeological resources through indiscriminate excavations, including borrow sites.

While these concerns apply to construction activities in general, various parameters of the LGIF Project format substantially limit the potential scope and scale of construction-related impacts, including:

- all sub-projects will use easily replicated, standard designs that will be site-adapted as required;
- all sub-projects are small-scale, public infrastructure; and
- virtually all sub-projects will be expansions or upgrades of existing facilities within established sites or rights-of-way.

As designed, the proposed facilities are relatively low in overall maintenance requirements. Additional design recommendations to further minimize maintenance demands are provided in Chapter 4. Supportive institutional and organizational structures are deemed essential by the consultants to the sustainability of any constructed sub-project and should be fully considered within initial screening of candidate LGUs, as discussed in Chapter 5. For example, the solid waste treatment situation in the Philippines varies greatly between different LGUs, with a general lack of designated dumpsites, manpower, equipment or operating budgets to overcome the lack of public emphasis or sense of priority in many communities.

A principal environmental impact associated with maintained operation of most proposed sub-projects will be legal creation of a point source of wastewater effluents wherever on-site treatment facilities are provided. These effluent point sources may range from overflow of a small septic tank serving a three-classroom school building to discharges from a comprehensive public market complex comprised of several standard design modules.

While most sub-projects proposed under the LGIF Project fall within the category of replacement facilities, existing facilities generally lack basic amenities provided under the project-improved water supply/service, public toilets and integrated drainage systems. Thus, while not exactly creating effluent, proposed sub-project facilities may tend to concentrate existing effluent loads that in the past have been crudely dispersed and have resulted in the poor sanitation conditions of existing facilities.

In the interest of public health and sanitation, types and sitings of proposed sub-projects and all available standard designs for the LGIF Project include provision for on-site primary treatment facilities. In the case of slaughterhouses, provisions have been made also for secondary treatment facilities. Both primary

and secondary treatment facilities must comply with DENR administrative order no. 35 (series of 1990) as amended by DENR A.O. no. 2 (series of 1991). For proposed larger facilities, including public market complexes and slaughterhouses, additional design or process measures may be required to meet applicable effluent standards based on estimates of this study. For smaller facilities with exemptible effluent volumes of less than 30 m^3/day and secondary measures, such as subsurface wastewater infiltration systems, or leach fields, are deemed appropriate because of the anticipated urban setting and public utility of these facilities. A discussion of proposed effluent treatment processes and facilities and recommendations for alternative or supplemental treatment facilities is included in Chapter 4.

For potentially hazardous wastes generated by high school science laboratories and community health care centers, separate holding tanks are included within site development plans to avoid disrupting biological wastewater treatment processes or contaminating discharge effluent streams.

Table ES-1 Preliminary Environmental Screening of LGIF Subprojects

Potential Negative Impacts and Recommended Mitigation Measures

Potential Negative Impacts	Public Markets	Roads	Slaughterhouses	School Buildings	Primary Variables	Recommended Mitigation Measures
increased soil erosion due to soil disturbance and poor material handling practices	minimal impact due to typical urban siting with low slope and high level of existing development	variable level of impact subject to local soil conditions, slopes, and weather	minimal impact due to siting within commercial districts, in low slope locations for treatment ponds	generally low impact due to siting within existing school compounds	- soil type - slope of site - material handling - weather	- limit construction during rainy season - provide for silt containment and slope stabilization - institute basic orientation trainings for resident engineers
contamination of local groundwater resources	potential impact due to specified soil poisoning treatment and generated effluents	minimal impact due to improper discharge of petroleum-based wastes from heavy equipment (if used)	potential impact due to specified soil poisoning treatment and generated effluents	potential impact due to specified soil poisoning treatment and generated effluents	- local water table - soil type - use of chlordane - waste storage and treatment	- investigate substitutes for chlordane or reduce application rates - provide adequate workcamp sanitation facilities - provide adequate on-site treatment of liquid wastes
displacement of prime agricultural lands	very unlikely due to typical urban siting	potential impact for new road alignments	minimal impact due to typical siting and size	very unlikely due to siting within existing school compounds	- siting - alignment of new roads	- assess impact within feasibility study
contribute to depletion of non-renewable/scarce natural resources	minimal impact due to specified materials. Low lumber requirement. Low energy design	minimal impact due to specified materials	minimal impact due to specified materials. Low lumber requirement. Moderate to high energy requirements	minimal impact due to specified materials. Moderate lumber requirement. Low energy design	- pending lumber shortage - recurrent energy shortage	- continue to substitute lumber requirements in standard designs - encourage use of reusable forms for concrete work - continue low energy demand orientation of standard designs - require certification that all lumber supplies are legally sourced - integrate anaerobic digesters with slaughterhouses to provide primary source of energy (bio gas)
depletion of local water resources	moderate impact, with water demand, estimated to range from 10 to 30 m^3 per day per 415 m^2 module	minimal impact during construction of concrete roads	moderate impact, with water demand variable, corresponding to size of operation	minimal impact, water use limited to sanitation facilities	- recurrent water shortages - high demand on intra-community water supplies.	- evaluate use of low water flow fixtures, including "pour-type" toilets rather than standard "flush-type" - assess community water resources, including site groundwater, in feasibility studies - incorporate rain catchment cisterns within site development
degrade ambient air quality	minimal impact during construction due to typically labor-based construction practices	minimal impact due to dust generated by construction traffic. Typically labor-based construction practices are utilized.	minimal impact during construction due to relatively remote siting, within commercial districts	minimal impact during construction due to labor-based construction practices	- dust and noise generation - construction traffic - open burning of construction and workcamp wastes	- integrate dust control measures, such as watering of access roads and construction site - restrict construction activities to normal working hours - evaluate local alternatives to open burning of construction and workcamp solid wastes

Table ES-1 Preliminary Environmental Screening of LGIF Subprojects

Potential Negative Impacts and Recommended Mitigation Measures

Potential Negative Impacts	Public Markets	Roads	Slaughterhouses	School Buildings	Primary Variables	Recommended Mitigation Measures
dislocation/relocation of existing occupants or livelihoods	potentially high impact during construction of replacement facilities as well as new facilities within congested downtown areas	minimal to moderate impact depending on proposed alignment and status of existing road right-of-way	minimal to moderate impact depending on siting	very unlikely due to siting within designated school compounds	- siting - proposed alignment - social acceptance - compensation or temporary accommodations	- fully assess dislocation/relocation impact in initial Project Identification Document (PID) as well as subsequent feasibility studies - conduct local public hearings and require letters of support from affected groups, including NGOs - require detailed description of compensation/ relocation schemes with feasibility studies
dislocation of tribal/cultural communities	very unlikely due to anticipated urban sitings	potential impact with new alignments though unlikely due to scale of projects	unlikely impact due to anticipated intra-community siting	very unlikely due to siting within designated school compounds	- siting - new alignment - community acceptance	- same as above
disruption/destruction of archaeological resources	potentially high impact subject to siting and excavation requirements	potential impact with new alignments and for borrow sites.	potentially high impact subject to siting and excavation requirements	potentially high impact subject to siting and excavation requirements	- siting - new alignments - borrow sites and excavations	- pre-assess proposed sites and activities involving significant excavation for archaeological potentials utilizing local institutions and interviews . - provide copies of site reports to the National Museum, including profile summary of soil tests - finalize funding procedures for economically feasible yet archaeologically sensitive sites and subprojects - institute basic training for resident engineers to enable monitoring of construction
increased generation of solid wastes	potentially high impact if demolition of existing structures is involved. Minimal to moderate impact during operations including the need to dispose of sludge collected in proposed toilet facilities	minimal impact for improvement of existing alignments. Potential impact for new alignments requiring grubbing and export of unsuitable material. Potential impact of workcamp wastes	potentially high impact if demolition of existing structures is required. Previously discharged wastes will be contained in treatment facilities, including sludge	potentially high impact if demolition of existing structures is required. Sludge collected in new toilet facilities will require periodic disposal	- disposal sites for demolition and workcamp wastes - disposal sites for unsuitable materials from new road alignments - disposal of sludge from septic tanks	- require that all disposal sites and processes will be identified prior to initiating construction - assess subproject specific impacts within feasibility studies - include within construction documents clean up procedures for all temporary workcamps and construction sites
increased generation of liquid wastes	minimal impact due to on-site containment and primary treatment of effluents	minimal impacts limited to workcamp and equipment discharges	minimal impact due to on-site containment, primary/secondary treatment of effluent	minimal impact due to on-site containment and primary treatment of effluents	- effluent volumes and pollution (BOD) loads - receiving waterbody	- same as above - evaluate design modifications to incorporate subsurface wastewater infiltration systems (SWIS's), to include site assessment of potential impacts to local groundwater resources.

1. Project description

1.1. Background

An environmental assessment (EA) is a procedural requirement of the US Agency for International Development (USAID) on all projects proposed for funding that have potentially significant environmental impacts. For projects involving repetitive classes of actions in a series of locales, a programmatic or project-scale environmental assessment can provide a preliminary evaluation of proposed actions to support project and/or process modifications within a pre-implementation stage.

Based on an initial environmental examination (IEE, Appendix D-1) conducted by USAID in August, 1991 for the proposed Local Government Infrastructure Fund (LGIF) Project, a positive determination of potentially significant environmental impact established the basis for conducting a programmatic EA, which will:

> ...develop screening criteria for the review of potential sub-projects; no monies for sub-project construction contract should be committed until such time as the project office has verified the sub-project is fully in compliance with the review procedures established by the EA.

In addition to procedural requirements of USAID, Philippine regulations stipulate several categories of environmental impact assessment based on project type and specific location. As a consequence, screening criteria and review procedures proposed for the LGIF Project must comply with legal requirements of both the funding (USAID) and Government of the Philippines (GOP) regulatory agencies.

1.1.1. Proposed action

USAID is proposing to fund the LGIF Project (A.I.D. Project Number 492-0463), which will provide for construction of small-scale public infrastructure by local government units (LGUs), consisting of selected provincial and chartered city governments located outside of the National Capital Region. Based on estimates of available funding, the LGIF Project may initially assist some 20 LGUs nationwide that satisfy eligibility criteria that presently include:

- need (e.g. high unemployment rates, low average family incomes, high number of students per classroom);
- performance, based on tax collection efficiency; and
- capability (e.g., ability to account properly for funds; past performance with donor funded and/or centrally funded infrastructure projects, contracting and project management capability, and technical depth of personnel).

LGU selection criteria will be further defined by the LGIF-Project Management Office (LGIF-PMO), to be formed under the Department of Public Works and Highways (DPWH), to purposely target those LGUs with the most pressing need and demonstrated performance with regard to implementing small-scale infrastructure projects.

As envisioned, the LGIF-PMO will maintain a library of USAID approved standard designs available for selection by eligible LGUs. Examples of standard designs that may initially be available for funding include public markets, slaughterhouses, roads and streets, and school buildings. To ensure sub-project viability, the LGIF Project will finance studies demonstrating sub-project technical, economic, financial, environmental and social feasibility. In addition, funds will be provided for the LGU to contract with a construction management and engineering services (CMES) consultant to site adapt the approved standard design to a specific location and supervise the contractor hired by the LGU to undertake construction.

The LGIF Project may also fund emergency reconstruction of small-scale infrastructure damaged as a result of natural disasters. Because of the need to reconstruct damaged or destroyed facilities as quickly as possible, contracting and implementation activities related to emergency reconstruction will be undertaken by the LGIF-PMO directly.

1.1.2. Status of the LGIF Project

A number of background studies have been conducted or funded by USAID with bearing on the proposed LGIF Project, including:

- LGIF Design Report (Louis Berger International, Inc., 1991);
- LGIF Administrative Assessment (Punongbayan & Araullo, 1991);
- Impact Evaluation -- Economic Support Fund Infrastructure Program: 1980-1991 (USAID, 1991); and
- Process Evaluation of the Economic Support Fund Project (Louis Berger International, Inc. and Checchi & Co., 1989).

In concurrence with the administrative assessment conducted for the LGIF Project, a Request for Technical Proposals (RFTP), No. 492-92-014, was issued on February 21, 1992, to solicit proposals for technical advisory and assistance services to the Philippines' Department of Public Works and Highways (DPWH) during project implementation (Appendix D-2). Evaluation of submitted proposals is on-going with contract awarding expected on or before September 1992. Per the issued RFTP, the selected contractor's services should begin within 60 days after contract execution, which implies a physical start date for the LGIF Project in late 1992. The period of contract for the LGIF Project is three years, with an option to extend by up to an additional 24 months.

The programmatic EA of the LGIF Project was formally initiated in June 1992, with mobilization of a consultant team (Appendix M). The draft report of this study was submitted on August 14, 1992, for agency and public review and comment.

1.2. Purpose of the programmatic environmental assessment

The initial environmental examination (IEE) of the LGIF Project established the requirement for a programmatic environmental assessment (EA) on the principal basis that, since the project deals with construction of various types of infrastructure, in various locales, any single sub-project could have

potentially significant environmental impacts. However, as proposed, several characteristics to the LGIF Project reduce its overall environmental risk:

- all sub-projects will use easily replicated, standard designs that will be site adapted as required;
- all sub-projects are small-scale public infrastructure; and
- virtually all sub-projects will be expansions or upgrades of existing facilities within established sites or rights-of-way.

Based on preliminary IEE findings, the defined purpose of the programmatic EA is to:

- identify and qualify environmental impacts associated with the construction of small-scale infrastructure as proposed under the LGIF Project;
- assess standard mitigative measures that could be adopted to avoid or minimize potentially negative environmental impacts; and
- define implementation guidelines and procedures based on developed screening criteria, in compliance with environmental requirements of USAID funding and Philippine regulatory statutes.

The intention of this final report is to provide an assessment sufficient to support an objective evaluation of potential project impacts. As a working document, the programmatic EA is designed to identify net impacts derived from predicted environmental conditions with or without implementation of project components and to recommend specific actions to mitigate these net impacts.

As discovered in this study, a project-scale or programmatic approach to environmental impact assessment appears to be an innovation within the Philippine framework of USAID-assisted, small-scale infrastructure projects. The EA document, as finalized, is intended to be fully applied, and thus applicable, to planning, design, implementation and monitoring cycle of the LGIF Project (Figure 1-1). For this purpose, extensive use is made of appendices to provide reference copies of original documents, minutes of public meetings and complete contact lists to assist subsequent project phases.

The formatted approach of the programmatic impact assessment is based on USAID environmental procedures, which are summarized in the following section, and incorporates various aspects of EAs recently conducted for USAID-assisted projects in compliance with USAID and GOP environmental regulations.

Perhaps because of the novelty of the programmatic approach, a common question raised during the assessment process was if the programmatic EA was intended to satisfy USAID and/or GOP environmental review requirements for individual LGIF sub-projects, the type and site for which are yet to be determined. "No" was the repeated answer, as the purpose of the programmatic EA was to serve as a screening and planning document to establish and support the environmental review process for each sub-project.

1.2.1. Summary of USAID environmental procedures

As a prerequisite for provision of funding assistance, USAID is required to comply with environmental review procedures as defined in Title 22 Code of Federal Regulations (CFR), Part 216. These procedures are further explained in A.I.D. Handbook 3, Appendix 2-D. The stated purpose of these procedures is to identify, as early in the projects' planning and design as possible, potentially significant impacts on natural resources, environmental systems and important socioeconomic groups and cultural resources. Established environmental review procedures are intended to improve proposed project designs and implementation processes by incorporating modifications and alternatives, including a no-action alternative, based on a pre-project evaluation of identified environmental concerns.

Under Applicability of Procedures (22 CFR 216.2), four general categories of activities are identified to facilitate implementation of USAID environmental review procedures:

- exemptions, Section 216.2(b);
- categorical exclusions, Section 216.2(c);
- actions that normally have a significant effect on the environment and require EAs, Section 216.2(d); and
- gray areas, where an IEE is required to determine whether significant effects are or are not likely, Section 216.2(d)(2).

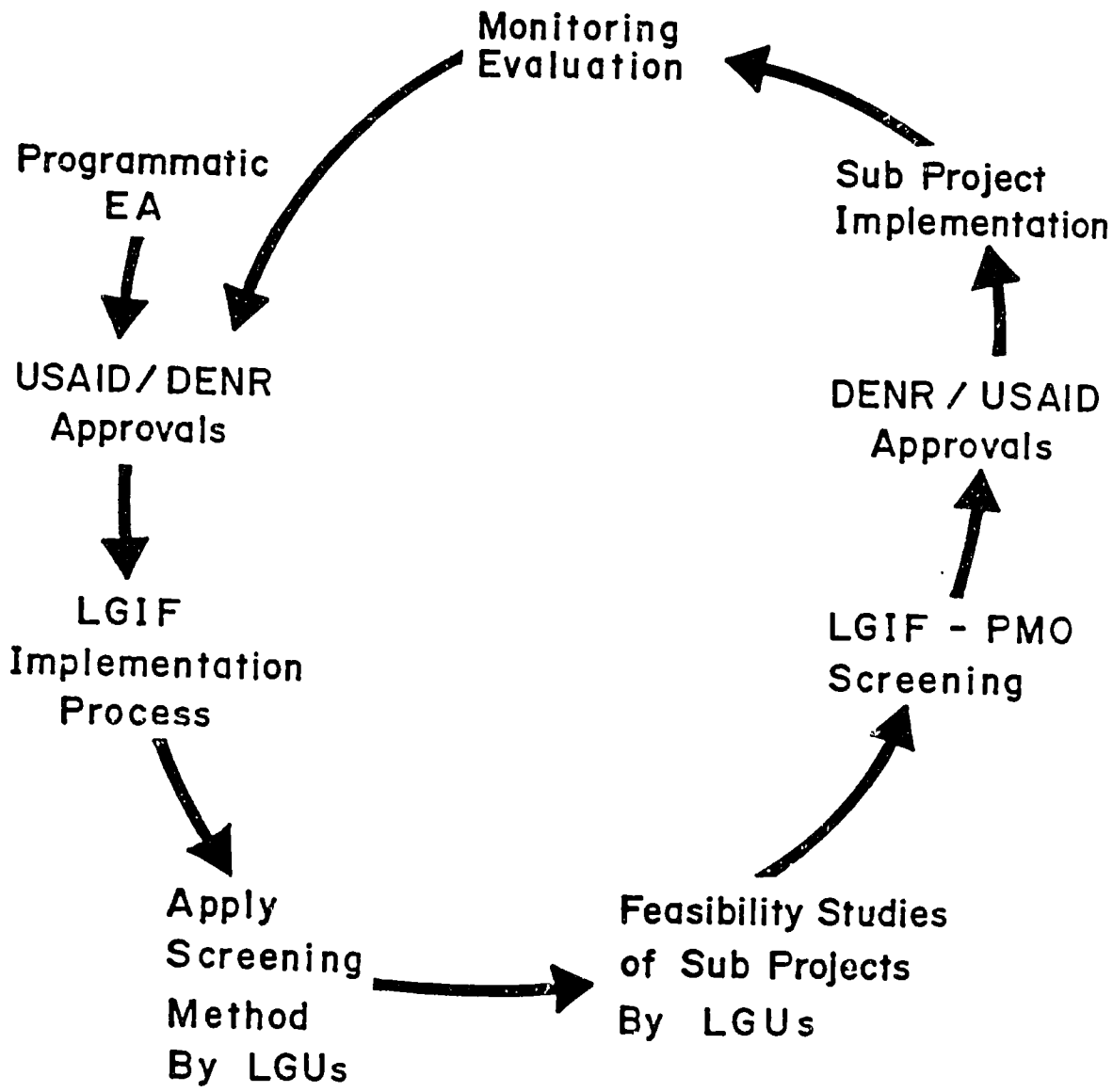
Categorization of projects proposed for USAID funding within the Philippines typically involves an initial finding, or determination, by the Manila-based Mission Environmental Officer (MEO), which is subject to review and approval by the USAID/Washington-based Bureau Environmental Coordinator (BEC). A summary of the major steps in the environmental review procedures of USAID and the respective role of the BEC is provided in Table 1-1.

To assist categorization of proposed projects and to further focus USAID environmental review procedures, 22 CFR 216.6(d) provides that:

> ...other programmatic evaluations of classes of actions may be conducted in an effort to establish additional categorical exclusions or design standards or criteria for such classes that will eliminate or minimize adverse effects of such actions, enhance the environmental effect of such action or reduce the amount of paperwork or time involved in these procedures.

In recognition of the scope of activities proposed under the LGIF Project (small-scale, site-adapted, standard design sub-projects in a variety of locales), the initial environmental examination (IEE) conducted for the project prescribed an innovative programmatic approach, aimed at the following:

- reducing the level of environmental risk and uncertainty of individual sub-projects to acceptable levels; and
- doing so with the least amount of paperwork, review and processing.



LEGEND:

LGIF - Local Government Infrastructure Fund
DENR - Department of Environment and Natural Resources
USAID - United States Agency for International Development
LGU - Local Government Unit
PMO - Project Management Office
EA - Environmental Assessment

Figure 1-1 PROPOSED APPLICATION OF THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT (EA)

Table 1-1 Summary of major steps in USAID environmental procedures

USAID environmental procedures	Description of environmental procedures	BEC approval required
(1) Initial Environmental Examination (IEE)	Screening of projects to determine the possibility of significant environmental impacts; if positive, then (2).	Yes
(2) Scoping process	Determination of major and minor issues through expert consultations and public hearings; scoping report should include (3).	Yes
(3) EA TOR and Scope of Work	Specifies format and scope of EA; types of analyses and disciplines required for EA.	In scoping report
(4) Preparation of EA or EIS	Description of project alternatives and setting; analysis of impacts; recommended alternatives; mitigation and monitoring plan ("Environmental Plan of Action").	Yes
(5) Preparation of Sub-project EA/EIS	Same as above where sub-project site and/or construction information are not available at start of project; EA must be approved before sub-project funds authorization.	Normally, Yes
(6) Monitoring	Environmental monitoring is an integral part of project implementation to at least the same extent as other aspects of the project	Part of the EA
(7) Revisions	In the event of major changes in scope or nature or project, during its implementation, a threshold determination shall be made again and, if positive, above procedures carried out again.	Yes

Source: Proposed Plan for Fulfilling Agency Environmental Procedures in the LGIF Project, ASIA/DR/TR cable, April 14, 1992 (see Appendix D-3).

Note: Environmental Impact Statements (EIS) are required if a proposed activity will have significant impact(s) on a) the United States; b) the global commons; c) more than one country. EIS procedures are similar to those in domestic U.S. law.

A proposed plan for fulfilling USAID environmental procedures in the LGIF Project is included in Appendix D-3. A subtle recommendation within this proposed plan is enhanced review and approval authority of the MEO within the project implementation cycle, based on standard mitigations and screening criteria recommended in the programmatic EA (Table 1-2) and approved by the BEC.

The US Foreign Assistance Act contains specific restrictions that legally must be addressed within USAID environmental review procedures, including:

- Section 118, that assistance be denied for construction or upgrading of roads that pass through relatively undegraded forest lands; and
- Section 119, mandating special attention to biodiversity issues. In addition to tropical forests, wetlands and coastal ecosystems are identified habitats of potentially high biological diversity.

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Table 1-2: Summary of major steps proposed in the USAID environmental review process of the LGIF Project

Programmatic EA of project - establish screening criteria for sub-projects: (a) requiring individual EAs, or (b) not requiring individual EAs - develop standard mitigation measures and monitoring plan	Mission Environmental Officer (MEO) and Bureau of Environmental Coordinator (BEC) Review and Approval
(a) Sub-projects requiring individual EAs	**Review and Approval**
1. Scoping process - Hearings, consultations - EA scope of work - Work plan schedule	MEO and BEC
2. Field work and draft EA with alternatives, mitigation and monitoring plan	MEO and USAID project officer
3. Review and revisions (if necessary)	MEO and BEC
4. Proceed to construction with mitigations (if necessary)	Local engineering firm/LGU/USAID project officer
5. Project monitoring and impact evaluation	LGU/USAID project officer/MEO
(b) Sub-projects not requiring individual EAs	**Review and approval**
1. Design and site adaptation - site inspection/consultation with local gov't. - preparation of a site adaptation plan	USAID Project Officer/MEO
2. Construction supervision, specifically including environmental parameters	Local engineering firm/Project Officer
3. Post-construction monitoring/maintenance	Local government unit
4. Impact evaluation of overall project with an environmental component	USAID Project Officer/MEO

Source: USAID cable, ASIA/DR/TR, April 14, 1992 (Appendix D-3).

Important additional areas of USAID environmental concern are the potential impact of proposed projects on indigenous tribal communities, ancestral land claims, archaeological and historical resources.

Appendix D-4 includes a copy of 22 CFR 216 (1989 edition) for further reference on USAID environmental review procedures, including the format and process for conducting an IEE or EA.

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1.2.2. Summary of GOP environmental procedures

The Environmental Impact Statement (EIS) system of the Philippines was established in 1977, under Presidential Decree (PD) 1151, known as the Philippine Environmental Policy Decree. This decree established the requirement for proponents for all projects that significantly affect the quality of the environment to prepare an EIS.

Subsequent environmental regulations were established to strengthen the EIS system, including PD 1586 (in 1978) and Proclamation 2146 (in 1981). These regulations (Appendices E-1 and E-2) established the procedural requirements for issuance of an environmental compliance certificate (ECC) for projects that fall within the scope of the EIS system, specifically:

- environmentally critical projects (ECPs)
    - heavy industries;
    - resource extractive industries; and
    - major infrastructure projects (large-scale dams, power plants, reclamation projects, and major roads and bridges).
- projects to be located within environmentally critical areas (ECAs)
    - national parks, watershed reserves, wildlife preserves and sanctuaries;
    - potential tourist spots;
    - habitat for any endangered or threatened species of indigenous Philippine wildlife (flora and fauna);
    - areas of unique historical, archaeological or scientific interest;
    - areas traditionally occupied by cultural communities or tribes;
    - areas frequently visited and/or hard-hit by natural calamities;
    - areas with critical slopes;
    - prime agricultural lands;
    - recharge areas of aquifers;
    - water bodies;
    - mangrove areas; and
    - coral reefs.

The EIS system is administered by the Department of Environment and Natural Resources (DENR), which amended the rules and regulations implementing PD 1586 by issuing DENR Administrative Order (DAO) No. 21, Series of 1992 (Appendix E-3). DAO 21 is highly significant to the LGIF Project in that it:

- further defines policy objectives of the EIS system such as:
    - Article I, Section 1.2.1 -- to identify environmental constraints and opportunities of natural systems in order to guide the planning and development of project activities from the selection of an appropriate site to the design, implementation and termination so that environmental considerations are incorporated in the early stages of project development.

- Section 1.2.2 -- to ensure the success of development projects by reducing unaccepted impacts and prescribing the most appropriate and cost-effective mitigating measures.

simplifies and decentralizes the EIS system, including:

- Article II, Section 2.1.1 -- introduction of Enform I (Appendix E-3, Figure 1-2), a one-page checklist form, which serves as an initial basis for determining if a project is within the purview of the EIS system (is the project environmentally critical (ECP) or within an environmentally critical area (ECA)?)

- Section 2.1.2 -- in line with the present national policy of decentralization, authority is delegated to regional offices of DENR to evaluate Project Descriptions and EISs submitted for projects that fall within ECAs and to provide ECCs to the same type of projects. Environmentally critical projects (ECPs) remain within the jurisdiction of the Environmental Management Bureau (EMB), under the DENR central office.

- Section 2.1.3(b) -- exempted projects

  Any proposed activity or operation that does not fall within established categories for an ECP or an ECA and that is characterized by the following conditions:

  - discharges minimal amount of wastes and the management of such wastes is relatively easy;
  - has a capitalization of not more than ₱500,000; and
  - employs not more than 20 persons.

  An exemption certificate shall be issued by the respective DENR regional office for those projects in which the above criteria apply, subject to submission of Enform I and ocular inspection of the proposed project site.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

ENFORM I

PROPONENT : _____

LOCATION : _____

SHORT DESCRIPTION OF PROJECT: _____

_____

_____

_____

1. Is your project in any of those areas that fall under the category of Environmentally Critical Projects which list appears as Annex A?

☐ Yes ☐ No

2. Is your project in any of those areas within the Identified Environmentally Critical Areas which list appear as Annex B?

☐ Yes ☐ No

I hereby certify that the above information are true to my knowledge and I shall be held liable if found to be untrue.

_____ Date

_____ Proponent

Processing fee ₱_____

Official Receipt #:_____

THIS PORTION IS TO BE FILLED UP BY APPROPRIATE DENR AUTHORITY

TO WHOM IT MAY CONCERN:

This is to certify that _____ *is hereby exempted from PD 1586 and that, therefore, the proponent can proceed with the implementation of the proposed project, subject however, to the conditions attached to this certificate and other appropriate environmental rules and regulations required by both national and local authorities.*

Given this _____ *day of* _____, *19*____, *at* _____

(PLACE DENR SEAL HERE)

BY AUTHORITY OF THE DENR SECRETARY

_____

(Name & Designation)

Figure 1-2 DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, ENFORM 1

An on-going endeavor of the EMB is to expand the recommended list of exemptible projects to focus available DENR regional office resources on the types of projects with potential environmental impacts that are generally considered as more significant or of greater magnitude. A recent list of recommended exemptible projects, released by EMB in July, 1992 (Appendix E-4) included:

- repair and/or replacement of existing roads and bridges;
- construction activities involving single or two story structures with floor areas less than 200 m^2, with designed capacity for 40 persons or less;
- construction activities involving repair, maintenance and/or replacement of existing facilities and accessory structures;
- construction or replacement of temporary, or permanent, minor structures or facilities accessory to existing installations such as parking lots, loading and unloading ramps, bus or jeepney shelters, and sidewalks and driveways abutting existing streets; and
- construction of schools, churches, medical clinics, sports and recreation facilities, and public markets.

As a general EMB policy, rehabilitation of public infrastructure damaged as a result of a natural calamity, or disaster, is also considered as exemptible because of the sense of urgency and immediate concerns for public welfare.

As a result of DAO 21, the centralized EMB office will continue to be responsible for processing EIS documents of environmentally critical projects (ECPs), while DENR regional offices will now be responsible for those projects that fall within the scope of environmentally critical areas (ECAs) and exempted projects (Figures 1-3 and 1-4). A reference list of common environmental terms and their definitions as derived from DAO 21 is included in Table 1-3.

It is important to note that an environmental compliance certificate (ECC) or an exemption certificate is required before issuance of numerous other permits (i.e., Authority to Construct, Housing and Land Use Regulatory Board (HLURB) approvals, final approval of projects subject to registration by the Board of Investments of the Department of Trade and Industry). In addition, the classification of a project as exemptible with respect to submitting an EA document does not relieve a project from compliance with applicable legal standards, such as effluent standards.

A series of consultative workshops, culminating in a joint conference on the management of environmental review process were recently (April/May, 1992) held by EMB/DENR, in coordination with the inter-agency Investment Coordination Committee (ICC) of the National Economic and Development Authority (NEDA), to address procedural constraints and issues within the existing permitting process, including:

- lack of information/coordination among concerned agencies regarding government licensing procedures and requirements;

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- unclear procedural flow in securing permits and licenses that poses difficulties on the part of project proponents;
- lengthy processing time for permit clearances;
- outdated guidelines;
- centralized processing and approval requirements; and
- lack of awareness of the EIA system and information on environmental review requirements for different types of projects (submission of a Project Description, submission of an EIS, or application for exemption).

As a product of these consultations, an inter-agency Memorandum of Agreement (MOA) was drafted to further define institutional roles and responsibilities in the environmental review process and to formulate an "Action Plan" of proposed activities and strategies (Appendix E-5).

As the environmental lead agency, the roles and responsibilities identified in the draft MOA for DENR include:

- initiate policy, institutional and operational reforms to streamline and strengthen the implementation of the EIA [2] system in consultation with the inter-agency EIA Network to be established:
- formulate, in coordination with NEDA and Department of Interior and Local Government (DILG), guidelines and criteria in determining social acceptability of development projects in the delineation of functions between the DENR and the Regional Development Councils (RDCs);
- devise plans for the accreditation of the Environmental Unit (EU) of each lead agency and provide technical assistance in the establishment of the EUs;
- provide agencies, through the EIA Network and its technical sectoral committees, streamlined Project Description (PD)/EIS flow charts indicating procedures, requirements, duration of processing and other factors involved;
- disseminate, through its bureaus and attached agencies, as well as the EIA Network, the list of projects that require the submission of a PD, EIS, or an application for exemption;
- decentralize processing project descriptions (PDs) to regional offices;
- provide technical assistance, as needed, in preparing an EIS in the form of streamlined scoping guidelines and reduced number of requirements;

---

2 As a matter of semantics and resulting acronyms, the environmental system of the Philippines is alternatively referred to as the EIS system or the EIA system.

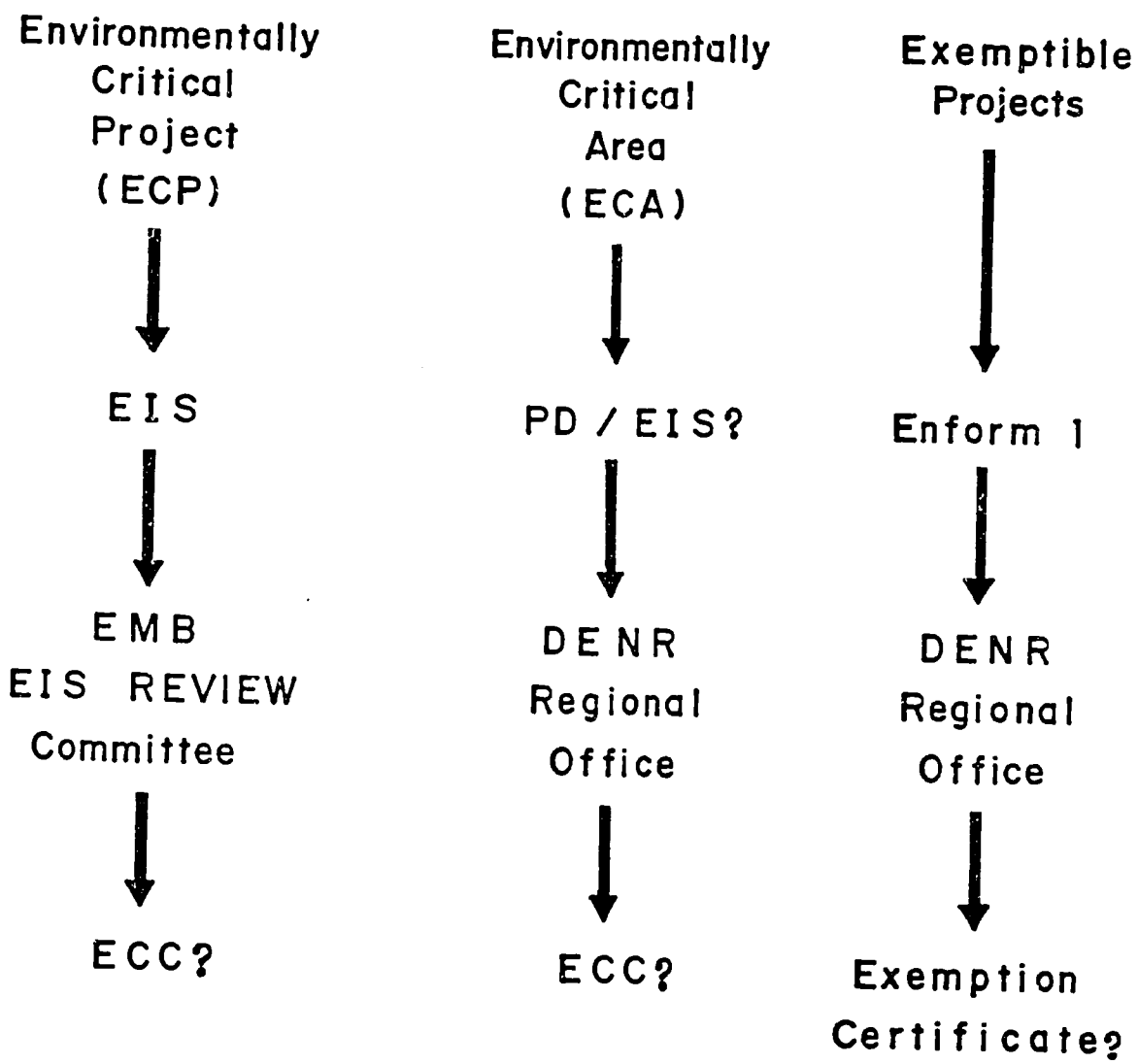
- review classification of environmentally critical areas (ECAs) and projects (ECPs), and revise these as needed in consultation with the EIA Network;
- review existing environmental policies and enabling legislation; and
- explore the possibility and study the implications of issuing a programmatic environmental compliance certificate (ECC), that is, designing generic conditions attendant to ECCs for certain types of projects (e.g., industrial estates).

Interest in development of a programmatic level of environmental review and processing was raised repeatedly during the scoping process of this study, with a legal precedent found in Section 8 of PD 1586, which states:

> "Programmatic Compliance -- Any project proponent intending to implement a program consisting of a series of similar projects, or a project subdivided into several phases and/or stages may file an EIS to cover its intended program or project respectively. The EIS Review Committee shall determine at this stage whether or not programmatic compliance with the EIS system is feasible in each case, and advise the project proponent as to whether the EIS may be prepared in a programmatic form."

In line with the decentralization process as embodied in the new Local Government Code, which was enacted in 1991, GOP environmental procedures are in a considerable state of flux and revision. A new environmental protection code was included as one of 19 priority bills endorsed by newly elected President Ramos in his July 27, 1992, State of the Nation address to the opening session of the ninth Congress. As described (Appendix F), the proposed Environment Protection Code will consolidate existing laws and issuances on the environment and serve to streamline the implementation of environmental programs.

In addition to Enform I, annotated outlines for an EIS and a project description are included in Appendix E-3; while Appendix E-6 includes a draft copy of a manual on environmental impact assessment prepared by the Environmental Management Bureau (EMB) of DENR.



LEGEND:

DENR	Department of Environment and Natural Resources
ECC	Environmental Compliance Certificate
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
PD	Project Description

Figure 1-3 THE ENVIRONMENTAL IMPACT STATEMENT (EIS) SYSTEM OF THE PHILIPPINES

Source: DENR Administrative Order No. 21 (1992)

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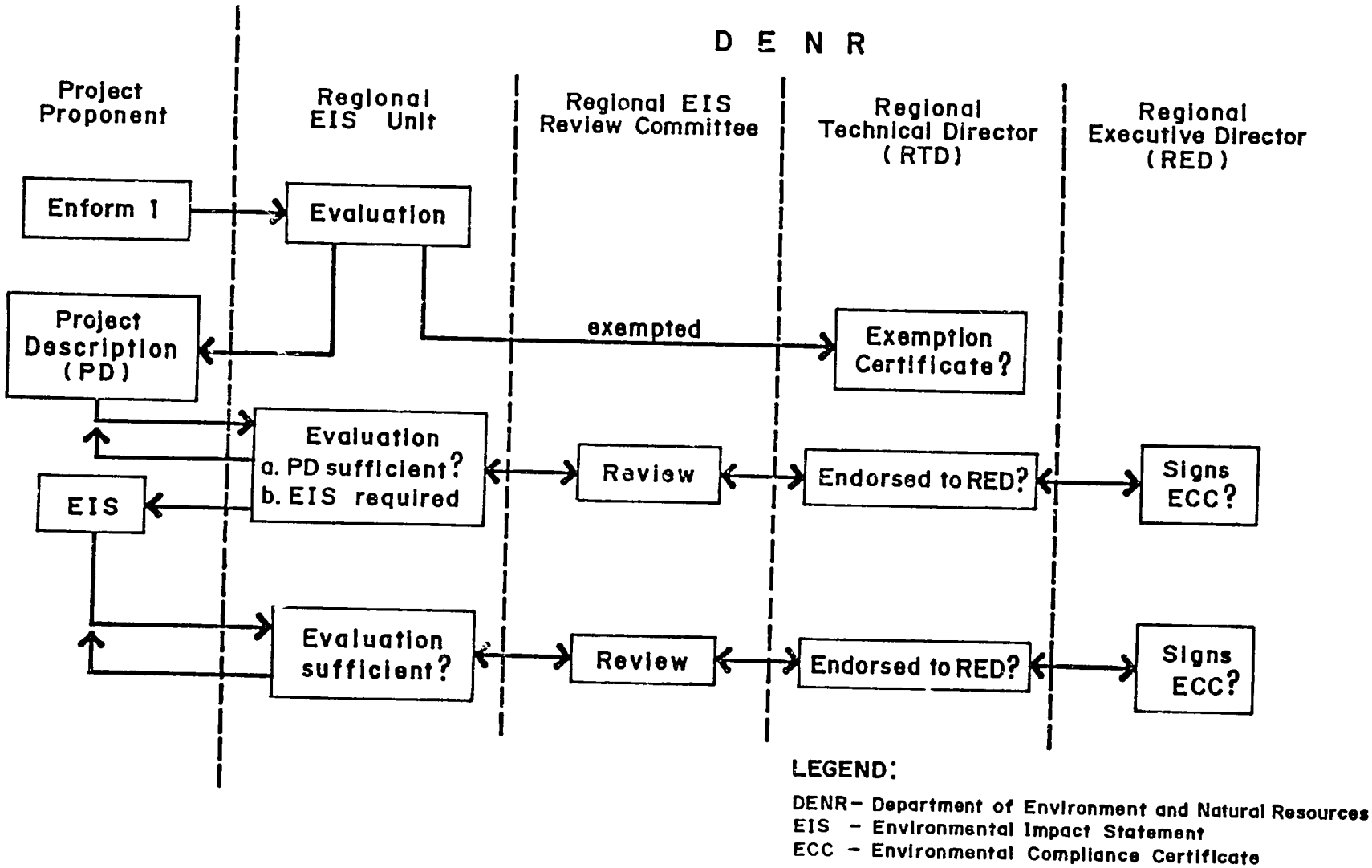

LEGEND:

DENR – Department of Environment and Natural Resources
EIS – Environmental Impact Statement
ECC – Environmental Compliance Certificate

Figure 1-4 REVIEW OF PROJECT DESCRIPTION (PD) DOCUMENTS

Source: DENR Administrative Order No. 21 (1992)

Table 1-3: Definition of terms commonly used in GOP environmental procedures

Environmental Impact Statement (EIS) System - refers to the entire process of organization, administration and procedure institutionalized for the purpose of assessing the significance of the effects of physical developments on the quality of the environment.
Environmental Impact Assessment (EIA) - refers to the process of predicting likely environmental consequences of implementing project activities.
Environmental Impact Statement/Study (EIS) - refers to the document(s) of studies on the environmental impacts of a project, including discussions on direct and indirect consequences upon human welfare and ecological and environmental integrity.
Environmental Compliance Certificate (ECC) - refers to the document issued by the Secretary of the Department of Environment and Natural Resources or his duly authorized representative certifying that the proposed project under consideration will not bring about an unacceptable environmental impact and that the proponent has complied with requirements of the environmental impact statement (EIS) system.
Environmental Impact Statement Review Committee - refers to the body of experts from various fields created by DENR whose main task is to assist the DENR in evaluating EIS and other documents.
Environmentally Critical Projects (ECPs) - refer to those projects that have high potential for negative environmental impacts and are listed in Presidential Proclamation 2146
Environmentally Critical Areas (ECAs) - refers to those areas that are environmentally sensitive and are listed in Presidential Proclamation 2146.
Project Description (PD) - refers to the document submitted by the project proponent substantially describing the proposed project, particularly those aspects of the project that are likely to cause environmental impact.
RED - refers to the regional executive director of DENR.
RTD - refers to the regional technical director for Environmental Management and Protected Areas Services of the DENR regional offices.

Source: DENR Admin. Order 21 (1992), Appendix E-3.

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1.2.3. Scope of Work (SOW) of the programmatic EA

A reference copy of the Scope of Work (SOW) for this programmatic EA is provided in Appendix D-5. Specific tasks identified within the SOW include:

- Project familiarization (Task 1)
  - literature review/preliminary contacts
  - review of standard design documents for sub-projects
  - site reconnaissance
- Scoping process (Task 2)
  - project description
  - potential environmental issues
  - proposed investigations/studies
  - scoping session handout
  - group session with concerned parties
  - scoping session report
- Environmental assessment (Task 3)
  - baseline surveys and data collection
  - identification and analysis of possible alternative actions
  - assessment of environmental impacts
  - identification of mitigative measures
  - preparation of draft environmental assessment
  - presentation of findings
  - finalization of environmental assessment

The basic scope of work for the programmatic EA was derived from the environmental review requirements of USAID, as defined in 22 CFR 216, and further refined in a series of USAID communications (Appendix D). Because of the nature and status of the proposed LGIF Project, the SOW for this study includes consideration of the following:

- multiple activities of a typically similar nature (e.g., the construction of standard design school buildings in various locales);
- cumulative and irreversible impacts and how these can be avoided/mitigated through design, siting adaptations or reductions in number;
- supportive or contradictory policies, institutional constraints, including management and maintenance capability, and cross-sectoral impacts; and
- recommendations on design, administrative, policy and other changes that can be made to the project to address site-specific environmental review requirements.

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In addition, the programmatic EA is to address major environmental issues identified and agreed upon during the scoping process. The defined scope of the assessment study includes primary and secondary environmental impacts associated with the overall project and the various categories of sub-projects, taking into account potential impacts attributable to improper construction, as well as improper operation and maintenance that may occur as a result of institutional weaknesses within various LGUs. As virtually all sub-projects identified are classified as expansions or upgrades of existing facilities within established sites or rights-or-way, the assessment will tend to evaluate sub-projects based on an action/no action alternative comparison, which weighs predicted environmental conditions and impacts with and without sub-project implementation.

In accordance with the initial environmental examination conducted for the LGIF Project and standard procedures, the draft programmatic EA was subject to review and approval by USAID/Manila and USAID/Washington. As stipulated in the SOW, a component of the study will be to define the specific requirements of EMB/DENR for compliance with the EIA system of the Philippines with respect to the various categories of sub-projects proposed under the LGIF Project. A prerequisite of the programmatic EA is a formal consensus and acknowledgement by the EMB/DENR of the described guidelines and procedures included in the study for application by the implementing LGUs in obtaining environmental clearances for their candidates sub-projects.

1.2.4. Approach to a programmatic EA

As prescribed, the programmatic EA is evaluating a project in a conceptual moving target stage of planning. No specific sites, implementing LGUs or specific project descriptions are available to focus this evaluation of environmental impact. The following are available for review:

- existing environmental conditions and facilities;
- faciiities constructed under other USAID or donor-assisted programs that are comparable to those proposed under the LGIF Project;
- sets of available and potentially applied standard designs developed in the process of the Regional Development Fund (RDF)/Economic Support Fund (ESF) infrastructure program;
- a series of evaluation and assessment studies of the ESF program and proposed LGIF Project; and
- the proverbial crystal ball of predicted actions, impacts, and developments as foreseen through the scoping process, interviews and study findings.

As a means to qualify an otherwise generalized assessment, extensive reference is made to infrastructure projects recently implemented within the Philippines. Particular reference is made to the Economic Support Fund (ESF) infrastructure program, which is described in Section 1.3.3.

The goal of this programmatic EA is to provide a planning document adequate to assist the project/sub-project evaluation and implementation process towards the environmentally sustainable development of small-scale infrastructure.

1.2.5. Methodology of the programmatic EA

To assess potential environmental impacts of the proposed LGIF Project and to identify corresponding mitigative measures, a multi-disciplinary team of specialists was assembled (Appendix M). During the study period, the methodologies employed by the consultant team in producing the final report included:

- contact and interviews with concerned agencies, organizations and individuals (Appendix B);
- review of available literature and standard designs (Appendix C);
- site surveys of existing infrastructure and comparable facilities constructed under previous projects (Appendix A-5);
- structured surveys of local officials and project engineers (Appendices A-3 and A-4); and
- solicitation of public review and comment by conducting a formal scoping session (public hearing) and subsequent workshops (Appendices H-1 to H-3).

The scoping session report submitted separately provides additional background information on the methodologies applied during the scoping process of the programmatic EA study.

1.3. Public infrastructure projects in the Philippines

The Department of Public Works and Highways (DPWH) has traditionally been responsible for the implementation and maintenance of most infrastructure projects constructed in the Philippines. Under the recently enacted 1991 Local Government Code (Appendix G), the implementation and maintenance of basically all small-scale or local infrastructure will be devolved to a responsibility of the respective local government unit, as summarized in Section 2.2.1, to include:

- barangay roads, bridges and water supply systems;
- municipal roads and bridges;
- school buildings;
- clinics and health centers;
- public markets, slaughterhouses and other municipal enterprises;
- fish ports and sea walls;
- dikes, drainage and sewerage; and
- provincial roads and bridges.

During the transition period before decentralization, DPWH has set a ₱14.4 B budget for the 1992 infrastructure program (Table 1-4, Appendix F).

The Highlights of 1993 Infrastructure Program (DPWH, 1992) provides foresight of proposed/programmed DPWH infrastructure programs that seek to accomplish the following:

> ...provide the necessary physical infrastructure requirements that will spur and sustain the momentum of socioeconomic development in the country consistent with the framework objectives of the Medium Term Development Plan of the Philippines.

Table 1-4 Distribution of investments, DPWH 1992 infrastructure program (in million pesos)

	NCR	Luzon	Visayas	Mindanao
Highways	3029.00	3975.134	1882.228	1278.453
Ports	-	39.706	25.858	5.910
Flood control	769.761	761.729	96.615	222.972
Water supply	31.112	874.770	391.200	471.600
Urban infrastructure	245.392	199.431	17.476	52.786
Others	60.00	-	-	-
Total	4135.26	5850.77	2413.38	2031.72

Source: DPWH.
NCR -- National Capital Region.

The Medium-Term Philippine Development Plan (1987-1992) identifies countryside development as the centerpiece of national development. Taking into account the responsibilities and functions devolved to LGUs under the 1991 Local Government Code, the proposed 1993 DPWH program will focus on:

- improvement of arterial national roads;
- flood control programs; and
- potable water supply programs.

In addition, the proposed 1993 program of DPWH will continue to support implementation of basic infrastructures facilities, such as roads and drainage, towards the development of identified strategic growth centers. As described in the Highlights, the 1993 program will fully support the implementation, on a fast-track basis, of all on-going foreign-assisted projects with approved funding as well as locally funded projects with existing contracts in order to avoid rising construction costs, unnecessary commitment charges of unavailed scheduled loan drawdowns and postponed project benefits.

Estimated budgetary support for the 1993 DPWH program is ₱22,374.9 M, to consist of ₱21,379.2 M GOP/loans and ₱995.6 M grant proceeds. Of this total outlay, ₱18,863.4 M (84.3 percent) is allocated for foreign-assisted projects and ₱3,511.5 M (15.7 percent) is allocated for urgent, locally-funded projects. Distribution of the proposed/programmed 1993 DPWH budget is presented in Table 1-5.

Regional distribution of the proposed DPWH 1993 infrastructure budget is based on a Block Allocation Formula to allocate funding based on the following:

- equal shares among provinces and then aggregated for the collective region (20 percent);
- proportional to the population (30 percent); and
- relative scarcity of infrastructure needs (50 percent).

As intended, this fund-allocation formula favors depressed areas in the countryside.

The following sections summarize various on-going and new projects identified within the proposed 1993 DPWH infrastructure program, which overlaps the LGIF Project time frame and is provided as an indication of infrastructure development initiatives. Section 1.3.3 briefly describes the Economic Support Fund (ESF) infrastructure program, which operates independently under the office of the president and bares particular relevance to the proposed LGIF Project, as does the PREMIUMED project, discussed in Section 1.3.2.4.

Table 1-5 Distribution of proposed 1993 DPWH infrastructure program

Highways	75.3%
Flood control	13.9%
Water supply	4.7%
Urban infrastructure	4.4%
Preliminary and detailed engineering	0.9%
Ports	0.76%
National buildings	0.16%
Total proposed 1993 budget	₱22,374.9 M

Source: DPWH, 1992. Highlights of Proposed 1993 DPWH Infrastructure Program.

1.3.1. On-going infrastructure projects

1.3.1.1. OECF-assisted projects

- Philippine-Japan Highway (PJH) and Access Roads Improvement (PH-P12)

  The project involves improvement of 885 km of access roads and 28 bridges connecting with the PJH from Cagayan to Davao City. Improvement of these access roads would optimize use of the north-south backbone of the highway network.

- Special rehabilitation projects along Philippine-Japan Friendship Highway (PH-P93)

  These projects involve improvement of 258 km of roads, rehabilitation/pavement reconstruction of 536 km of roads and replacement of 14 temporary bridges and rehabilitation of 26 dilapidated bridges and slope protection works at Dalton Pass in Nueva Vizcaya along the Philippine-Japan Highway Sections in Ilocos Norte, Cagayan, Nueva Vizcaya, Nueva Ecija, Bulacan, Laguna, Batangas and Quezon Provinces.

- West and Northwest Leyte Roads Improvement Project, Phase II (PH-P99), 15th Yen Loan Package

  This project involves the construction/improvement of 198 km of national roads and the replacement of 75 temporary bridges with permanent structures envisaged to upgrade the level of service of the truckline roads in the western and northwestern part of Leyte covering the municipalities of Lemon, Leyte, Biliran, Naval, Isabela Talavera, Palompon, Abijao, Villaba, Sto. Rosario and Kinanga.

- Rural Roads Development Project I (PH-P118)

  This project involves rehabilitation, improvement and/or construction of several road sections and related bridges along national secondary roads, provincial roads and barangay roads in the provinces of Tarlac, Cavite, Masbate and Bohol envisaged to support the programs of the other sectors of the government that will enhance the economic development of these areas.

1.3.1.2. IBRD[3]-assisted projects

- Second Rural Roads Improvement Project, Component of Land Settlement II Project (PH-P2126)

  This project involves construction and improvement of national roads (81 km), barangay roads (260 km) and provincial roads (225 km) and a number of bridges in Kabankalan, Negros Occidental; Sultan Kudarat, South Cotabato and Wao-Banisalan in Lanao del Sur and North Cotabato envisaged to effectively service the transport needs of large tracts of agricultural land.

- IBRD-Highway Management Loan

  This project covers construction/upgrading/rehabilitation/ strengthening or resurfacing of some 1,400 km of deteriorated or damaged arterial highways and substandard bridges. The project would also finance consulting services to assist the Construction Industry Authority of the Philippines (CIAP), to carry out studies and implement measures to strengthen the local construction industry. The main benefits expected from the project are lower road transport costs and savings in road maintenance costs.

1.3.1.3. Northern Samar Roads, AIDAB[4]-assisted projects

The project involves construction of 5 km of concreted by-pass roads, 95 km of gravel feeder roads and 50 km of secondary roads as well as the construction of 37 permanent bridges and box culverts along these road sections. The project aims to enhance the socioeconomic development and agricultural output of Northern Samar.

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[3] International Bank for Reconstruction and Development/The World Bank

[4] Australian International Development Assistance Bureau

1.3.1.4. ADB[5]-assisted projects

- 4th Road Improvement Project (Phi-801/ADB)

  This project involves improvement of about 744 km of national roads in Cebu, Negros, northwest Mindanao and Quirino Province, including rehabilitation/construction of bridges, box culverts and drainage structures envisaged to strengthen/enhance socioeconomic development in these provinces.

- 5th Roads Improvement Project (Phi-1058/ADB)

  This project involves improvement of 430 km of national roads in Isabela, Nueva Vizcaya, Laguna, Quezon, Masbate, Zamboanga del Norte, Zamboanga del Sur and Palawan including rehabilitation/construction of bridges, box culverts and drainage structures envisaged to strengthen/enhance the socioeconomic development in these provinces.

  The program also includes periodic rehabilitation of about 597 km of national and rural roads to prolong the useful life of economically repairable sections of the national road system and other strategic road network.

- ADB-assisted Highland Agricultural Development Project (Loan No. 802-PHI)

  This project covers reconstruction/improvement of about 195 km of rural roads in Benguet and Mountain Province with the financial assistance under the Asian Development Bank. The project is considered essential for the improvement of transport system in the said provinces to service the vegetable producing communities within the influence areas of the projects.

1.3.1.5. Others

- Kuwait-assisted Mindanao Roads Improvement Project (PHI-278/Kuwait)

  This project consists of improvement of 88 km of national roads in Misamis Occidental and 19 km of national roads in Zamboanga del Sur including the rehabilitation/construction of bridges, box culverts and drainage structures envisaged to stimulate the economic development of those provinces.

- USAID-assisted PAP-GSC/South Cotabato Development Project

  This project covers construction/upgrading of 158 km of national and provincial roads and three RCDG bridges. This will be implemented using design-build (turnkey) contracts with U.S. firms who will prepare the final design of the roads. This will improve and expand infrastructure in the transportation sub-sector in order to enhance flow of commerce, encourage investment and production and provide further expansion of economic growth in the General Santos City/South Cotabato areas.

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[5] Asian Development Bank

- ADB-assisted Palawan Integrated Area Development Project (Loan No. PH-P1033-PHI/PH-P1034-PHI)

  This project involves rehabilitation/construction of 501 km of feeder roads and 78 km of main road traversing areas with great potentials for development. The project will serve primarily small farmers as well as support the programs of other sectors of the government such as irrigation, fish landings and agricultural centers to enhance the development of the province.

- Japanese grant-assisted Bridge Reconstruction Project

  This project involves construction of permanent bridge structures over rivers and streams along rural roads that are either unbridged or whose existing structures are weak or temporary, posing danger to vehicular traffic.

- USAID-assisted Rural Infrastructure Fund (RIF) Project

  The RIF Project involves construction/improvements of 25 road sub-projects measuring 476 km in length and one bridge of national and regional significance. This program package is envisaged to boost the socioeconomic development in the rural areas with high potentials for growth.

- Sorsogon Integrated Area Development Project, Road Component, (PHI-915 (SF)/ADB)

  This project involves improvement/rehabilitation of 69 km of national roads and 87 km of local roads supportive of the programs of the other sectors of the government that will stimulate the economic development of the province.

1.3.2. New projects

1.3.2.1. Roads

- Rural Road Network Development Project Phase II, 18th Yen Loan Package

  This project involves rehabilitation, improvement and new construction of national secondary roads, provincial roads and barangay roads in the provinces of Abra, Ilocos Norte, Ilocos Sur, Cagayan, Nueva Vizcaya, Pampanga, Zambales, Mindoro Occidental, Romblon, Camarines Sur, Antique, Capiz, Siquijor, Leyte, Eastern Samar, Zamboanga del Sur, Agusan del Norte, Misamis Oriental, Davao Oriental and North Cotabato. The project aims to develop rural road networks in order to promote regional industries and agricultural activities that contribute to improvement in living standards of inhabitants, especially in the rural areas.

1.3.2.2. Ports

The DPWH program for ports includes development/improvement of a number of ports that are components of the on-going foreign-assisted Integrated Area Development (IAD) Projects, including:

- Kuwait-assisted Feeder Ports for Small Island Provinces (Loan No. 8965865)

  This program covers rehabilitation/construction of port facilities located in the small island provinces of Camiguin, Camotes, Guimaras, Siquijor and Siargao whose scopes of work will involve the following: a) construction of about 80 m pier, b) extension of causeways, c) reclamation for open storage area facility, d) construction of about 280 m of seawall, and e) provision of navigational aides. The project is aimed to provide an integrated and effective transport system for the expeditious movement of goods and people on the above-mentioned island provinces that are at present inadequate to cope with the transport demand for the development of the areas being served.

- USAID-assisted Rural Infrastructure Fund (RIF) Project (Grant No. 492-0420)

  This program aims for the improvement/construction of 25 municipal feeder ports on islands located in Regions II, III, IV-B, V, VII, VIII, X and XI, where land and air transport facilities are not viable for the conveyance of essential commodities, basic public services and markets access. The activities for 1993 consist of the construction/improvement of four municipal feeder ports and the completion of work of three ports with funding programmed in prior years.

1.3.2.3. Rural water supply

The program for water supply will focus on the continuation of on-going foreign-assisted projects and will increase the extent of the rural population served with potable water. The physical targets for 1993 will cover the construction of 5,705 shallow wells, 4,410 deep wells, 40 rain collectors and development of 260 springs, and rehabilitation of 1,440 wells to benefit an estimated rural population of 1.39 million.

1.3.2.4. Urban infrastructure

Attention is also given in the proposed 1993 DPWH program to the critical infrastructure needs of strategic urban centers that are being developed as viable markets as well as industrial and service centers in the countryside. Apart from this, basic infrastructure facilities such as roads, drainage and sanitation are also being attended to in blighted urban areas.

Projects that are being implemented under the urban infrastructure program include:

- Metro Manila Infrastructure Utilities and Engineering (MMINUTE) Project, Phase II

  This program is envisioned to provide the basic infrastructure needs like water supply, sanitation, roads and drainage in about 40 cities/municipalities in Metro Manila, Bulacan, Rizal, Laguna and Cavite. It is expected to benefit about 3.9 million people living in densely populated urban centers. The projects to be implemented for CY 1993 consist of 68 km of minor and major

drainage including dredging and riprapping of river sides and construction/ improvement of 113 km of streets.

- Regional Cities Development Project (RCDP)

  Under this IBRD-assisted project, which is also aimed to improve the basic infrastructure needs of the urban poor to stimulate economic decentralization and regional growth in the cities of Bacolod, Iloilo, Davao and Cagayan de Oro; the activities for 1993 will consist mainly for the completion of carry over works funded in previous years and preparation of post completion report.

- Program for Essential, Municipal Infrastructure Utilities, Maintenance and Engineering Development (PREMIUMED Phase I)

  This program seeks to provide basic facilities such as roads, flood control and drainage in 42 growth centers nationwide. The development of these growth centers will provide viable markets of adjoining municipalities as well as induce the establishment of industries and other services in the countryside.

  Phase II of the program is basically an expansion of Phase I, with an objective to provide basic facilities such as roads and bridges, drainage, and flood control/shore protection in about 100 cities/municipalities. The program will also provide for national roads and major drainage in about 12 cities/municipalities that have high potential for growth development that will service the markets, commercial and industrial needs of adjacent municipalities/areas.

  In addition to the described national components of the PREMIUMED program, which are funded and implemented through DPWH, supplemental program activities proposed under PREMIUMED II include:

  - local infrastructure components such as public markets, slaughterhouses, bus terminals, health centers and school buildings;
  - a maintenance planning and implementation program;
  - real property tax administration (i.e. preparation of tax maps)
  - a municipal training program to include an environmental assessment component; and
  - technical assistance.

Various phases of the PREMIUMED program are relevant to assessment of the LGIF Project and will be discussed further in subsequent sections.

1.3.3. Economic Support Fund (ESF) infrastructure program

The Economic Support Fund (ESF) was initiated in 1980 with US funding levels established in the periodic reviews of the RP-US Military Bases Agreement (MBA). As of February 1991, a total of $1.2 B has been obligated by the US government for the overall ESF program, of which approximately 22 percent has been administered by the ESF Secretariat (ESFS), an independent body under the Office of the President, with the remaining 79 percent administered by various line agencies.

As of August 1991, over $182 M has been expended through the ESF Secretariat for the construction of over 4,000 small-scale infrastructure facilities in all regions of the country. A distribution of the completed ESFS infrastructure projects by type and cost is provided in Table 1-6, which indicates that the majority of infrastructure projects completed under the ESFS were elementary school buildings (58 percent), followed by roads (30 percent), and other project categories including secondary school buildings, large-scale public markets, community health centers and hospitals, slaughterhouses and other miscellaneous facilities.

With termination of the RP-US Military Bases Agreement (MBA) and corresponding funding obligations, the USAID-funded operations of the ESFS ended in August 1992.

Table 1-6 Composition of completed ESFS infrastructure projects, 1981-1990

Type	Total completed projects	Total project costs
Elementary schools	58%	32%
Roads	30%	24%
Markets	1%	21%
Secondary schools	3%	16%
Others	8%	7%

Source:ESFS, 1991. Local Government Infrastructure Fund Design Report. Prepared by Louis Berger International, Inc., and TCGI Engineers.

1.4. The LGIF project

A description of the proposed LGIF Project is provided here based on available documents, including the Amplified Project Description (update No. 7, dated August 31, 1991) and the Request for Technical Proposals (RFTP) No. 492-92-014, issued for project on February 21, 1992 (Appendix D).

1.4.1. Objectives of the LGIF Project

Background studies conducted for the LGIF Project identify the lack of adequate physical infrastructure at the local level as a major impediment to dynamic economic growth in the Philippines today. Identified constraints include inadequate transportation (i.e. roads) and support (i.e. public markets, schools) infrastructure.

In response to a tighter national budget and the need to construct or rebuild infrastructure for a growing population, the Government of the Philippines (GOP) has recently shifted to a strategy of decentralization,

devolving authority and financial resources to local government, as prescribed by the Local Government Code of 1991 (Appendix G).

The basic objective of the LGIF Project is to promote private sector led growth and diversification by alleviating some of the infrastructure constraints in various provinces and chartered cities of the Philippines. In the process of assisting the localized construction of essential small-scale infrastructure, a complimentary objective of the project is to support GOP strategy of decentralization through implementation procedures to strengthen administrative capabilities of selected local government units (LGUs). Thus, the objectives of the proposed LGIF Project include both a product (small-scale infrastructure) and a process (decentralized implementation).

1.4.2. Project summary

Under the present Project Grant Agreement, USAID initially will make available up to $12 million for the LGIF Project. It is anticipated that this amount will be increased to $30.5 million during the 1992 fiscal year. At present, the estimated four years, Life of Project funding amount is $50 million. All funds provided under the LGIF Project are designated as grants.

For purposes of the LGIF Project, eligible local government units (LGUs) are defined as the provincial and chartered city governments. Component municipalities and barangays will not participate directly in the project but may participate through their respective provincial and city levels of government. Funding constraints will initially limit the prospective number of project participants to an estimated 20 to 30 LGUs. During the four-year life of the project, it appears unlikely that more than 60 LGUs will participate overall.

As proposed, each selected LGU will be offered a maximum budget allocation in the range of $1.2 million (₱30 million) to support the construction of small-scale infrastructure (sub-projects) to be selected, and proven feasible, by the LGU from a library of standard designs to be established by the LGIF-Project Management Office (LGIF-PMO). In addition to providing for direct construction costs, the LGIF Project will provide limited support for indirect costs, as illustrated in Table 1-7.

Table 1-7 Illustrative budget, LGIF Project

Component	Percent of Total Budget
Sub-projects	86
Technical assistance	8.5
Feasibility studies	2
Commodities	2
Training	1
Monitoring and evaluation	0.5
	100.0

Source:USAID, 1991. Local Government Infrastructure Fund, Amplified Project Description, August 31, 1991, Update 7 (Appendix D-6).

The maximal use of standard designs, availability of existing feasibility studies for a backlog of infrastructure proposals within the LGUs and anticipated efficiency gains emanating from a decentralized system of resource allocation is predicted to limit indirect cost demand. Standard design documents are favored in order to simplify the implementation process for the LGUs, as well as the overall project management process.

The actual number of sub-projects to be implemented under the LGIF Project is contingent on the eventual level of funding and the types of sub-projects selected by the participating LGUs. Based on anticipated types of sub-projects, which are described in Section 1.5, and average costs, it is estimated that between 80 and 200 sub-projects will be constructed over the four-year life of the project.

1.4.3. Proposed implementation process

Pursuant to an administrative assessment study conducted for the LGIF Project in 1991, by the consulting firm of Punongbayan & Araullo (USAID, 1991), the designated GOP implementing organization will be formed as a project management office, the LGIF-PMO, under the Department of Public Works and Highways (DPWH). The expected role of the LGIF-PMO will be to coordinate, facilitate and monitor project implementation, with actual sub-project implementation delegated as a responsibility of the proponent LGU. The LGIF-PMO will thus function as a manager rather than an implementor and staffing will be limited to the minimal number of government employees needed to monitor project implementation.

The Punongbayan and Araullo report recommended a small implementing organization, divided into three major administrative components -- operations, finance and administration, and management information systems. The recommended operations component would provide planning, technical reviews, engineering support, construction oversight, legal services, and training guidance. In concurrence with 1991 administrative assessment finding, USAID has solicited for an "in-house" consultant, or consultant

team, to perform the day-to-day work of the LGIF-PMO. Appendix D-2 provides a copy of the Request for Technical Proposal (RFTP), No. 492-92-014, issued on February 21, 1992. As previously mentioned, a contract award for consultant services to the LGIF-PMO is expected on or before September 1992.

Responsibilities identified within the issued RFTP for the in-house LGIF-PMO consultant include:

- collect and analyze baseline and impact data to establish project performance indicators;
- make recommendations for modifications and revisions to the project based upon actual operational experience and project evaluations;
- develop initial criteria, including initial thresholds for LGU participation in the project and rank order LGUs based on both need and performance;
- prepare standard designs, including contract documents and maintain an up-to-date library of such designs and associated sub-projects costs;
- review all sub-project activities for compliance with the environmental management/mitigation plan developed in the to-be-approved programmatic EA for the project;
- develop training programs or schedule trainings that take advantage of the Department of Interior and Local Government (DILG) training programs and institutions; and
- disseminate information to candidate LGUs regarding environmental screening criteria.

Based on available documents, the proposed implementation process of the LGIF Project is summarized in Table 1-8 and Figure 1-5.

Table 1-8 Proposed LGIF Project flow of events

1.	LGIF-PMO establishes selection criteria
2.	USAID approves selection criteria
3.	LGIF-PMO informs potential candidates of LGIF Project and seeks expressions of interest
4.	LGU selection process
5.	USAID approves list of selected LGUs
6.	Planning budget established for each selected LGU
7.	USAID approves budgets for each LGU
8.	Each LGU submits its list of candidate sub-projects
9.	LGIF-PMO conducts environmental reviews of candidate sub-projects
10.	USAID concurs with environmental reviews and list of candidate sub-projects
11.	LGIF-PMO develops list of prequalified architectural-engineering (A-E) firms
12.	USAID concurs with list of prequalified A-E firms
13.	LGIF-PMO authorizes funding for feasibility studies **For those candidate sub-projects for which the LGU does not already have a feasibility study completed in a form acceptable to the LGIF-PMO, project funds may be authorized for development of a new study or to update or upgrade a previous study.**
14.	LGUs contracts for feasibility studies
15.	LGIF-PMO and USAID review completed feasibility studies **Feasibility studies must demonstrate that a sub-project is financially viable, economically justified and technically and environmentally sound if it is to be funded under the LGIF.**
16.	LGIF-PMO develops list of prequalified construction contractors
17.	USAID approves list of prequalified construction contractors
18.	LGUs make final selection of sub-projects and submit to LGIF-PMO
19.	LGIF-PMO develops mutually agreed-upon sub-project costs
20.	USAID approves mutually agreed-upon sub-project costs
21.	LGUs select A-E firm for site adaption and construction management and engineering services (CMES)
22.	LGIF-PMO and LGUs enter into sub-project agreements **The agreement will specify standards of design and construction and contracting procedures; establish schedules for construction and fund disbursement and reporting requirements; and describe in detail refund procedures in cases of poor performance or nonperformance.**
23.	USAID approves sub-project agreements
24.	Quarterly advances issued to LGUs
25.	A-E firms site-adapt standard designs
26.	LGUs contract for civil works
27.	LGIF-PMO approves executed contracts for civil works

Source: USAID, 1992, LGIF Project Flow of Events (Appendix D-7).

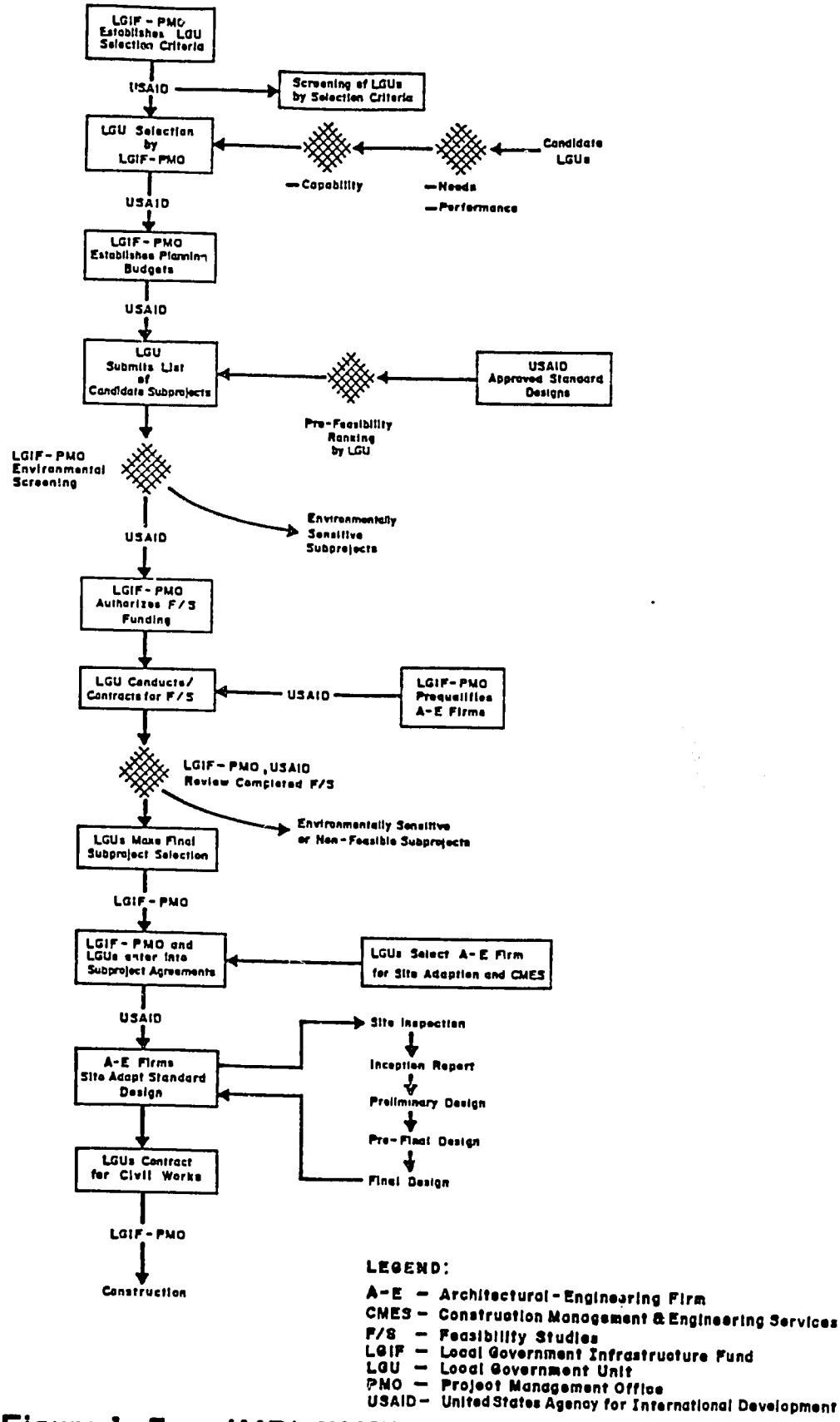

Figure 1-5 IMPLEMENTATION PROCESS OF THE LGIF PROJECT

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A senior-level implementation review committee (IRC) will also be established to monitor overall project implementation and achievement of identified decentralization objectives. This committee would meet quarterly to assess implementation progress of the LGIF-PMO and the participating LGUs, and to formulate corrective action where necessary. As proposed, the IRC would be chaired by an Undersecretary from DPWH and include as members representatives from USAID, as well as three or four government agencies such as the following:

- DBM (Dept. of Budget and Management);
- NEDA (National Economic and Development Authority);
- DOF (Dept. of Finance);
- Office of the President; and
- DILG (Dept. of Interior and Local Government).

As an identified guiding principle, the IRC would serve to ensure, through its review process, that an equitable balance of LGUs was selected to achieve a broad distribution of benefits, on a nationwide basis, in accordance with the project objectives.

The LGIF Project will follow a performance-based disbursing method in lieu of the traditional cost reimbursement method. As such, funding releases to LGUs will be based on sub-project performance rather than reimbursement of payments to contractors.

1.4.4. LGU selection and screening process

An important role of the selected in-house consultant to the LGIF-PMO will be to further define and finalize the specific parameters of the LGU selection and screening process. One objective of this draft programmatic EA is to provide recommendations for additional, environmentally-related parameters as screening criteria.

A two-stage screening process is proposed to fulfill a project goal of selecting LGUs based on need, capability and performance. The first stage of the process will attempt to rank applicant LGUs according to need (e.g., unemployment rates, average family income, number of students per classroom) and performance, based on tax collection efficiency. The second stage of screening would consist of a capabilities assessment of the LGU to be conducted by a local certified public accounting firm to determine:

- the ability to account properly for funds;
- past performance with donor funded and/or centrally funded infrastructure projects;
- contracting capability;
- project management capability; and
- technical depth of the LGUs personnel.

A representative example of the proposed LGU selection and screening process is provided in the Local Government Infrastructure Fund Design Report (ESFS, 1991).

Because of the traditionally centralized implementation of infrastructure projects in the Philippines and the preliminary stage of devolution of administrative responsibilities under the Local Government Code, it is expected that some needy LGUs could fail to qualify under the second level of screening - proven

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capability. To address these deficiencies, the proposed LGIF Project provides funding for the LGIF-PMO to organize and/or coordinate training programs to enable these LGUs to participate in the project.

1.4.5. Natural disaster component

In recognition of demands of recent national calamities, the LGIF Project may also fund emergency reconstruction of small-scale infrastructure facilities damaged as a result of natural disasters that could occur during the life of the project. Because of the potential need to reconstruct damaged or destroyed facilities as quickly as possible, contracting and implementation activities related to emergency construction would be undertaken by the LGIF-PMO directly. The implementation process for the natural disaster component may follow the procedures developed under the Mt. Pinatubo Emergency-Project Management Office (MPE-PMO) of DPWH, which includes the following steps:

- Site verification of need;
- Coordination with other agencies;
- Preparation of tender documents;
- Contract awarding;
- Construction, with site adaptation of standard plans performed by the contractor; and
- Construction monitoring by the PMO and USAID.

1.5. Proposed LGIF sub-projects

Under the LGIF Project, five groups of sub-projects are identified as eligible for funding. These are public markets, roads, school buildings, slaughterhouses, and community health care facilities[6]. Determination of the composition and make up of the LGU's proposed mix of sub-projects will be left to the LGU; only the ceiling on funds available to the LGU has been placed by the project.

The following sections describe each of the sub-projects in terms of engineering parameters. It should be noted that these sub-projects are not unique to the LGIF Project; rather there has been extensive experience in the design and implementation of such sub-projects both through prior USAID-assisted projects (including the ESF Program) and through the programs of other donors (such as the World Bank-assisted PREMIUMED Program). The standard designs for the sub-projects under consideration were developed recognizing and incorporating the body of experience gained over the years with such projects.

1.5.1. Public market modules

Existing public markets are typically constructed of ordinary materials (concrete, timber, steel and galvanized iron (GI) roofing sheets) and serve as the principal means of distributing foodstuffs and dry goods in most Philippine communities. While efficient in fulfilling their distribution role, maintenance of the markets has frequently been neglected as a result of funding constraints confronted by local governments and often lack adequate and secure water supplies, basic sanitary and solid waste management facilities, adequate drainage systems, and space for vehicle parking or pedestrian access.

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6 As described within the project descriptions (Appendix D) community health care facilities will primarily be considered under the Natural Disaster Component of the LGIF Project.

To meet the needs of communities that either have no existing public market, require expansion of the public market, or whose market requires rehabilitation, the LGIF Project has included a public market sub-project component. The following types of public markets are included in this component:

- Type I -- a wet/dry market with carinderias (4), dry goods stalls (8), fruit and vegetable stalls (12), fish stalls (8), and meat stalls (8). Type I markets have a floor area of 415 m^2;
- Type II -- a dry market with 32 dry goods stalls occupying a 415 m^2 floor area;
- Type III -- a wet market with both fish stalls (32) and meat stalls (32) occupying 415 m^2 floor area; and
- Small markets, open in design (having only a skeletal structure and a roof) and with 242 m^2 of floor area.

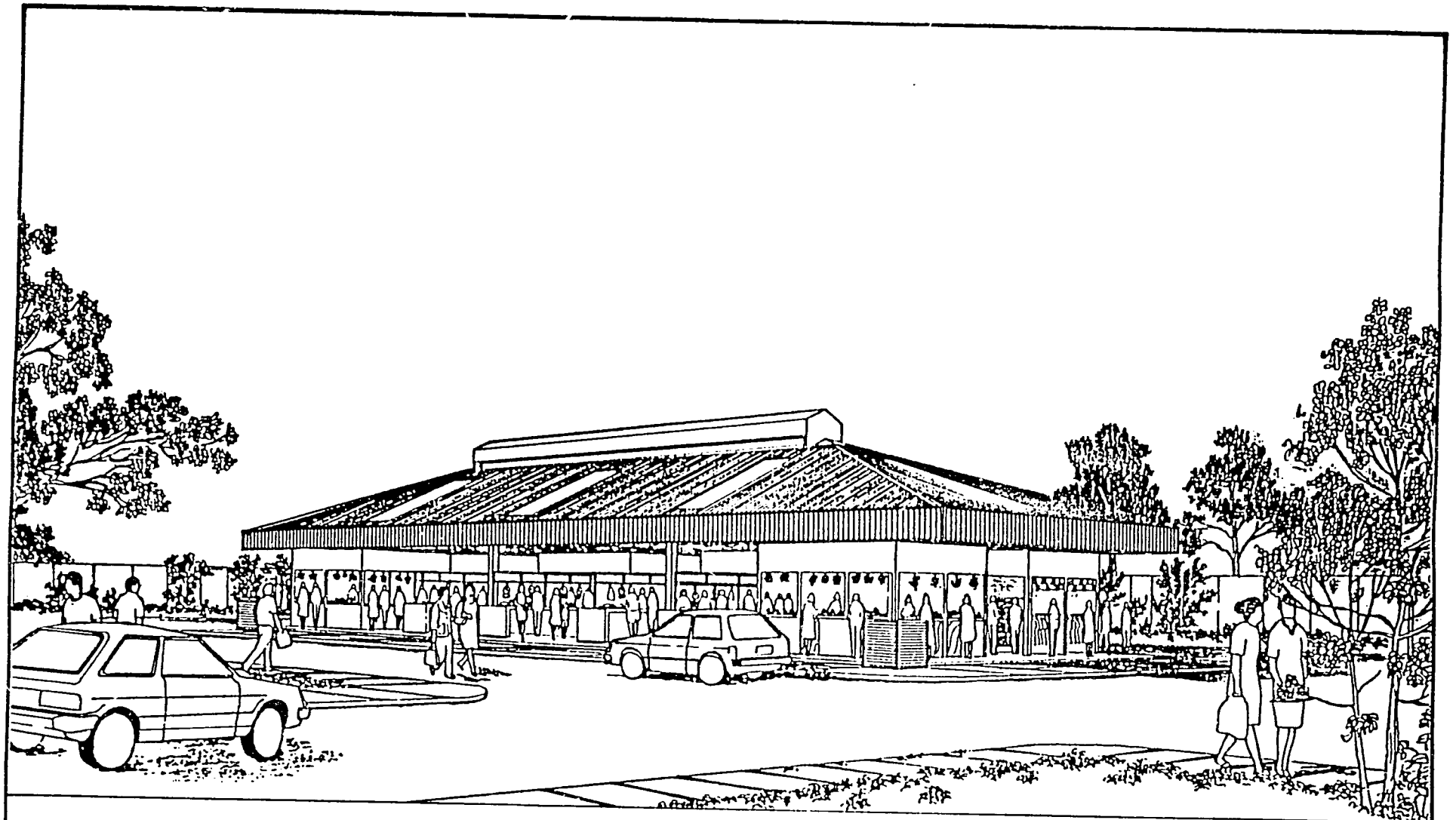
Types I, II and III public market modules are locally classified as medium size (Class B) as a result of the provision of a limited number of stalls; they may be constructed either as comprehensive public markets (normally these serve as the main public market for a community) or as open markets (these are non-comprehensive markets with only a roof or specific facilities provided). The plan view and typical floor plan for three types of markets under consideration are shown in Figures 1-6 to 1-9. Following a modular approach, it is anticipated that these market designs may be used independently or compatibly to form a larger public market complex, as illustrated in the schematic site development plan of Figure 1-10.

USAID has gained considerable experience in design and construction of public markets in the Philippines. Under the economic support fund infrastructure program, 23 large public markets were constructed throughout the Philippines. The smaller, modular designs proposed by the LGIF Project were developed under the auspices of the ESF program.

Sites selected for development of public market sub-projects under the ESF infrastructure program met the following criteria:

- within 100 meters of the major commercial area in the town;
- in proximity (within 15 meters) of public transportation route;
- have available space (30 percent of floor area) for future expansion of the market;
- compatible with zoning requirements;
- have access to water supply and electricity to adequately meet demand from the market; and
- free from major sources of pollution and contaminants.

The proposed public market modules are essentially one-story buildings, constructed on reinforced concrete slab foundations with structural steel columns, open web girders and trusses, and a galvanized steel roof (Table 1-9). Similar to the schematic site development plan provided in Figure 1-10, it is anticipated that all public market sub-projects will be provided with supplementary facilities such as drainage, water supply adequate to meet forecast demand, electric power connections, sanitation facilities (toilets, plumbing, and treatment/disposal facilities) administrative offices, an open area for ambulant



PERSPECTIVE

Figure 1-6 STANDARD PUBLIC MARKET
TYPE I (WET and DRY MARKET)

Source: ESFS Standard Plans

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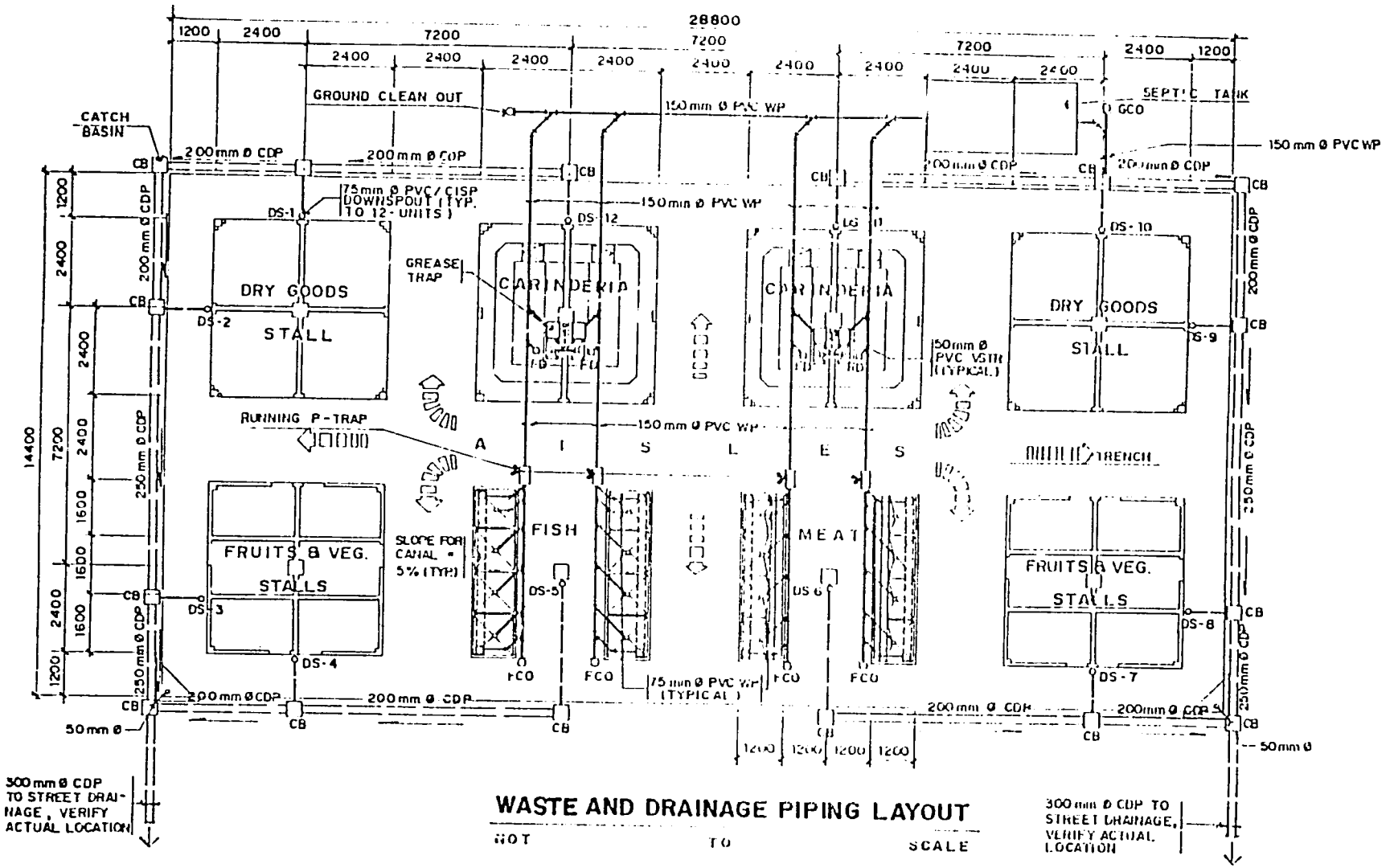


Figure 1-7 STANDARD PUBLIC MARKET
TYPE I (WET and DRY MARKET)

Source: ESFS Standard Plans

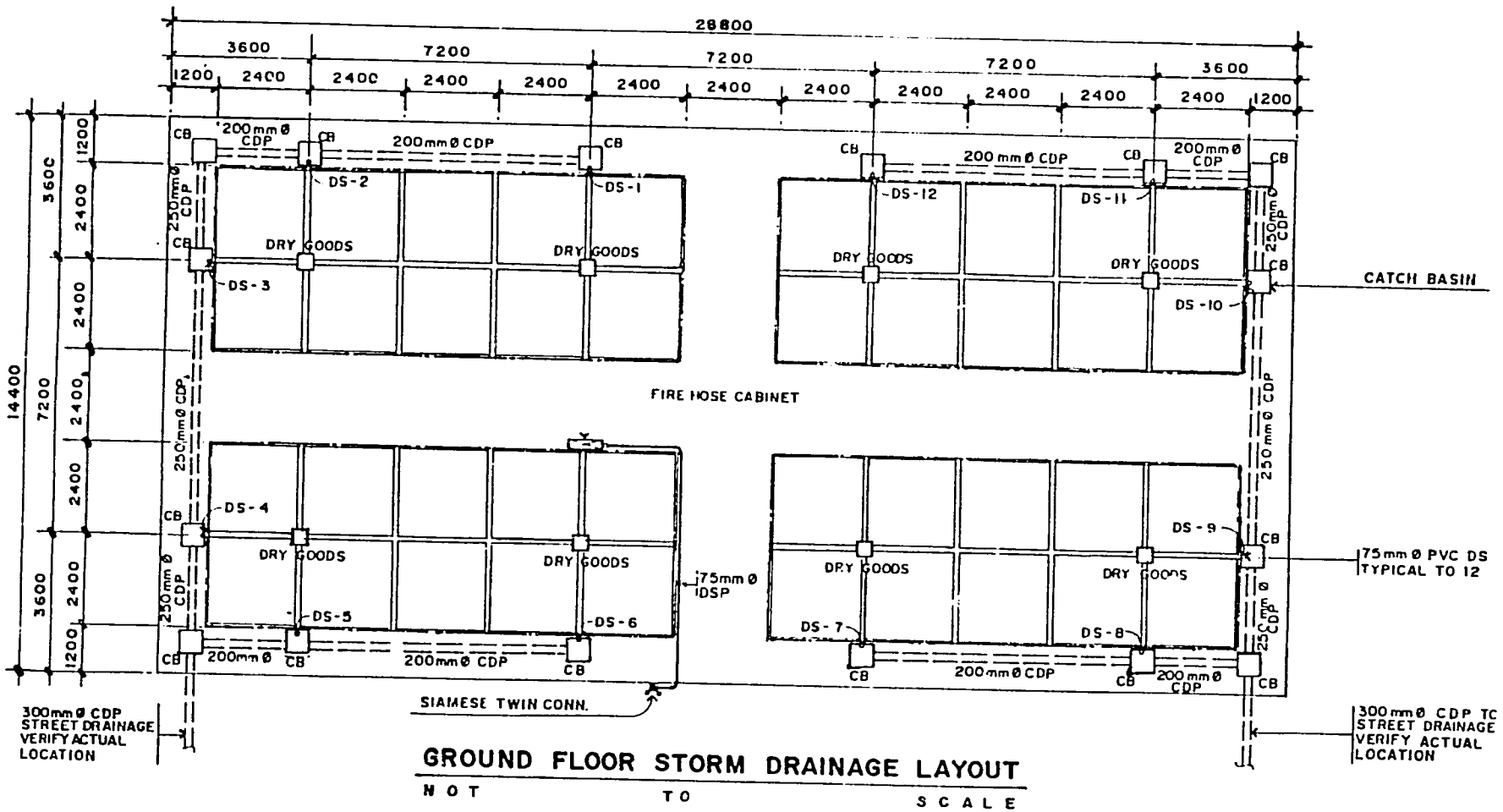
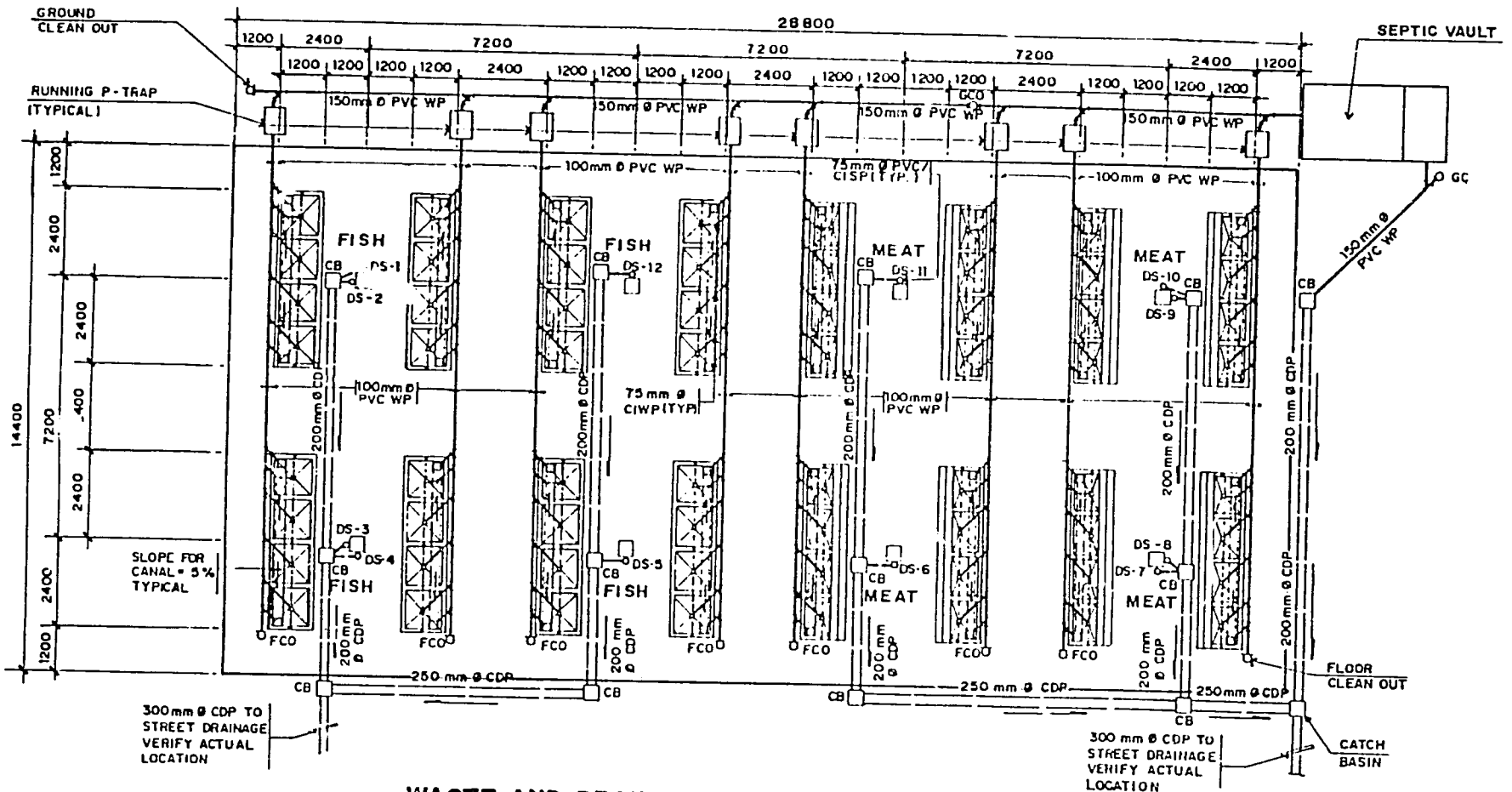


Figure 1-8 STANDARD PUBLIC MARKET
TYPE II (DRY MARKET)

Source: ESFS Standard Plans



WASTE AND DRAINAGE PIPING LAYOUT

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Figure 1-9 STANDARD PUBLIC MARKET
TYPE III (WET MARKET)

Source: ESFS Standard Plans

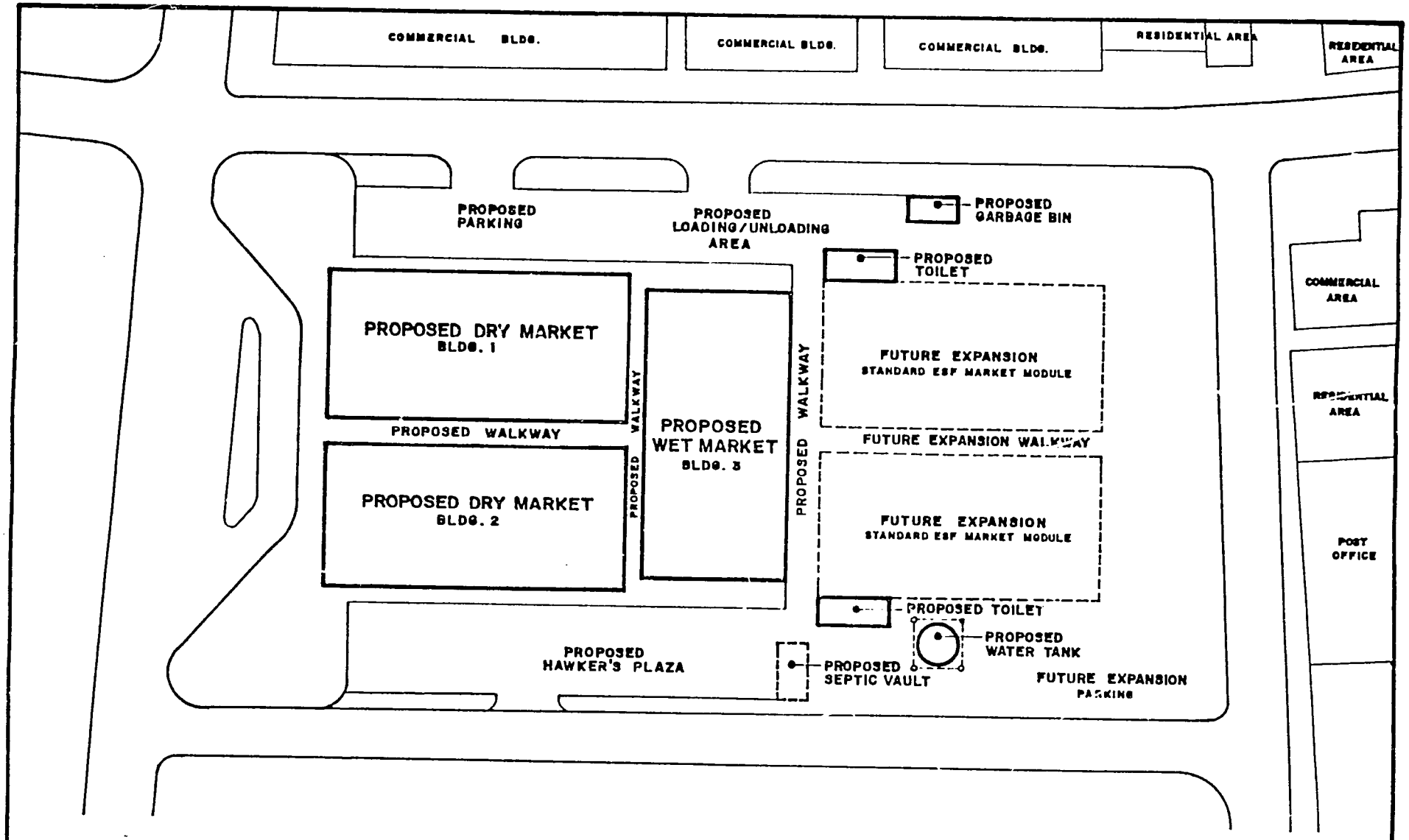

Figure 1-10 SCHEMATIC SITE DEVELOPMENT PLAN

Source: ESFS, Sta. Rosa, Nueva Ecija Public Market Site Plan

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Table 1-9 Typical material requirements -- public markets

Materials	Units	Type I	Type II	Type III
Structural steel	kg	15,600	15,600	15,600
Cement	bags	581	437	685
Rebar	kg	1,154	946	1,330
Sand	m^3	62	40	44
Gravel	m^3	73	51	72
Hollow block	pcs	4,980	1,800	7,200
Plywood	m^2	259	61	150
Lumber (form)	bd. ft	2,010	2,010	2,010
Lumber (good)	bd. ft	3,715	2,135	1,935
Roofing sheets	m^2	607	607	607

Source: ESFS Standard Designs, consultant estimates.

vendors (hawkers plaza) and a paved parking lot. Designs for all aspects of the public markets must be in conformity with the National Building Code of the Philippines.

Standard designs for the three types of public markets proposed under the LGIF Project follow a modular concept to facilitate site development and adaptation. The use of a modular system also allows for flexibility by making it possible to construct additions as they are needed in the future, while standardizing the construction process and material requirements. Available standard designs do not include anticipated supplementary facilities, such as sanitation facilities and administrative offices, which may be incorporated within the modular floor plans, or constructed as independent structures as portrayed in Figure 1-10. Chapter 4 includes the consultant's recommendations for the design of these supplementary facilities under the LGIF Project.

Estimated power requirements associated with the types of markets and associated components are shown in Table 1-10.

Standard design criteria requires that water supplied to the facility meet water quality standards for drinking water and that the development of the source conform to the National Standards for Drinking Water. The source for the water supply will be from existing public utilities or from deep wells. In cases where the public water systems are not able to meet peak demand for water, an independent water supply for the public market must be provided. Where the existing system is capable of meeting the demand for water, an elevated tank to store water during low demand periods would be installed.

Table 1-10 Daily electricity consumption (in kw-hrs)

Component	Type I	Type II	Type III
General lighting	25.0	25.0	25.0
Convenience outlets	57.6	38.4	76.8
Security lights	20.0	20.0	20.0
Administrative offices	10.0	10.0	10.0
Total	112.6	93.4	131.8

Source: Consultant estimates.

In terms of effluent treatment and disposal, standard specifications developed under the ESF infrastructure program allow for a total water consumption of 150 l (40 gallons) per market vendor per day. For the consultant estimate of the number of the potential market vendors and employees, the following ratios were used:

Type of stall	No. of employees per stall
- carinderia	3
- dry goods	2
- fruit and vegetables	2
- fish	3
- meat	3

Transients, such as shoppers, are not included in the calculation of water consumption, although toilet facilities are typically provided for their use. Consultant estimates place water consumption of transients and customers at six liters per day. Because of the general lack of sewerage systems, the treatment and disposal of liquid effluent generally is through the use of septic tanks, with the overflow discharged into municipal drains or receiving streams. Wastewater from the public market can be divided into two distinct sources: domestic wastewater from toilets and wastewater from floor and countertop washing and cleaning operations. In the case of Type I and III markets, these wastewaters will contain solid wastes from fish and meat markets. Consultant estimates for daily washing of wet market areas is 15 liters per day, per m^2.

Toilet facilities used in public markets are expected to be the pour-flush type, which uses 30 percent of the flushing water of a conventional flush toilet; this will result in higher BOD loads than would normally be encountered in typical municipal wastewater. Using less water serves to concentrate the BOD in the wastewater.

Wastewater from floor and counter cleaning operations in Type I and III markets will include wastes from fish cleaning and meat preparation activities associated with those markets. These wastes will include blood, meat, fish scales and offal. Wastewater sources, estimated volumes and resultant BOD loads are shown in Table 1-11.

Table 1-11 Public market wastewater sources, estimated volumes and BOD loads

Source	Type I		Type II		Type III	
Operations	No. of employees	Volume (l)	No. of employees	Volume (l)	No. of employees	Volume (l)
Carinderias	12	1,800	0	0	0	0
Dry goods	16	2,400	32	9,600	0	0
Fruit/veg.	24	3,600	0	0	0	0
Fish stalls	24	3,600	0	0	96	14,400
Meat stalls	24	3,600	0	0	96	14,400
Helpers, etc	10	1,500	5	750	10	1,500
Transients/customers	200	1,200	200	1,200	200	1,200
Wet market area	250 m^2	3,750	0	0	415 m^2	6,225
Total (l/day)	21,450		11,550		37,725	
BOD load/day	6.4 kg		3.5 kg		11.0 kg	

Source: ESFS Standard Designs, consultant estimates.

Solid waste management systems for public markets include collection and storage of garbage and refuse generated during the course of market operations. This waste normally consists of putrescible materials from the semi-wet and wet markets and vegetable stalls and food vendors that are not subject to recycling (most paper, glass, and other recyclable materials are traditionally recovered and sold). Serving as vectors for disease-bearing vermin (flies, rodents, etc.) and as a source of objectionable odors, these wastes must be collected daily and stored in properly covered containers. The off-site disposal of solid wastes from the market area, while not a direct function of market operations, on a regular and routine basis is essential to effective solid waste management.

1.5.2. School building sub-projects

With population growth in the Philippines in the range of 2.3 percent per year, there is a continuing need to add classrooms to the existing stock of educational facilities. In addition, there are growing needs for additions to the stock of facilities in terms of the types of educational facilities (such as science classrooms) available in smaller communities that do not have such facilities.

As with public markets, USAID has gained extensive experience in assisting the construction of various types of school buildings through the ESF infrastructure program. Under this program, more than 2,400 school buildings have been constructed (as of April, 1992) following standard designs that have been adopted by the LGIF Project.

Under consideration by the LGIF Project are the following types of school buildings:

- One-story building:
  - Three classrooms with a floor area of 144 m^2;
- Two-story building:
  - High-school science building with four classrooms, one laboratory, one library, one faculty lounge, lavatories and floor area of 780 m^2;
  - Ten classrooms with faculty lounge, lavatories and a floor area of 1071 m^2;
  - Twelve classrooms with faculty lounge, lavatories and a floor area of 1250 m^2;
  - Fourteen classrooms with faculty lounge, lavatories and a floor area of 1428 m^2;
  - Sixteen classrooms with faculty lounge, home economics room, lavatories and a floor area of 1912 m^2; and,
  - Eighteen classrooms with faculty lounge, home economics room, lavatories and a floor area of 2091 m^2.
- Three-story building:
  - High school science building with twelve classrooms, three laboratories, one faculty lounge, two sets of lavatories and a floor area of 1710 m^2.

Standard design for these school buildings specifies reinforced concrete slab foundations with reinforced concrete columns and beams, concrete hollow block walls, wood or steel trusses (multiple story structures are to use steel trusses), and pre-painted GI sheet roofing. The site would be provided with drainage, water supply, septic tanks and plumbing.

Table 1-12 provides an indication of the material quantities associated with representative types of school buildings. For school buildings of similar type (i.e., one-story, two-story or three-story construction), material quantities are multiplicative on the basis of floor area and classroom numbers. The quantities do not, however, include plumbing, electrical, or interior furnishings. The standard design for each of the school-building types are shown on Figures 1-11 to 1-14.

Table 1-12 Typical material requirements -- school buildings

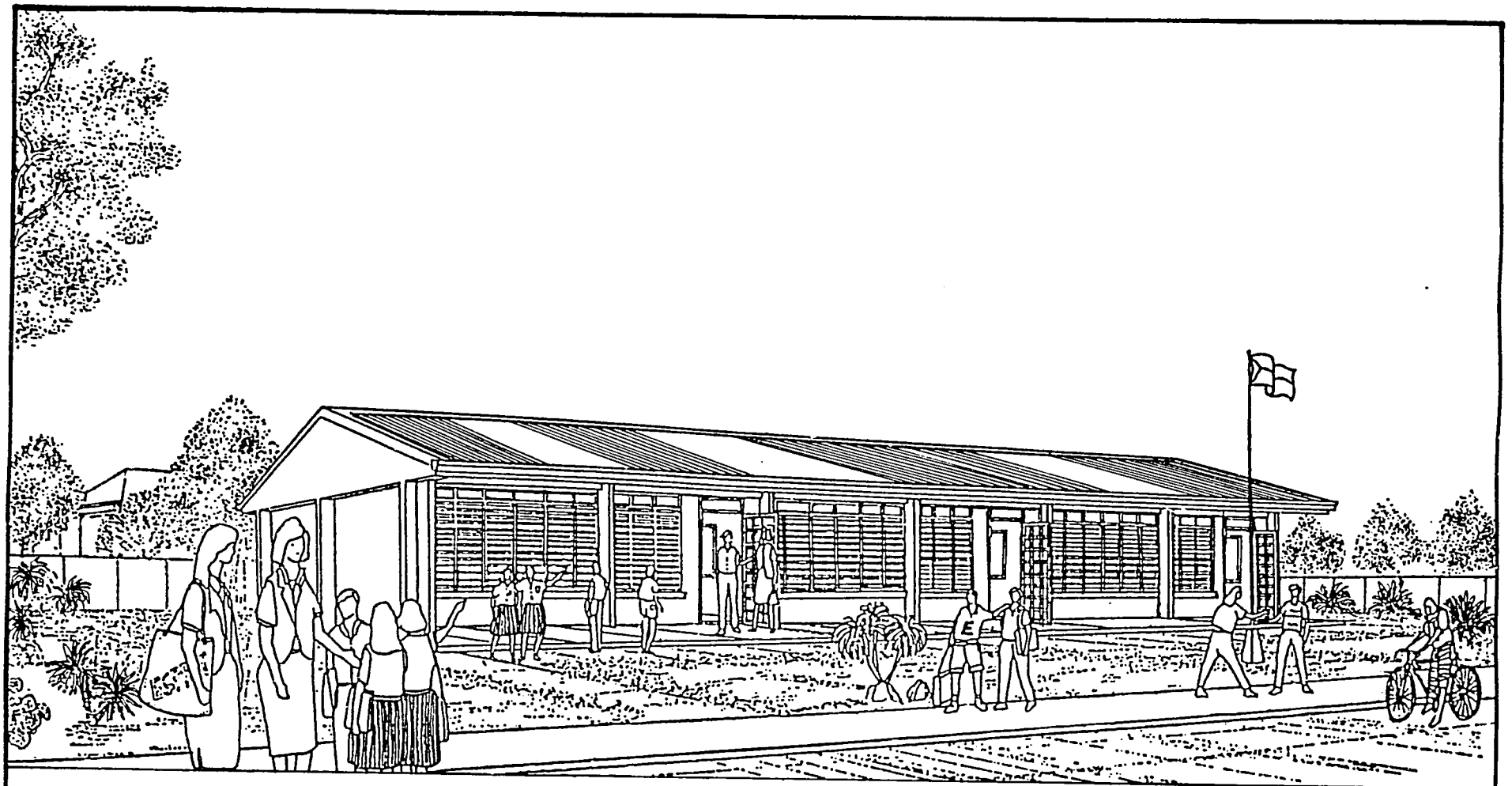
Materials	Units	1 Story/ 3 Classroom	2 Story/ 4 Classroom
Sand	m^3	42.5	247
Gravel	m^3	39	381.5
Cement	bags	538	3,428
Rebar	kg	1,235	10,116
Lumber (form)	bd. ft	2,090	13,730
Lumber (good)	bd. ft	1,000	2,500
Trusses (steel)	kg		5,600
Trusses (wood)	bd. ft	3,320	
Plywood	m^2	243	2,000
GI sheet	m^2	219	480
Hollow blocks	pcs.	2,275	6,100
Excavation	m^3	12	35

Sources: ESFS bid documents, consultant estimates.

Water supply for the school building sub-projects would be from community sources where such sources are capable of meeting the forecast water demand. Where sufficient water is not available to meet forecast water demand, either deep wells and/or cisterns with elevated storage tanks would provide water supplies. Water supplied to the school buildings must meet the National Standards for Drinking Water. The estimated demand for water, on a daily basis, is shown on the Table 1-13.

Additional amounts of water will be required to provide laboratories and home economics classrooms with their requirements.

The principal source of wastewater from the school buildings will be discharges from the lavatories. These facilities are expected to use pour-flush toilets (toilets that use less water than conventional flush toilets) that discharge into septic tanks. It should be noted that, from an examination of several schools during the course of this assessment, the consultant observed that lavatory facilities were less than acceptable as many had no water for flushing or were locked and accessible to the faculty only. Thus, provision must be made to insure that lavatories are accessible to both students and the faculty and that sufficient water is provided to insure that waste is discharged. Another problem that was observed was the inadequacy of the discharge and drainage systems; at one school the direct discharge of liquid effluents to an adjoining property was observed. Provision must also be made for the periodic cleaning of the septic tank, as this is a common failing throughout the Philippines when such systems are employed.



PERSPECTIVE

Figure 1-11 3-CLASSROOM ELEMENTARY / HIGH SCHOOL BUILDING

Source: ESFS Standard Design Projects

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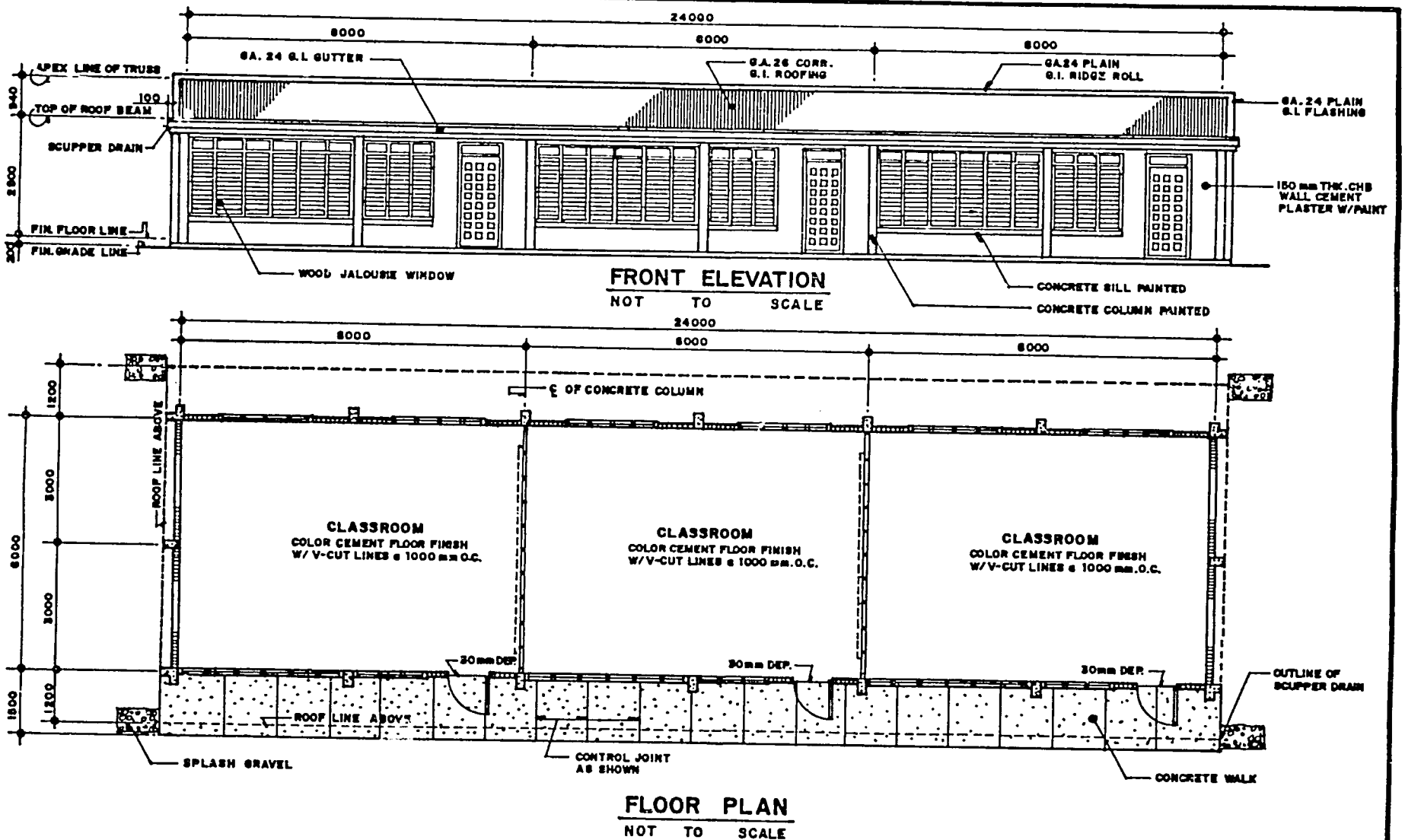
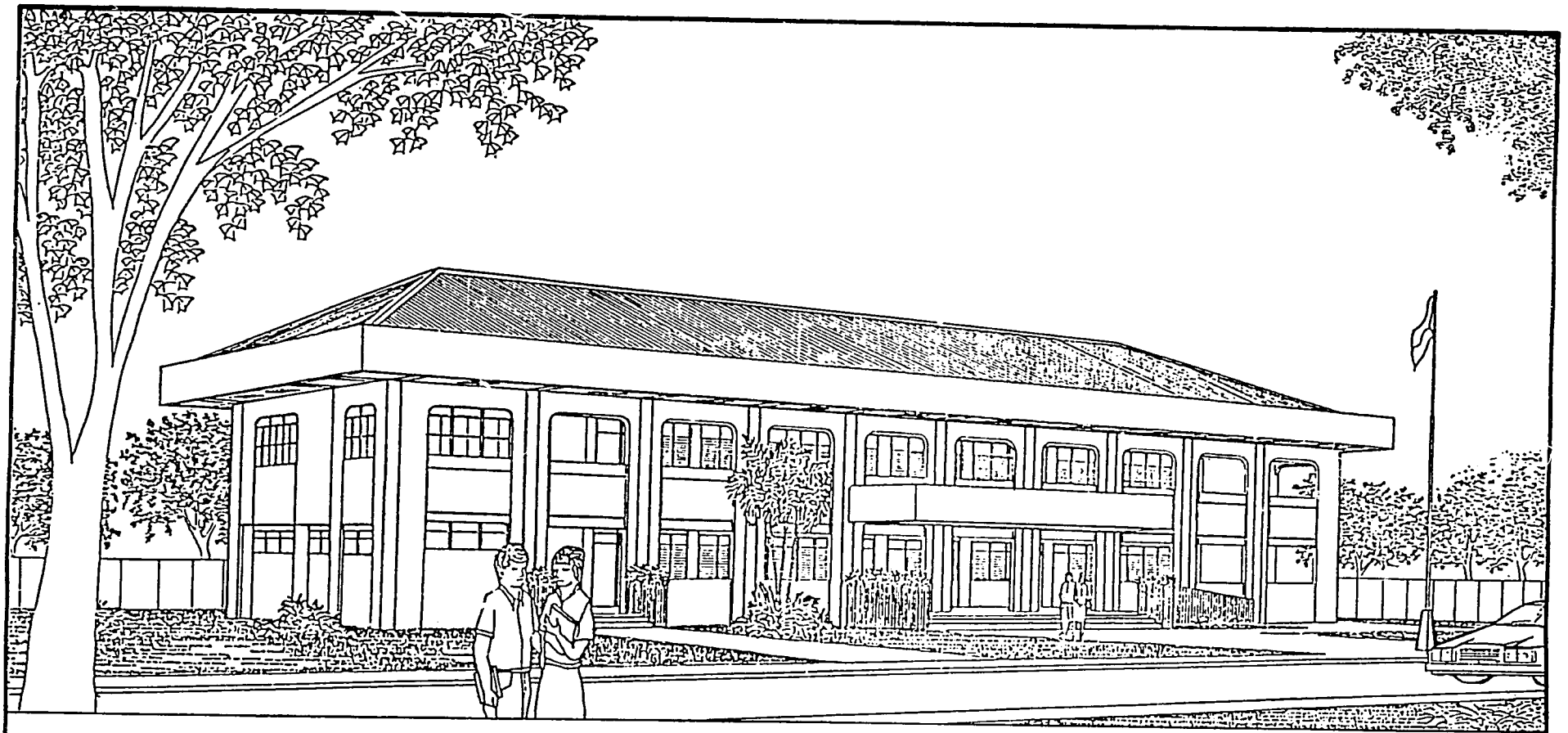


Figure 1-12 3-CLASSROOM ELEMENTARY / HIGH SCHOOL BUILDING

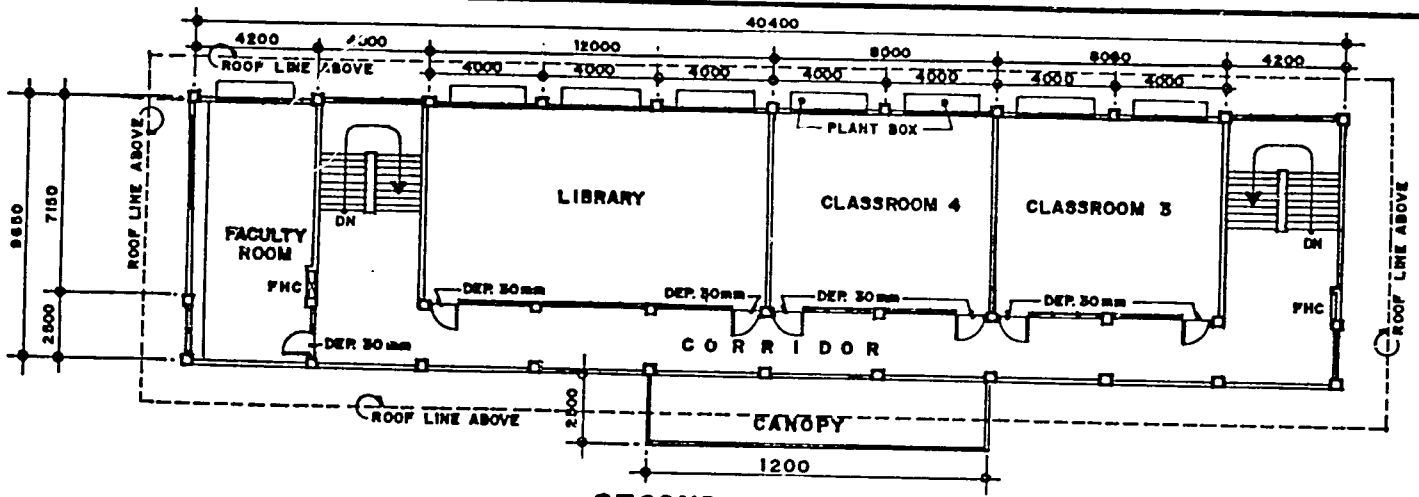
Source: ESFS Standard Design Projects



PERSPECTIVE

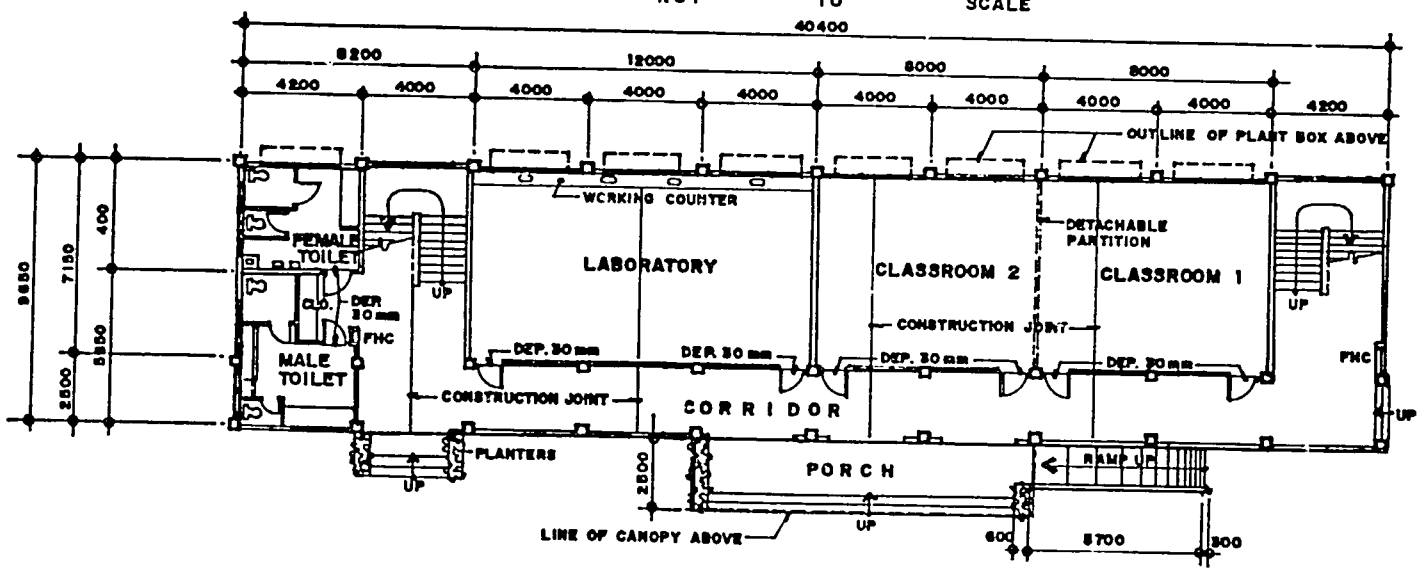
Figure 1-13 4-CLASSROOM HIGH SCHOOL BUILDING

Source: ESFS Standard Design Projects



SECOND FLOOR PLAN

NOT TO SCALE



GROUND FLOOR PLAN

NOT TO SCALE

Figure 1-14 4-CLASSROOM HIGH SCHOOL BUILDING

Source: ESFS Standard Design Projects

Table 1-13 Estimated water demand -- school buildings

Type	Student Population	Per capita demand (liters/day)	Water demand (liters/day)
3 classroom	123	20	2,460
4 classroom	164	20	3,280
10 classroom	410	20	8,200
12 classroom	492	20	9,840
14 classroom	574	20	11,480
16 classroom	656	20	13,120

Source: Consultant estimates.

In the case of wastes generated during operation of the school facility, much of the wastes are composed of putrescible materials and paper. The putrescible materials are largely composed of food waste from meals. In the case of high school science buildings, some quantity of toxic and/or hazardous chemicals will require appropriate management, including separate storage and disposal.

1.5.3. Road sub-projects

Recognizing the need for a community to have streets and roads in good condition, the LGIF Project has included a streets and roads component in the program. Types of road projects that will be considered under the LGIF program vary from improving and upgrading of existing roads to constructing small barangay roads that would improve access to roads with higher capacities to connecting sections between existing paved roads to segments of provincial arteries. The length of road improvements is expected to vary and could range from less than one kilometer to several kilometers, with anticipated length and construction complexities limited by basic budget considerations of the LGIF Project.

As with previous sub-project components, USAID has had extensive experience in the construction of roads in the Philippines. Under the ESF program, over 1,144 km of roads had been constructed prior to April 1992. These roads followed a standard design that has been adopted by the LGIF Project. Among the types of roads that would be considered under the LGIF Project, and typical unit costs for construction, are those shown in Table 1-14. Typical sections and perspectives for these road sub-projects are shown on Figures 1-15 to 1-17.

Table 1-14 Classification and description of proposed LGIF roads

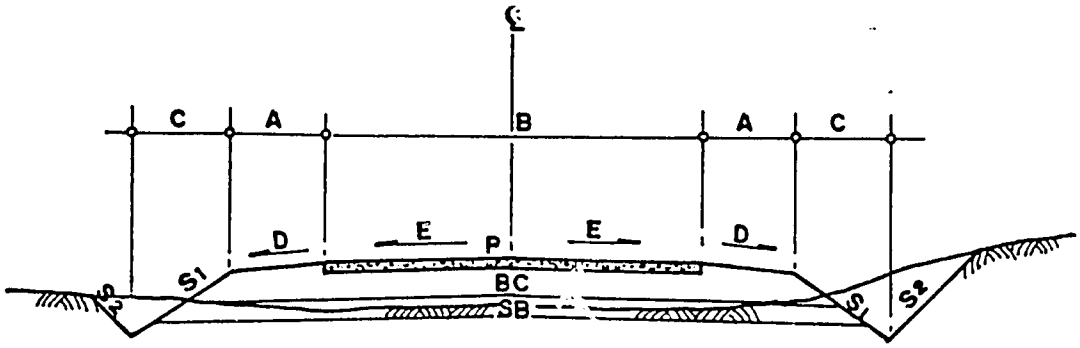
Type of road	Construction	Pavement Width (m)	Unit cost/km
Provincial	concrete with open side ditches	6	₱ 4.0 million
Provincial	gravel with open side ditches	6	₱ 2.5 million
Barangay	concrete with open side ditches	5	₱ 3.0 million
Barangay	gravel with open ditches	5	₱ 2.0 million
City	concrete with curb and gutter and storm sewer	6	N/A

Source: ESFS.

Most roads constructed in the Philippines, including those constructed under the ESF infrastructure program, have employed concrete pavement, which has a relatively low maintenance requirement. The lack of available funds for maintenance is, and has been, a chronic problem with respect to the upkeep of roads and other public facilities in the Philippines. The design parameters used for development of the standard design are shown on Table 1-15.

Bridges constructed as part of the LGIF Project will also be subject to the standard design developed under the ESF program. These will use precast concrete piles, foundations and reinforced concrete deck and girder. Abutments will also be constructed with reinforced concrete.

Estimated quantities of materials used in the construction of one kilometer of barangay and provincial roads are shown in Table 1-16.



1. PROVINCIAL ROAD

DESIGNATION	PAVEMENT CHARACTERISTICS, P	
	GRAVEL (m.)	PCC (0.20m.)
A (MIN.)	1.50	1.50
B	6.00	6.00
C	1.50	1.50
D	4 %	4 %
E	2.5 %	2 %
S_1	1.5 : 1	1.5 : 1
S_2	1 : 1	1 : 1
BC (MIN.)	0.15	–
SB (MIN.)	0.25	0.30

2. BARANGAY ROAD

PAVEMENT CHARACTERISTIC, P				
GRAVEL (m.)	SBST (m.)	DBST (m.)	AC (0.05m.)	PCC (0.15m)
1.00	1.00	1.00	1.00	1.00
5.00	5.00	5.00	5.00	5.00
1.50	1.50	1.50	1.50	1.50
5 %	5 %	5 %	4 %	4 %
3 %	2.5 %	2.5 %	2.5 %	2 %
1.5 : 1	1.5 : 1	1.5 : 1	1.5 : 1	1.5 : 1
1 : 1	1 : 1	1 : 1	1 : 1	1 : 1
0.15	0.15	0.15	0.15	–
0.30	0.20	0.20	0.20	0.30

LEGEND:

AC – ASPHALTIC CONCRETE
PCC – PORTLAND CEMENT CONCRETE
SBST – SINGLE BITUMINOUS SURFACE TREATMENT
DBST – DOUBLE BITUMINOUS SURFACE TREATMENT
BC – AGGREGATE BASE COURSE
SB – GRANULAR SUB-BASE

Figure 1-15 TYPICAL ROAD SECTION

Source: ESFS Standard Design Projects

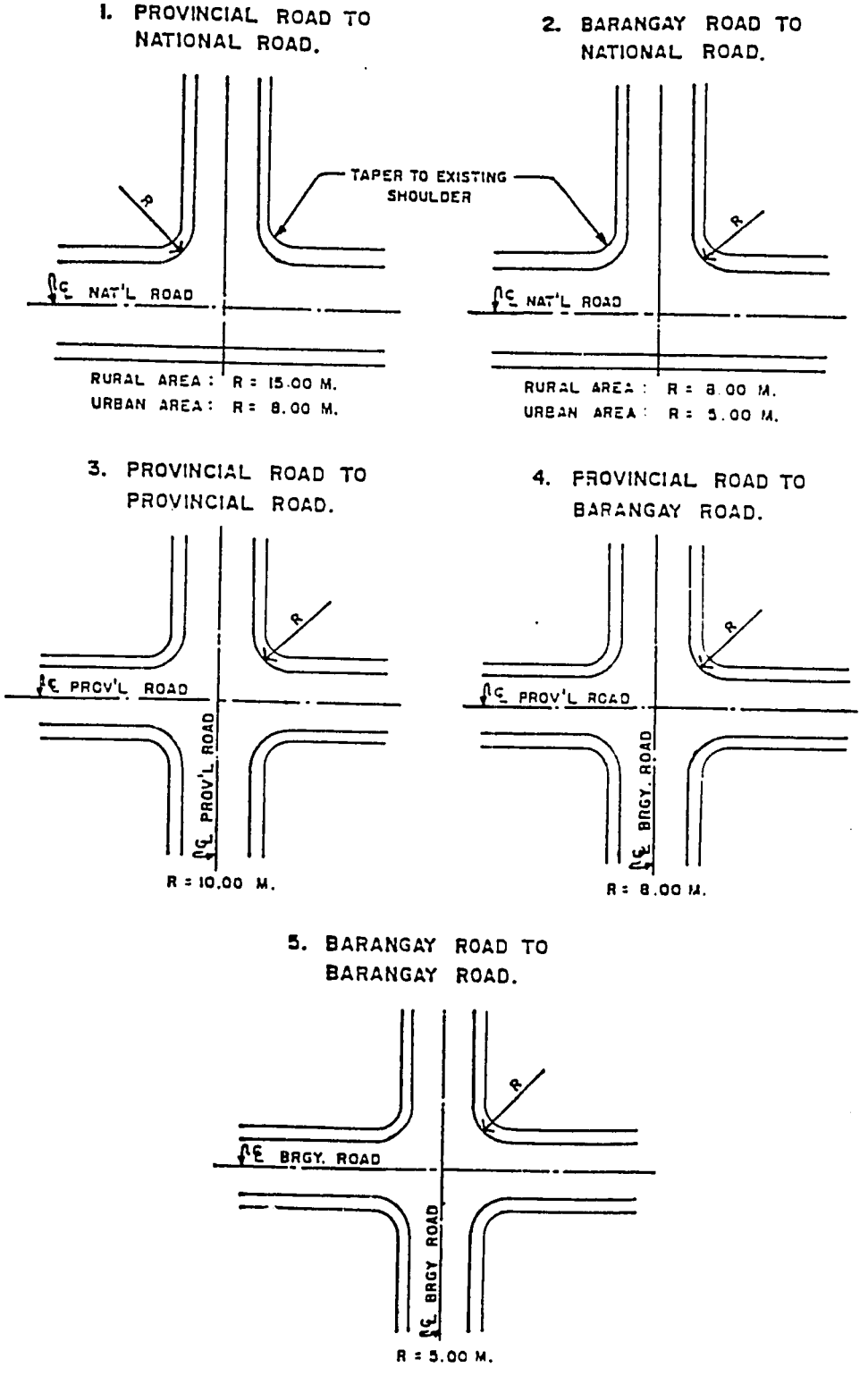
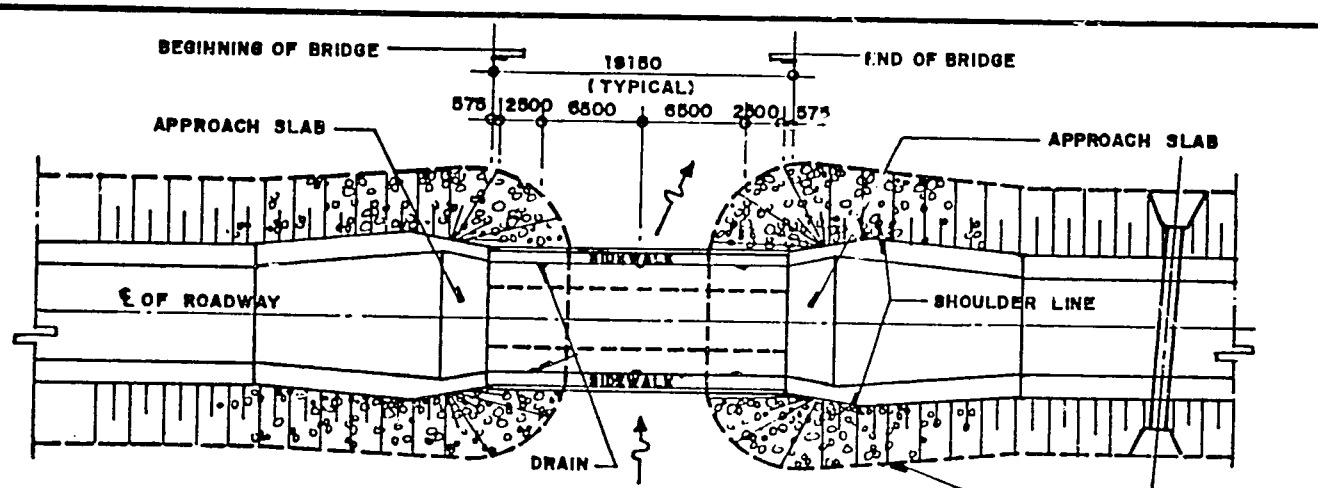
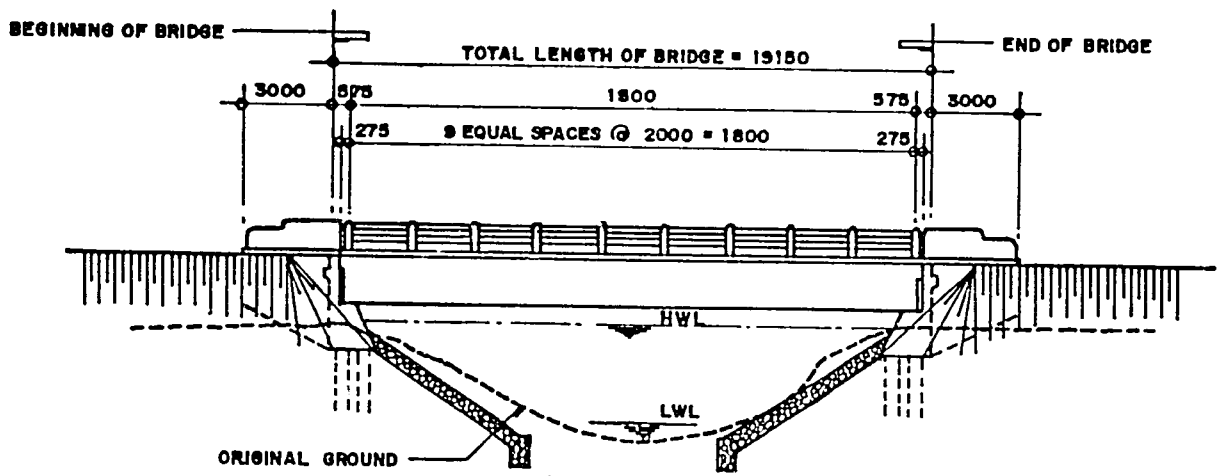


Figure 1-16 TYPICAL ROAD SECTIONS

Source: ESFS Standard Design Projects



BRIDGE
GENERAL PLAN
SCALE 1 : 500 M.



BRIDGE
GENERAL ELEVATION
SCALE 1 : 250 M.

Figure 1-17 BRIDGE GENERAL PLAN AND ELEVATION

Source: ESFS Standard Design Projects

Table 1-15 Design parameters (geometry) provincial and barangay roads

Terrain	Design speed (km/hr)	Maximum curvature (degree)	Curve radius (m)	Sight distance (m)	Maximum super elevation
Urban	35	37	31	47	0.09
Mountain	50	15	76	63	0.09
Rolling	65	8	145	90	0.09
Flat	80	5	229	137	0.09
Flat	100	3	328	212	0.09

Source: ESFS standard designs.

Table 1-16 Typical material requirements -- barangay and provincial roads

Material/activity	Barangay road	Provincial road
Clearing and grubbing	3,000 m^2	3,500 m^2
Excavated materials (not reused)	1,250 m^3	1,300 m^3
Embankments	5,500 m^3	6,000 m^3
Subbase aggregate (gravel)	2,000 m^3	2,250 m^3
Surfacing (concrete)	1,200 m^3	1,000 m^3
Drainage	120 m^3	120 m^3
Riprap	2,250 m^3	2,500 m^3

Source: Consultant estimates for roads in moderately rugged terrain.

Quantities presented above are representative of those for construction of a new road in moderate terrain. Many of the roads to be undertaken in the roads sub-project are, however, expected to be rehabilitations or upgradings of existing roads and that these will require replacement of subbase and concrete paving at most. Also expected to be proposed under the roads sub-project are widening of existing roads.

1.5.4. Slaughterhouse sub-projects

Many communities to be targeted under the LGIF Project serve as the marketplace for sale of agricultural commodities produced in their vicinity. These commodities include hogs and cattle; the former being comprised of individual (cottage), small, medium and large producers, the latter tending to be dominated by medium and large producers. In the absence of local slaughterhouses for the preparation of these meat products, much of the production requires live shipment to such facilities and incurs a loss in economic value through the weight loss attendant with shipping and by incurring transportation costs based on such

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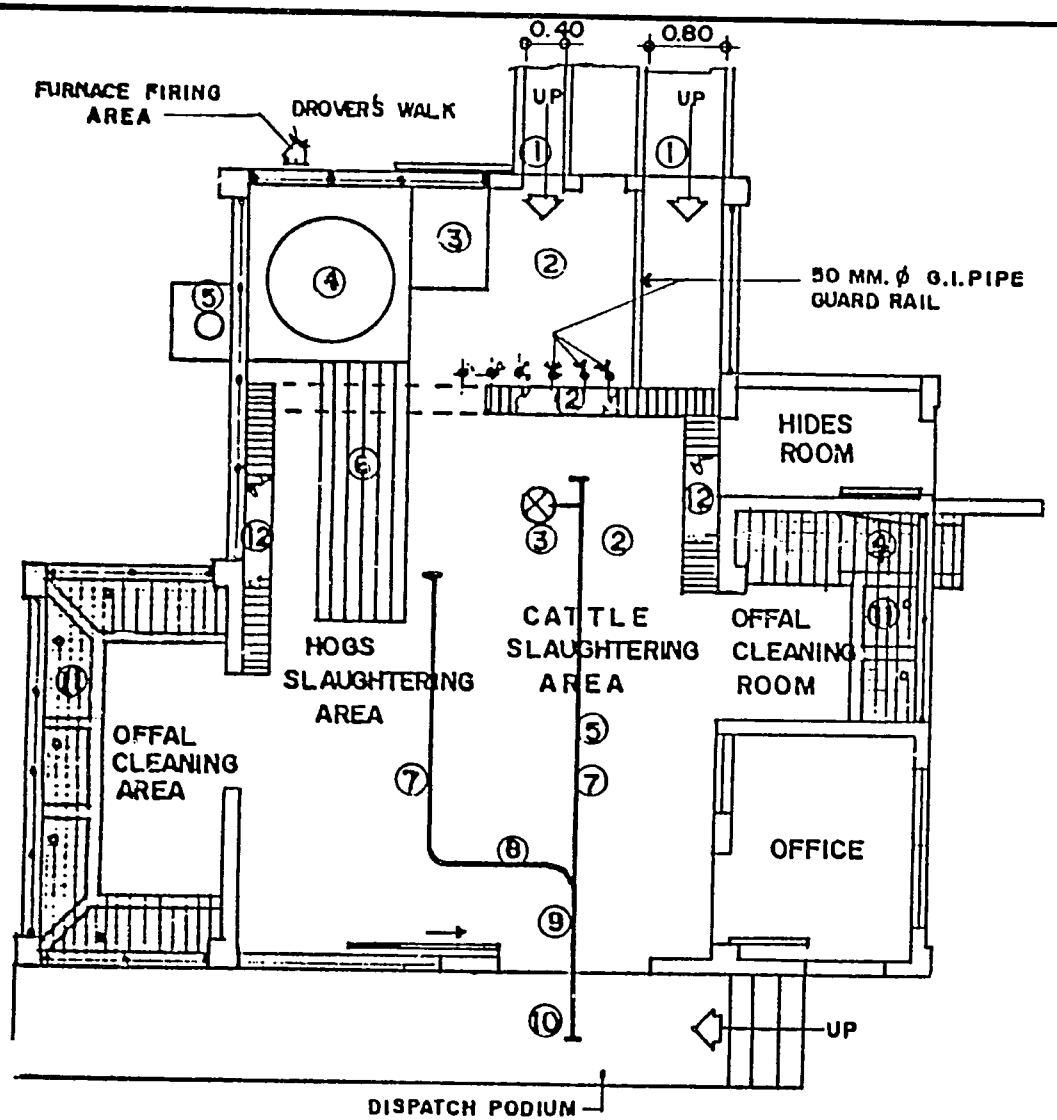
losses. If such facilities were available in closer proximity to the producer and to the purchaser (i.e. at the wet market rather than through sale to distributors), both producer and the consumer could benefit.

Slaughterhouses are initially classified by the National Meat Inspection Commission (NMIC) on the basis of the capacity of the facility to process animals and the size of the population that they serve (Table 1-17, Figures 1-18 to 1-20). Slaughterhouses under consideration in the LGIF Project are the smaller facilities, i.e. district slaughterhouses, that will serve the local wet markets of the community rather than export the meat to other areas. The conditions under which meat is processed in these small communities is frequently lacking in sanitation. Based on NMIC statistics, of the 846 slaughterhouses existing nationwide, only 27 percent meet the standards for accreditation, while 568 facilities are considered as substandard.

Table 1-17 Standard classification of slaughterhouses

Class	Population served	Animals killed per 8-hr day		Total live weight (kgs)
		Cattle	Hogs	
District	20,000	5	15	2,205
Satellite	50,000	25	100	12,600
Regional	Cities	300	500	106,425

Source: National Meat Inspection Commission.



FLOOR PLAN
SCALE 1:80 M.

SLAUGHTER PROCEDURES AND EQUIPMENT:

HOG LINE:

1 HOG ENTRY CHUTE/SHOWER AREA
2 STUNNING AREA
3 BLEEDING PLATFORM
4 SCALDING VAT
5 CHIMNEY
6 DEHAIRING/EVISCERATION TABLE
11 TYPICAL WASHING TABLE W/ FAUCET
12 OPEN CANAL W/ IRON GRATING

CATTLE LINE:

1 CATTLE ENTRY CHUTE/SHOWER AREA
2 STUNNING/BLEEDING/FEET-HEAD CUTTING PARTIAL FLAYING (on floor)
3 HOIST
4 PAUNCH EMPTYING CHUTE
5 SPLITTING
7 WASHING AREA/ MEAT HANGING AREA
8 TYPICAL OVERHEAD RAIL
9 WEIGHING AREA
10 DISPATCH AREA

Figure 1-18 FLOOR PLAN AND PROCEDURES FOR A DISTRICT SLAUGHTERHOUSE

Source: National Meat Inspection Commission

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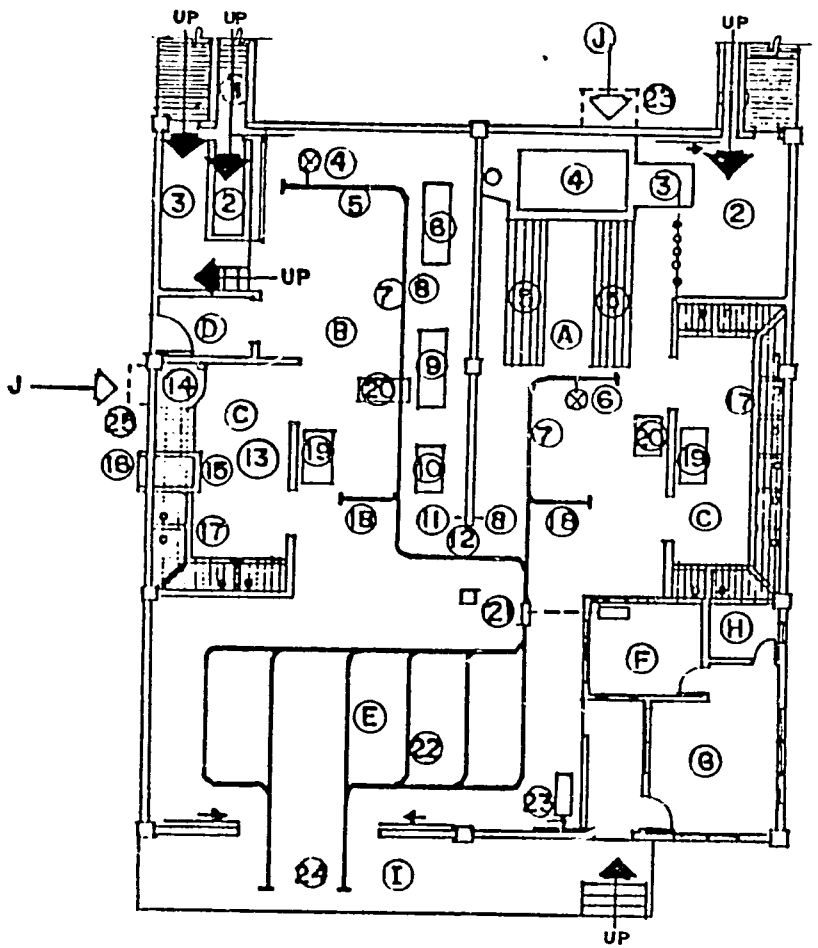
A - HOG SLAUGHTERING HALL
B - CATTLE SLAUGHTERING HALL
C - OFFAL CLEANING ROOM
D - HIDES STORAGE ROOM
E - MEAT HANGING AREA
F - RECORDS ROOM
G - OFFICE
H - COMPORT ROOM
I - DISPATCH PODIUM
J - FURNACE FEEDING AREA



FLOOR PLAN
SCALE 1 : 200 M.

SLAUGHTERING PROCEDURES & EQUIPMENT:

HOG LINE:

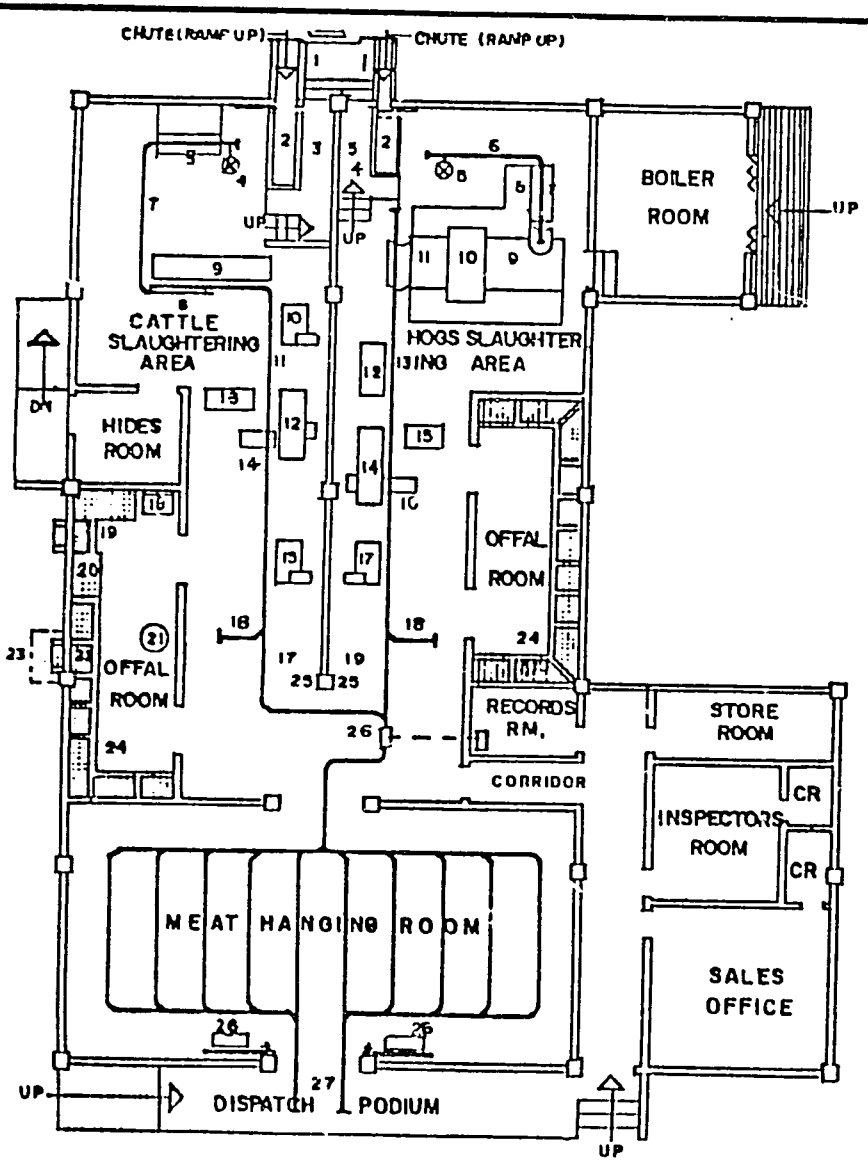
1 HOG ENTRY CHUTE/SHOWER AREA
2 RESTRAINING/STUNNING AREA
3 BLEEDING PLATFORM
4 SCALDING TANK
5 DEHAIRING/EVISCERATION TABLE
6 HOIST
7 TYPICAL OVERHEAD RAIL
8 WASHING AREA W/ FLEXIBLE H_2O HOSE W/ STORAGE RACK

CATTLE LINE:

1 CATTLE ENTRY CHUTE/SHOWER AREA
2 RESTRAINER/STUNNING CHUTE
3 STUNNING PLATFORM
4 HOIST
5 BLEEDING/FEET HEAD-CUTTING/PARTIAL FLAYING AREA
6 FINAL FLAYING PLATFORM
7 BRISKET OPENING AREA WITH BRISKET SAW
8 TYPICAL OVERHEAD (DRESSING) RAIL
9 EVISCERATION PLATFORM
10 SPLITTING PLATFORM WITH SPLIT SAW
11-12 QUARTERING/WASHING AREA W/ FLEXIBLE H_2O HOSE WITH STORAGE RACK
13 TRIPE CONE WASHER
14 HOOF SCALDING VAT
15 PAUNCH EMPTYING CHUTE
16 MANURE COLLECTING AREA (BY BARROW OR RECEPTACLE)
17 RETAIN RAIL
18 TYPICAL WASHING TABLES W/ INDIVIDUAL FAUCET
19 VISCERA INSPECTION TABLE
20 PAUNCH TRUCK
21 TRACK SCALE
22 MEAT HANGING RAIL
23 TROLLEY STORAGE TRUCK
24 DISPATCH RAIL
25 RICE HULL HOPPER

Figure 1-19 FLOOR PLAN AND PROCEDURES FOR A SATELLITE SLAUGHTERHOUSE

Source: National Meat Inspection Commission



FLOOR PLAN
SCALE 1 : 250 M.

SLAUGHTERING PROCEDURES AND EQUIPMENT :

HOG LINE:

1 - SHOWER AREA
2 - RESTRAINER
3 - STUNNING PLATFORM
4 - ELECTRIC STUNNER
5 - ELECTRIC HOIST
6 - BLEEDING RAIL
7 - BLOOD TROUGH
8 - BLEEDING PLATFORM
9 - SCALDING TANK
10 - DEHAIRING MACHINE
11 - GAMBRELLING TABLE
12 - SINGEING/SHAVING PLATFORM
13 - TYPICAL DRESSING RAIL
14 - EVISCERATION PLATFORM WITH STERILIZER
15 - VISCERA INSPECTION TABLE
16 - PAUNCH TRUCK
17 - SPLITTING PLATFORM W/ SAW & STERILIZER
18 - RETAIN RAIL
19 - WASHING AREA
22 - PAUNCH EMPTYING CHUTE
23 - MANURE COLLECTING AREA
24 - TYPICAL CLEANING TABLE
25 - PRESSURIZED WATER HOSE WITH RACK
26 - TRACK SCALE
27 - DISPATCH RAIL
28 - TROLLEY STORAGE TRUCK

CATTLE LINE:

1 - SHOWER AREA
2 - RESTRAINER
3 - STUNNING PLATFORM
4 - ELECTRIC HOIST
5 - BLOOD TROUGH
6 - BLEEDING RAIL
7 - HEAD/FEET CUTTING AREA
8 - TRANSFER RAIL
9 - THREE STEP TRANSFER/DEHIDING PLATFORM
10 - BRISKET OPENING PLATFORM WITH BRISKET SAW & STERILIZER
11 - TYPICAL DRESSING RAIL
12 - EVISCERATION PLATFORM W/ STERILIZER
13 - VISCERA INSPECTION TABLE
14 - PAUNCH TRUCK
15 - SPLITTING PLATFORM W/ SPLIT SAW & STERILIZER
16 - RETAIN RAIL
17 - QUARTERING/WASHING AREA
18 - HOOF SCALDER
19 - CHUTE FOR HOOF HORN, ETC WITH RECEPTACLE
20 - SKULL SPLITTING TABLE
21 - TRIPE CONE WASHER

Figure 1-20 FLOOR PLAN AND PROCEDURES FOR A REGIONAL SLAUGHTERHOUSE

Source: National Meat Inspection Commission

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NMIC classification of operating slaughterhouses (Class AA, Class A, and Class B) involves site evaluations of constructed facilities and standard operating procedures (Appendix I). Among the features that a slaughterhouse should have, according to the NMIC are as follows:

- facilities for the proper care of animals prior to slaughter;
- humane slaughter procedures;
- separate dressing rooms for hogs and large animals (i.e., cattle);
- separate handling of meat and offal;
- equipment for the proper handling of meat and by-products;
- provision for a hanging room and, if possible, refrigeration;
- provisions for adequate meat inspection and disposal of condemns;
- adequate water supply (including hot water) and lighting;
- provisions for triperies and gutteries;
- facilities for meat rendering and methane gas production from slaughterhouse wastes; and
- amenities for meat inspectors, butchers, and other workers.

Among site selection considerations identified by the NMIC and incorporated into previous designs prepared under the ESF infrastructure program are the following:

- the site should be located far from residential buildings (at least 100 meters) and reasonably free from dust, odor, smoke, and other contaminants. The prevailing wind direction should be taken into account;
- accessibility to transportation;
- availability of water and electricity;
- the slaughterhouse should not be located adjacent to public market areas because of congestion and difficulty in maintaining sanitation;
- if located near a river, stream, or lake, the slaughterhouse should be a reasonable distance from the bank (10 meters minimum) to minimize potential water pollution;
- the site should conform to zoning regulations and future land use plans for the municipality or city; and
- if possible, slaughterhouses should be located near livestock production areas to minimize costs of handling and transportation.

Basic processes involved in the operation of a slaughterhouse are determined by whether it is manually or mechanically operated and by the type of animal to be processed. Table 1-18 shows these basic operational parameters. Among the features common to all slaughterhouses accredited by the NMIC are the following:

- separate entrance and dressing halls for cattle and hogs;
- separate exits for meat and offal;
- separate meat and offal handling;
- integrated tripery and guttery; and
- a hanging meat room to cool meat carcasses if refrigeration is not available.

The typical process flow for a slaughterhouse is shown on Figure 1-21.

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Specific design parameters were prepared under the ESF infrastructure program and include the provision for roofed stockyard/lairage, slaughtering and dressing plant, water supply, illumination, and wastewater treatment. Of particular concern at this juncture are the parameters for water supply and wastewater treatment facilities.

Water supply requirements for a slaughterhouse are dependent on the numbers and type of animals to be processed. For cattle and carabao, the estimated minimum water requirement employed in the ESF standard design is 240 liters per carcass. For hogs and goats, the minimum amount of water required is estimated to be 120 liters per carcass. Hot water (82° C or 180° F,) is also required during the processing. These water requirements are minimums; the actual water requirements experienced in slaughterhouse operations will vary widely depending on the degree to which water conservation is practiced, blood and solids handling methods, and water availability.

Typical slaughterhouse wastes can be characterized as generally high in BOD and wastewaters will contain significant amounts of suspended solids, floatable material and grease. The wastewater is generally at an elevated temperature and contains blood, small amounts of flesh, fat, manure, dirt, and viscera. The estimated waste loads associated with each of the three sizes of slaughterhouses are shown in Table 1-19. These estimates assume that little by product (blood, paunch manure, holding area waste, and casings) recovery occurs.

1.5.5. Community health care facilities

Medical facilities envisioned under the LGIF Project are divided into two groups: those associated with the Natural Disaster Component of the project and possible construction of medical offices in communities. Conceptual drawings for the recommended standard design of a health and community center for consideration under the Natural Disaster Component are included in Figures 1-22 and 1-23.

Table 1-18 Typical slaughterhouse procedures

PROCEDURE	HOG SLAUGHTER PROCEDURES		CATTLE SLAUGHTER PROCEDURES	
	MANUAL ABATTOIR	MECHANICAL ABATTOIR	MANUAL ABATTOIR	MECHANICAL ABATTOIR
Shower/bath	While hog is in chute	While hog is in chute	While cattle is in chute	While cattle is in chute
Restraining	Manual	With restraining equipment	Manual (with rope and ring)	With restraining equipment
Stunning	Usually, hog is not stunned. The animal dies from loss of blood during bleeding operation. With electrical stunner, if available.	By electric stunner	Mechanical or electrical	Mechanical or electrical
Bleeding	Sticking the hog on top of bleeding platform.	Sticking the hog hanging from the bleeding rail.	Sticking the cattle on the floor	Sticking the shackled cattle while hoisted on the bleeding rail.
Partial flaying			On the floor dehiding, cutting of head, legs, breast bone and aitchbone (skinning cradle).	Dehiding, cutting of head and legs, gambrelling (skinning cradle)
Complete flaying			Gambrelling, hoisted on the rail, complete flaying.	On dressing rail, hide puller used to complete flaying. Opening of breast bone & aitch bone.
Scalding	In scalding vat	In scalding tank provided with hot water from boiler or the water is heated in the scalding tank.		
Dehairing	Manual	With dehairing machine.		
Gambrelling	On top of dehairing table	Carcass is hanging from rail.		
Final hair scrapping	Manually on top of dehairing table.	Manually while the carcass is hanging from rail.		
Evisceration	Opening of carcass and removing of viscera done on top of dehairing table. After this, gambrel is attached and carcass is hung while carcass is on rail & hung.	Opening of carcass is done while carcass is hanging head down from the rail and viscera falls aided by cutting viscera attachments	Opening of the abdominal cavity and removal of internal organs	Opening of the abdominal cavity and removal of internal organs.
Viscera inspection			Inspection of viscera on inspection table. Transfer viscera to offal room by paunch and viscera trucks.	Inspection of viscera on inspection table. Transfer viscera to offal room by paunch and viscera trucks.
Carcass inspection	While carcass is on rail	While carcass is on rail.	While carcass is on rail.	While carcass is on rail.
Final washing of carcass	While carcass is on rail; with hose	While carcass in on rail; with hose	While carcass is on rail	While carcass is on rail
Splitting	While carcass is on rail; with ax or electric saw	While carcass is on rail; with electric meat saw	While carcass is on rail	While carcass is on rail; with electric saw.
Branding/weighing	While carcass is on rail	While carcass is on rail	While carcass is on rail	While carcass is on rail
Dispatch	Carcass is received for loading at the end of rail.	Carcass is received for loading at the end of rail.	Carcass is received for loading at the end of rail.	Carcass is received for loading at the end of rail.

Source: National Meat Inspection Commission (NMIC).

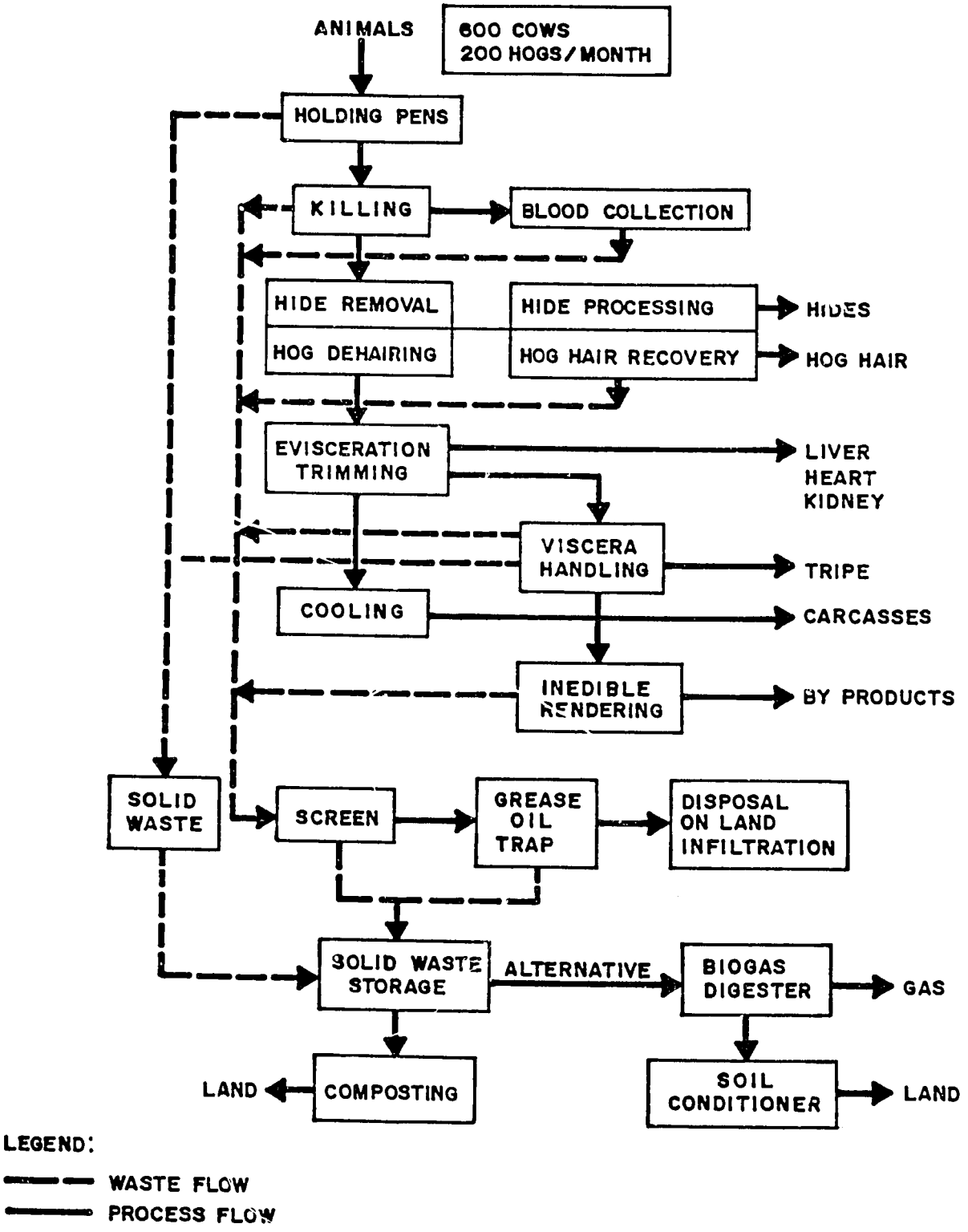

Figure 1-21 SLAUGHTERHOUSE WASTE STUDY
TYPICAL FOR SATTELITE SIZE SLAUGHTERHOUSE

Table 1-19 Estimated daily waste loads for three classifications of slaughterhouses

	District	Satellite	Regional
Total live weight processed (kg)	2,205	12,600	106,425
BOD (kg)	13	72	639
Suspended solids (kg)	10.0	63	531
Grease (kg)	4	25	213
Flow (L/day)	6,280	40,320	340,560

Source: ESFS, NMIC, consultant estimates.

For communities that so require, construction of medical office buildings may be undertaken under the auspices of the LGIF Project. These facilities are, essentially, offices in which doctors or dentists can set up a practice. Under the LGIF Project, only construction of the buildings would be undertaken; there would be no provision for outfitting of the facilities. Thus, while the central structure would be constructed, the LGIF Project would not apparently be involved in the provision of laboratory or diagnostic equipment.

Unlike most LGIF sub-projects, no standard design has been developed for this sub-project. Thus, other than to observe that the buildings would have a simple floor plan and no fixed commitments exist as to what the structures would entail. Construction would likely be hollow block walls on concrete pad foundations with a GI sheet roof. Water supply and electricity would be provided from existing sources. In the case of water supply, this would require either connection to the community water supply or construction of a deep well. In the case of electricity, supply would be from either existing systems or from generators. Wastewater would most likely be disposed of in a septic tank, as very few communities have wastewater treatment plants. Special attention would be provided to the handling of potential hazardous medical wastes generated in the operation of these proposed facilities.

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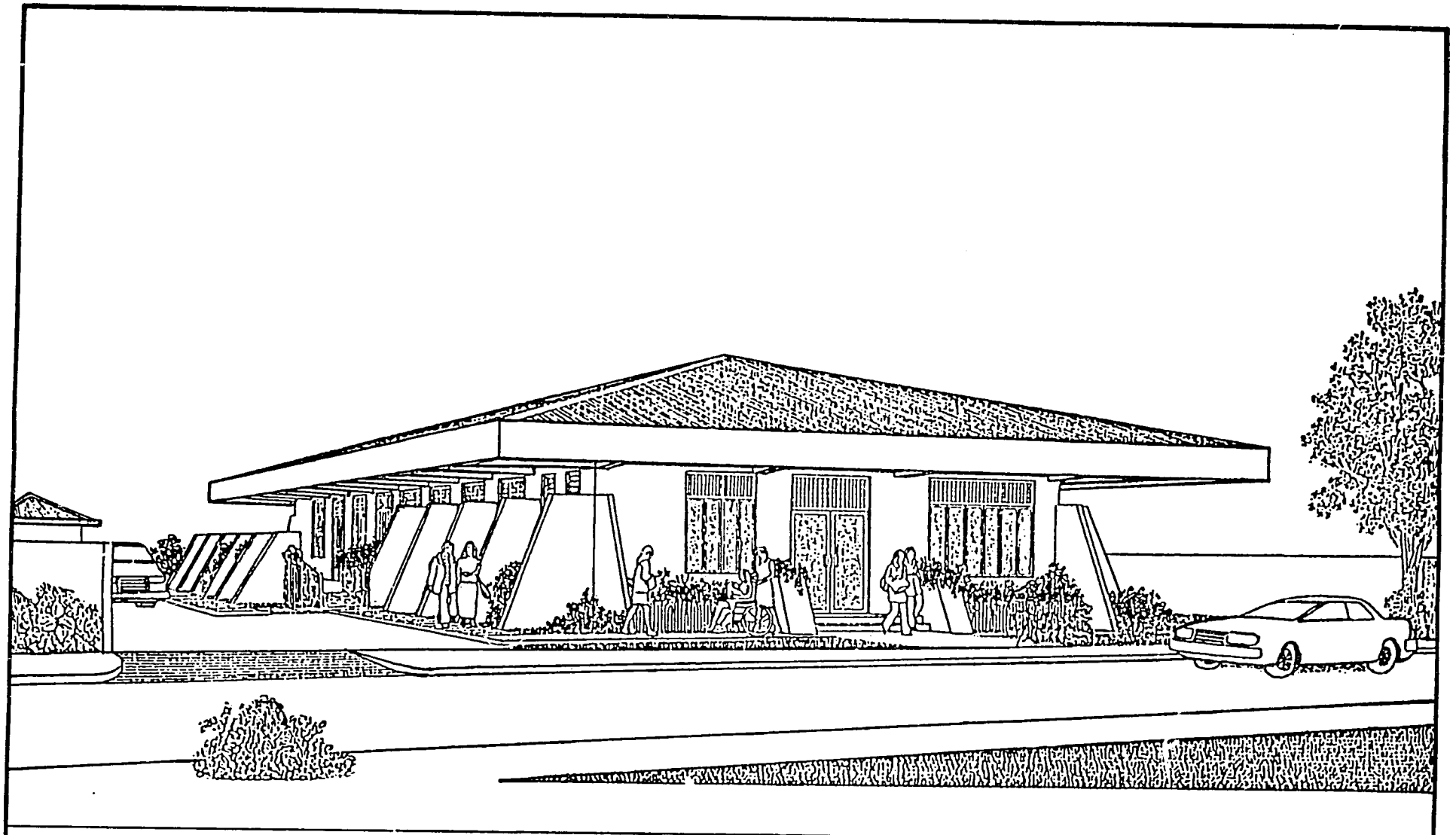

PERSPECTIVE

Figure 1-22 HEALTH AND COMMUNITY CENTER
(RECOMMENDED STANDARD)

Source: ESFS Standard Design Projects

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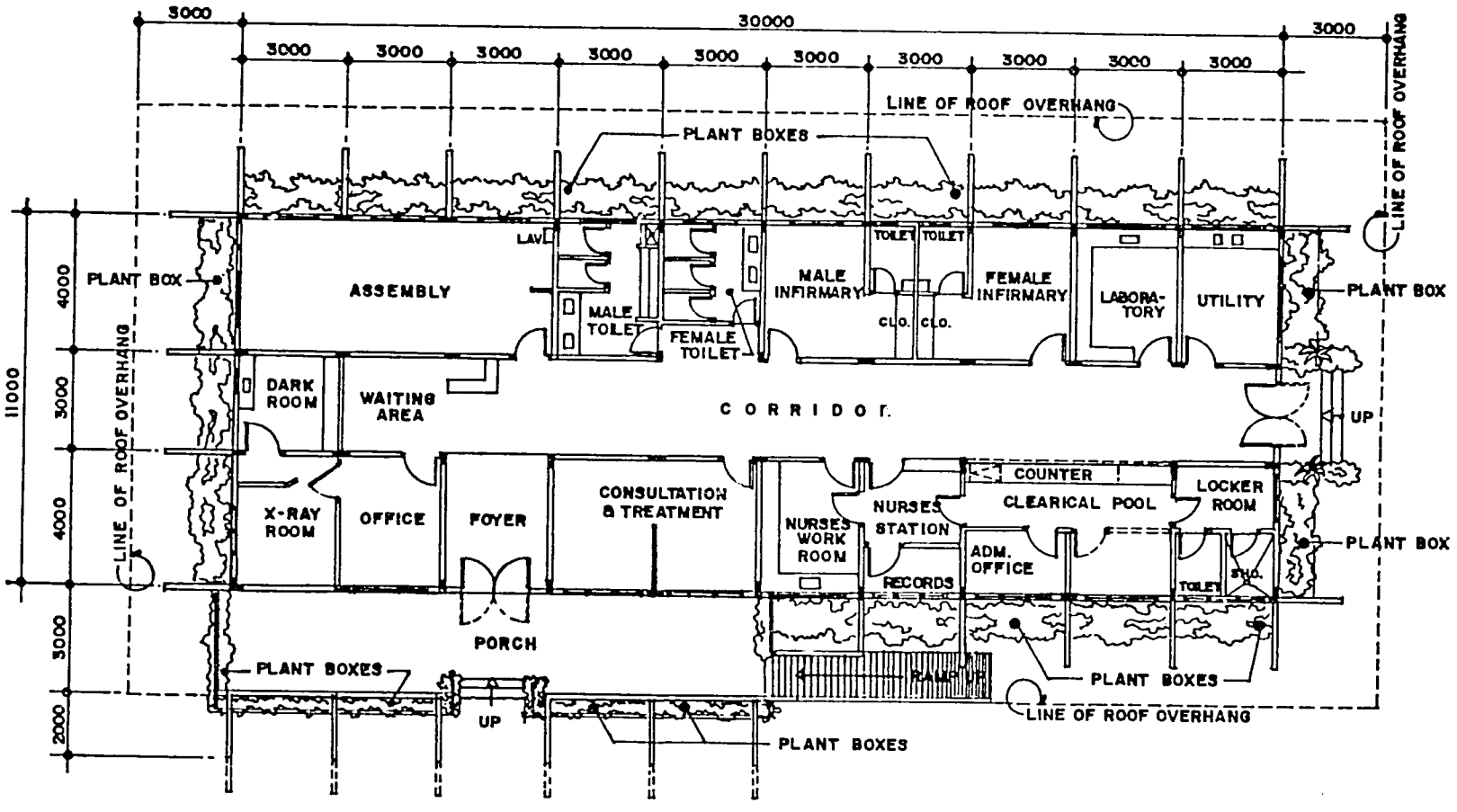

FLOOR PLAN

SCALE 1 : 200 M.

Figure 1-23 HEALTH AND COMMUNITY CENTER
(RECOMMENDED STANDARD)

Source : ESFS Standard Design Projects

2. The project setting

2.1. Geographical setting of the LGIF Project

At this preliminary stage, the geographical setting of eligible LGUs is described as nationwide. The eventual siting of the various component sub-projects is anticipated to be within existing sites or rights-of-way, in basically urban or intra-community environments. The project's defined goal of supporting private-sector-led growth and decentralization, together with the type and limited-scale, of proposed sub-projects reinforces the belief that the project's focus and potential environmental impacts will primarily be within existing and relatively highly developed human settlement areas.

An initial indicative screening of provincial government units by USAID, based on a need criteria (annual household income of less than ₱50,000), provided a list of 15 potential LGU candidates, including the following:

Region I	- Ilocos Norte
	- La Union
	- Benguet
Region II	- Batanes
Region IV	- Batangas
Region VI	- Aklan
	- Antique
	- Guimaras
	- Negros Occidental
Region VII	- Bohol
Region VIII	- Leyte
Region X	- Agusan del Norte
	- Bukidnon
	- Misamis Occidental
Region XI	- Surigao del Sur

Distribution of these candidate provinces is presented in Figure 2-1 for geographic reference to possible sub-project settings. It is important to note that a finalized LGU selection and screening process has yet to be established and this listing of provinces is strictly indicative.

What is clearer at this stage, with respect to predicted geographical settings, are specific areas to be excluded from consideration under the LGIF Project, namely the National Capital Region (NCR) and chartered cities involved under similar donor-assisted programs (RCDP, PREMIUMED, see Section 1.3.2.4), including:

- Angeles;
- Cagayan de Oro;
- Cebu City;
- Davao;
- Iligan; and
- Iloilo.

A brief overview of the general environmental setting, including socioeconomic parameters and existing infrastructure and public services, is provided in this chapter as background information for the sub-project activities.

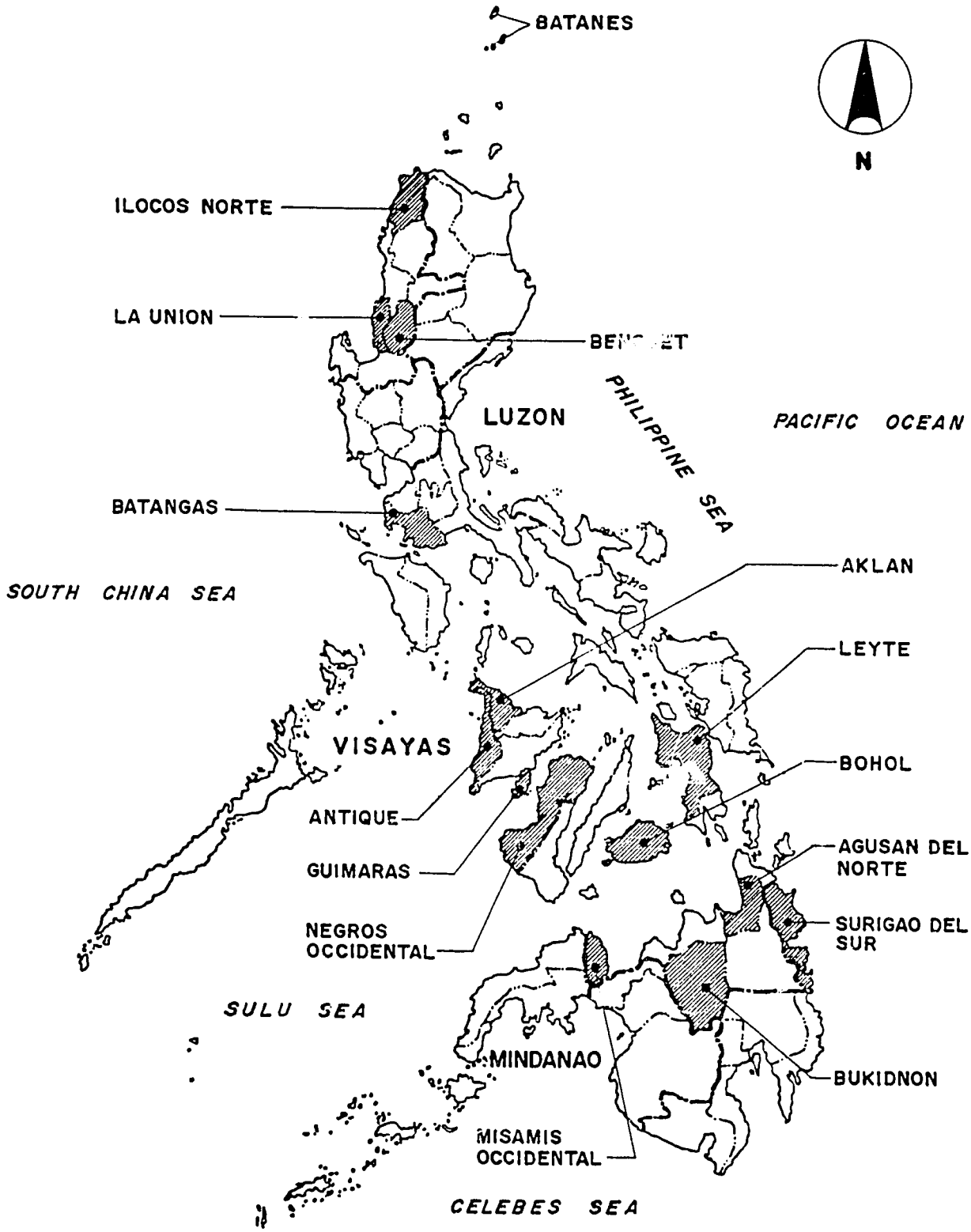

Figure 2-1 GEOGRAPHIC DISTRIBUTION OF FIFTEEN INDICATIVE PROVINCES

Source: Fifteen indicative provinces identified by USAID through prescreening of need Criteria (ave. annual household income less than ₱50,000)

Tropical Research and Development, Inc. — Dames & Moore

2.2. Socioeconomic parameters

2.2.1. Social setting

Public investments in infrastructure have been insufficient to accommodate the continual increase in population and rapid urbanization. For example, during the period of 1980-1990, the national population increased from 48 million in 1980 to 60.5 million in 1990, for an annual average increase of 2.3 percent. Over the same period, the nation's urban population increased at an estimated rate of 5.1 percent per annum, from 17.9 million (37 percent of the total population) to 29 million (48 percent). Available statistics indicate that 50 percent to 70 percent of this urban population can be described as urban poor, with levels of household income below the GOP poverty line. This double-edged increase of the national and urban populations has taxed available public services and infrastructure, while creating a backlog of significant environmental problems related to:

- inadequate or clogged drainage systems;
- uncollected or undercollected solid wastes;
- open dumping of liquid and solid wastes;
- unsanitary public markets and slaughterhouses; and
- inadequate or non-existent sewerage systems.

For example, public markets, the core of commercial activities in most Philippine cities and municipals, have become dilapidated, overcrowded and unsanitary as a result of a lack of adequate maintenance, as supported by sufficient stall rental fees, and proper sanitation and drainage facilities. Resultant flooding, stagnant water, improper sanitation facilities and inadequate solid waste disposal now pose public health hazards in high-density urban communities.

An examination of the country's 10 leading causes of morbidity and mortality over a five-year period (1983-1988) consistently indicates a high prevalence of diseases that are traceable to poor environmental conditions, such as diarrhea and tuberculosis. A concurrent shortage of classrooms and school buildings has resulted in class sizes exceeding the already high national average of 40 students per classroom.

Many of these essential public facilities are old and presently in poor physical condition, which has further diminished their original effectiveness and efficiency. The condition of public infrastructure, coupled with the inability of national and local governments to adequately respond to the increasing demands placed upon the services that these infrastructure provide, has created a severe socioeconomic and environmental constraint within the urban setting.

2.2.2. Administrative setting

Traditionally, the national government exercises general powers of supervision over local government units (LGUs). As extensions of the national government, LGUs are politically and territorially constituted as provinces (75), cities (60), municipalities (1538) and barangays or villages (41,293). The 1987 Constitution provided for the organization of provinces into autonomous regions where a majority of their inhabitants belong to a distinct cultural ethnic community. One autonomous regional government exists in southern Mindanao, where the majority of inhabitants are Muslim. Aside from these political and territorial subdivisions, the national government is also organized into administrative regions, which are not political units but rather territorial aggroupments of provinces and cities with respect to field offices

of national government agencies, for purposes of area administration and delivery of public services. There are 14 administrative regions, excluding the Autonomous Region in Muslim Mindanao, which is both a political and administrative unit of government (Table 2-1 and Figures 2-2 and 2-3).

LGUs have two chief features with respect to their organizational nature: they are political extensions and administrative instrument of the state, that is, they are general purpose governments at the local-level; and they are in their own capacities private corporate and proprietary entities with the power to enter into contracts and other activities as juridical bodies. Under the new Local Government Code (Republic Act 60, enacted in 1991), three important policies strengthen the corporate capacity of LGUs:

- local government units (LGUs) shall have the power and authority to establish organizations that will be responsible for the efficient implementation of their respective development plans, program objectives and priorities;

- LGUs may create indebtedness and avail of credit facilities to finance local infrastructure and other development projects in accordance with the approved local development plan and public investment program; and

- LGUs may enter into joint ventures and other cooperative arrangements to deliver certain basic services designed to improve productivity and income, diversify agriculture, spur rural industrialization, promote ecological balance, and enhance the economic and social well-being of the people.

2.2.2.1. Provinces

Provinces are the largest political/territorial jurisdictions in the Philippines with functions primarily pertaining to area-wide management and development. Under the 1991 Local Government Code, infrastructure and environmentally-related responsibilities of provincial governments include:

- subject to the supervision, control and review of the DENR, enforcement of forestry laws limited to community-based forestry projects, pollution control laws, and other laws concerning environmental protection;

- public health services; and

- infrastructure facilities that are funded out of provincial funds including, but not limited to, provincial roads and bridges; inter-municipal waterworks, drainage and sewerage, flood control, and irrigation systems; reclamation projects; and similar facilities.

2.2.2.2. Chartered cities

Two categories of chartered cities exist: (a) highly urbanized cities that are directly supervised by the national government as opposed to supervision by the provincial government and (b) component cities

supervised through provincial governments. Highly urbanized cities (HUC) are politically and administratively independent of the provinces in which they are located. In order to be classified as a highly urbanized city, the following conditions have to be satisfied:

- minimum population of 150,000;
- minimum annual tax revenue of ₱30 million; and
- official declaration as an HUC by the Secretary of the Dept. of Interior and Local Government (DILG).

Ordinances of component cities are subject to review by the provincial governments. Unlike highly urbanized cities, citizens of component cities are allowed to vote for provincial officials. Both categories of chartered cities can be described as general purpose governments and are further subdivided into barangays. Chartered cities are mandated by the Local Government Code to provide all services and facilities offered at the provincial and municipal levels, in addition to the following:

- support for education, police and fire services and facilities;

- public works and infrastructure projects funded by the national government and those wholly or partially funded from foreign sources where the city government is designated as the implementing agency; and

- sell, lease, encumber or otherwise dispose of public economic enterprises owned by them in their proprietary capacity.

Table 2-1 Administrative regions of the Philippines

Autonomous region in Muslim Mindanao (ARMM) Lanao del Sur Maguindanao * **Cotabato City** Sulu Sultan Kudarat Tawi-tawi	REGION VI (WESTERN VISAYAS) Aklan Antique Capiz Guimaras Iloilo * **Iloilo City** Negros Occidental
Cordillera Administrative Region (CAR) Abra Benguet * **Baguio City** Ifugao Kalinga-Apayao Mountain Province	REGION VII (CENTRAL VISAYAS) Bohol Cebu * **Cebu City** Negros Oriental Siquijor
National capital region (NCR), Metro Manila Cities / Municipalities Caloocan City, Las Piñas, Parañque Manila, Makati, Pasig Pasay City, Malabon, Pateros Quezon City, Mandaluyong, San Juan Marikina, Taguig Muntinlupa, Valenzuela Navotas	REGION VIII (EASTERN VISAYAS) Leyte * **Tacloban City** Southern Leyte Eastern Samar Northern Samar Western Samar
Region I (ILOCOS) Ilocos Norte Ilocos Sur La Union * **San Fernando** Pangasinan	REGION IX (WESTERN MINDANAO) Basilan Zamboanga del Norte Zamboanga del Sur * **Zamboanga City**
Region II (Cagayan Valley) Batanes Cagayan * **Tuguegarao** Isabela Nueva Vizcaya Quirino	REGION X (NORTHERN MINDANAO) Agusan del Norte Agusan del Sur Bukidnon Camiguin Misamis Occidental Misamis Oriental * **Cagayan de Oro City** Surigao del Norte
Region III (Central Luzon) Bataan Bulacan Nueva Ecija Pampanga * **San Fernando** Tarlac Zambales	REGION XI (SOUTHERN MINDANAO) Davao Davao Oriental Davao del Sur * **Davao City** South Cotabato Surigao del Sur
Region IV (Southern Tagalog) Aurora, Mindoro Oriental Batangas, Palawan Cavite, Quezon Laguna, Rizal * **Manila/Quezon City** Marinduque, Romblon Mindoro Occidental	REGION XII (SOUTHWESTERN MINDANAO) Lanao del Norte * **Marawi City** North Cotabato

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Region V (BICOL) Albay Camarines Norte Camarines Sur * **Naga City** Catanduanes Masbate Sorsogon	

Note: Regional capitals are indicated in bold letters beside their respective provinces.

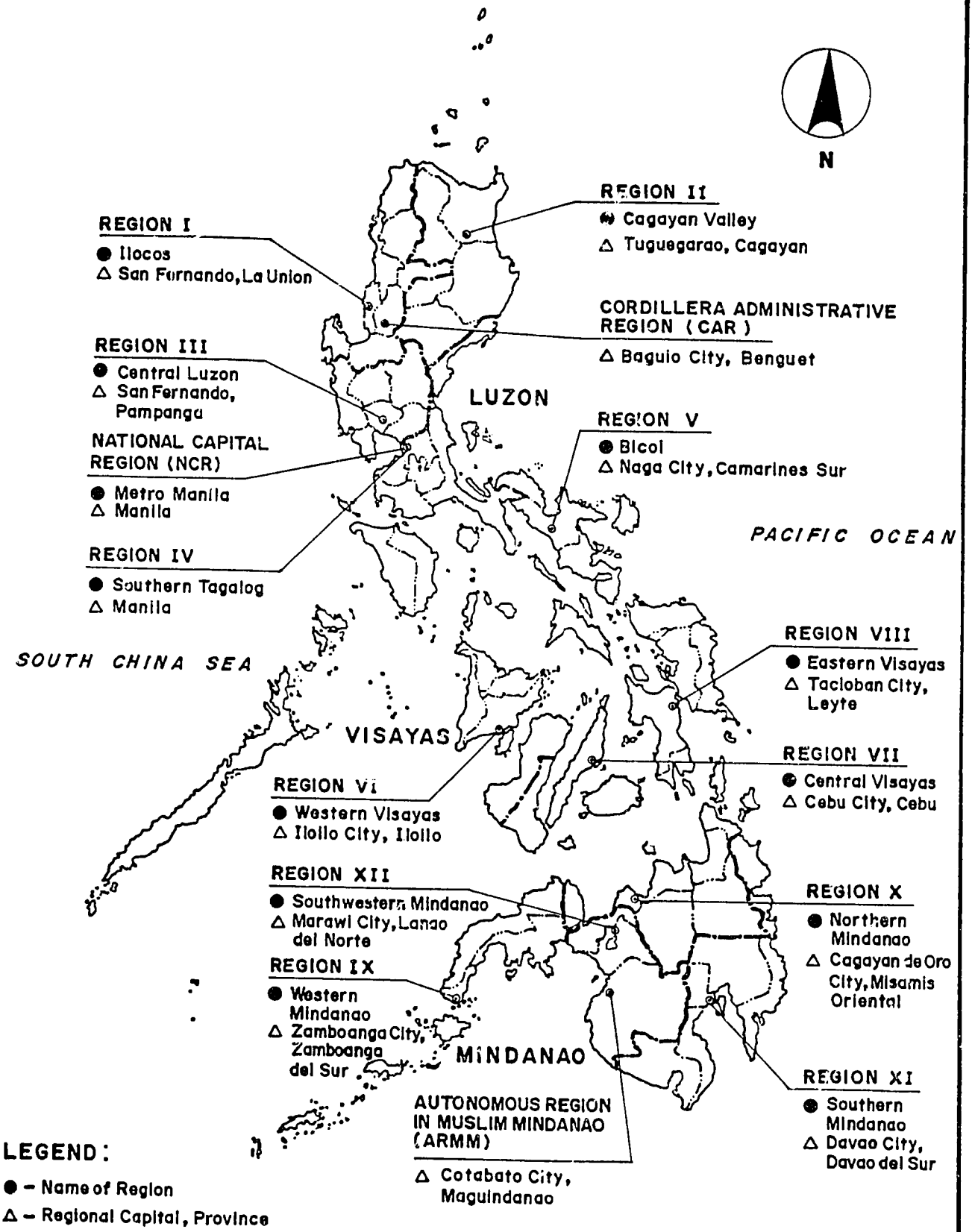

Figure 2-2 ADMINISTRATIVE REGIONS, PHILIPPINES

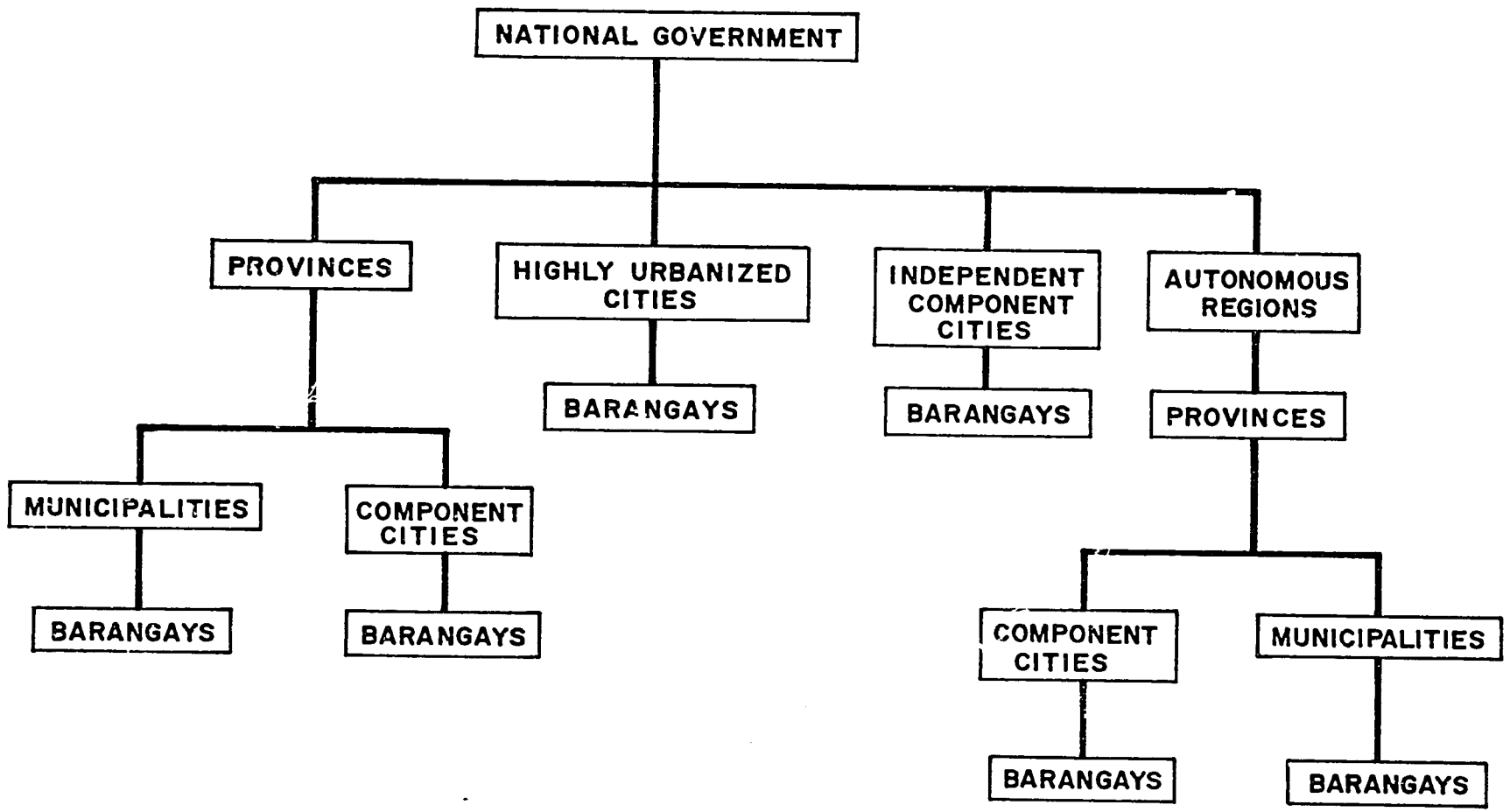

Figure 2-3 POLITICAL AND TERRITORIAL SUBDIVISIONS OF GOVERNMENT

2.2.2.3. Municipalities

Municipalities can also be described as general purpose governments, as they are the chief subdivision of provincial governments and consist of a number of barangays. Municipalities are responsible for providing the following infrastructure and environmentally-related facilities and services:

- inter-barangay irrigation systems;
- water and soil resource utilization and conservation projects;
- pursuant to national policies and subject to supervision, control and review of the DENR, implementation of community-based forestry projects that include integrated social forestry programs and similar projects, management and control of communal forests with an area not exceeding 50 sq. km, establishment of tree parks, greenbelts, and similar forest development projects;
- primary health care, maternal and child care, disease control services, access to secondary and tertiary health services;
- solid waste disposal systems or environmental management systems and services or facilities related to general hygiene and sanitation;
- municipal buildings, cultural centers, public parks, playgrounds, and sports facilities and equipment;
- infrastructure facilities that are funded out of municipal funds, such as municipal roads and bridges, school buildings, and fishports; and
- public markets, slaughterhouses and other municipal enterprises.

2.2.2.4. Barangays

Barangays are the basic unit of local government and can be officially described as consisting of contiguous communities with a minimum population of 2,000. The 1991 Local Government Code mandates barangays to be responsible for:

- maintenance of barangay health centers and day-care centers;
- services and facilities related to general hygiene and sanitation, beautification and solid waste collection;
- maintenance of barangay roads, bridges, and water supply systems;
- multi-purpose halls, multi-purpose pavements, plaza, sport center, etc.; and
- satellite public markets.

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2.2.2.5. Autonomous regions

Two autonomous regions were envisioned by the 1987 Constitution: one for Muslim Mindanao and the other for the Cordilleras. Only the former was approved by local referendum. The provinces originally intended for inclusion in the Cordillera Autonomous Region (CAR) were reconstituted into an administrative region. Created through an organic act of Congress, an autonomous region is a general purpose governmental body situated between the national and provincial levels of government. An autonomous regional government is headed by a regional governor assisted by a cabinet with portfolios closely resembling counterpart departments in the national government. In addition, there is a regional legislative assembly composed of representatives from the constituent political units of the autonomous region. The following areas of concerns are within the scope of the autonomous region:

- administrative organization;
- creation of sources of revenues;
- ancestral domain;
- personal, family and property relations;
- regional urban and rural planning;
- economic, social and tourism development;
- education policies; and
- preservation and development of culture.

2.2.3. Environmental administration

The Department of Environment and Natural Resources (DENR), specifically through the Environmental Management Bureau (EMB), is the national government agency primarily responsible for environmental administration. DENR has been one of the first national line agencies to decentralize such functions to its regional field offices. The Department's central bureaus, such as the EMB, are staff agencies that do not exercise line functions with respect to field operations. Line functions are handled by the field offices (regional, provincial and community). For example, there are no EMB regional offices. Each region, however, has a Regional Technical Director for the Environment who reports to the Regional Executive Director (RED). The RED represents DENR in the region and is directly responsible to the Department Secretary through the Undersecretary for Regional Operations. One of the more significant functions that has been devolved by DENR to the regional offices is the responsibility for evaluation of EIAs and issuance of clearances for projects in environmentally critical areas (ECAs, Figure 1-3).

The DENR is proposing to create of an Environmental and Natural Resources Unit in provinces, cities and first class municipalities. This unit would be responsible for the environmental administration functions that will be devolved to LGUs. The main constraints of LGUs with respect to these functions are in terms of manpower and expertise, financial resources and equipment. It is important to note that under the Local Government Code recommended staffing (plantilla), the LGU environmental and natural resources officer is an optional position. There is also a general apprehension in the part of LGUs to absorb employees of national line agencies such as the DENR because of the drain this would exert on local fiscal resources with respect to additional salaries.

Most sub-projects envisioned under the LGIF Project are expected to be of a category (small-scale, public infrastructures, low or no effluents) that would, at the most, involve a regional office level of environmental administrative processing.

2.2.4. Planning administration

Aside from complying with environmental requirements, LGIF Projects will also have to satisfy various planning, particularly land-use and zoning, standards. At the provincial level, there is a Provincial Planning and Development Office that is chiefly responsible for province-wide development planning and for preparing the Provincial Physical Framework Plan (PPFP). The PPFP broadly defines the general directions of physical and infrastructural development of a province. However, effective laws of land-use planning and zoning administration are at the municipal/city level. Projects that would involve changes in the existing landscape must conform to land-use plans and zoning ordinances. Locational clearances and/or planning variances have to be obtained from the municipal/city zoning administrator, while building permits are issued by the local building official.

A major planning drawback is that most development and land-use plans and zoning ordinances are out of date, as most were prepared in the early and mid-eighties and are very general in scope. Examples of available plans for two cities (General Santos City, South Cotabato; Batangas City, Batangas) are included as Figures 2-4 and 2-5 as representative of the general scope of local zoning. Unfortunately, until only recently, local planning officials were not trained to appreciate and to incorporate environmental management concerns in to their respective development plans. An example of an on-going LGU training program on environmental management and planning is the USAID-assisted Local Development Assistance Program (LDAP)/DENR component.

Unlike the optional position of an LGU environmental and natural resources officer, the planning and development coordinator (PDCr) is a mandatory position and, therefore, requires regular budgetary appropriation. PDCrs are found in all levels of local government (provincial, city and municipal). The respective PDCrs staffs serve as secretariats to Local Development Councils, which endorse and review area and sectoral development plans, programs and projects, and mediate and resolve conflicting interests and issues. There may be cases when replanning/rezoning would be needed in connection with the siting and construction of LGIF sub-projects. Requirements for these variances involve a number of agencies and procedures outlined in Table 2-2.

The 1991 Local Government Code (Appendix G) will significantly affect traditional policies of planning, project implementation and civic operations. The new code provides for the first operative framework for decentralization within the public sector and redefines responsibilities, obligations, and, to an unprecedented degree, fiscal opportunities for local governments. Under the 1991 Code, LGUs are required, by the National Economic and Development Authority (NEDA), to prepare comprehensive (long term), as well as mid-term (five-year period) community development and investment plans. These required plans, optimistically scheduled for submission by January, 1993, will serve as a basis for establishing LGU budgets.

In addition, the new Code mandates a vital role for non-government organizations (NGOs) in local development activity. Per the 1991 Code, provincial, city, municipal and barangay Local Development Councils (LDCs) must include not less than 25 percent participation of the NGOs within the fully organized administrative bodies of LDCs.

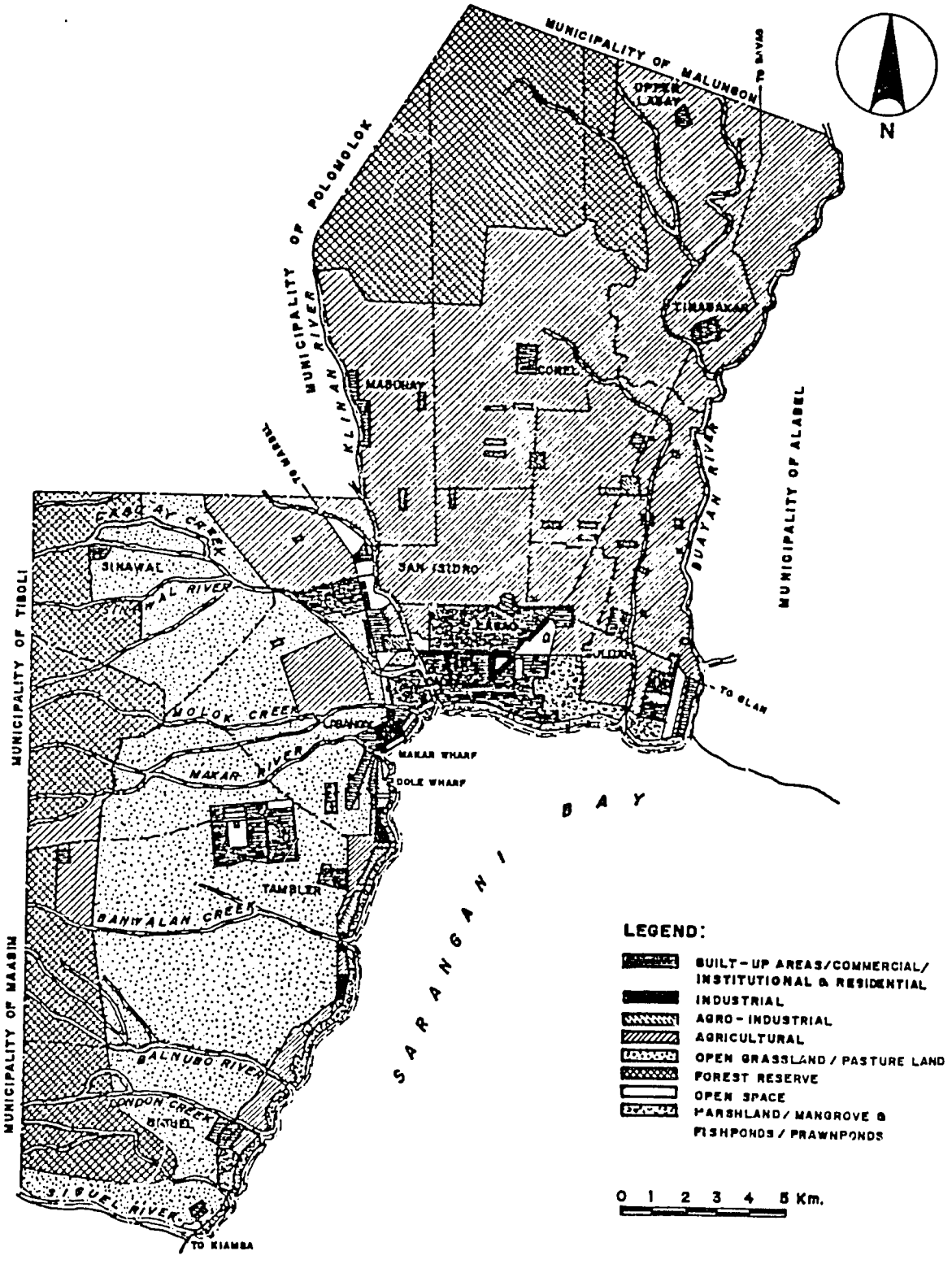

Figure 2-4 FUTURE LAND USE
GENERAL SANTOS CITY

Source: City Planning and Development Office

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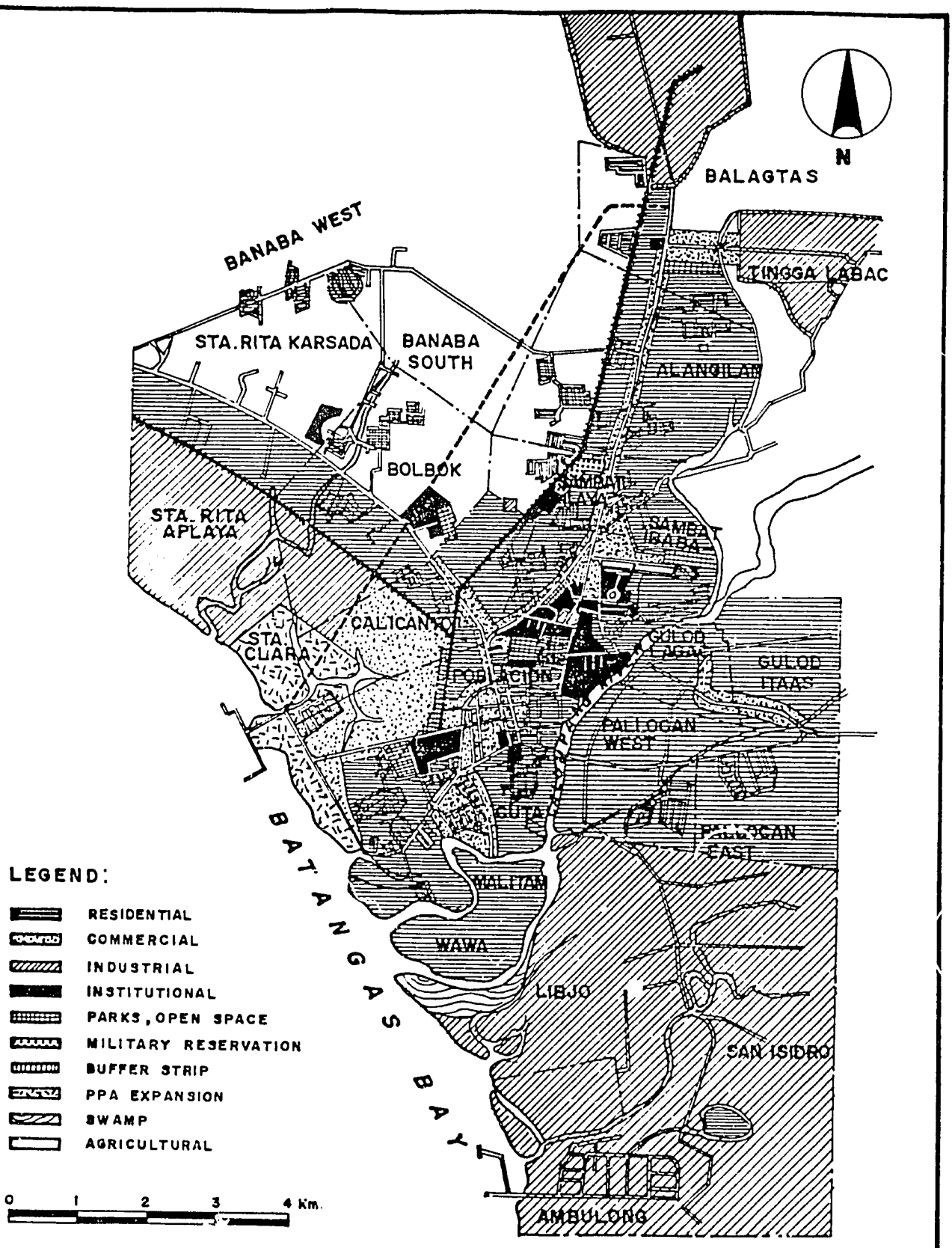

Figure 2-5 LAND USE MAP
BATANGAS CITY
(URBAN AREA)

Source: City Planning and Development Office

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Table 2-2 Procedural requirements in obtaining variances to town plan zoning ordinances

o	Sangguniang Bayan (municipal council) resolution authorizing the proposed change;
o	The resolution shall be submitted to Housing and Land Use Regulatory Board (HLURB) regional office for approval/ disapproval;
o	The Municipal Planning and Development Council (MPDC) together with local sectoral experts shall make necessary changes (when resolution is approved). The HLURB regional office may extend technical assistance upon request by the municipal mayor;
o	Changes in the sectoral plans shall be subjected to review by the Municipal Development Council;
o	Conduct a public hearing on the proposed amendments;
o	The proposed amendments shall be submitted to the interagency Regional Group for review whether said changes adhere to and are in conformity with the provincial and regional plans. The composition of the interagency group includes the different regional directors, or representatives of NEDA, HLURB, DENR, DILG, DTI, DA, DAR, and the Provincial Development Coordinator;
o	Endorsement of the Sangguniang Panlalawigan (provincial council) and Regional Development Council;
o	HLURB approves and ratifies the proposed amendments or changes.

Source: HLURB Regional Office, Region X, 1991, in USAID, 1992. Environmental Assessment, Cagayan de Oro-Iligan Corridor Airport. Prepared by Louis Berger International, Inc., et al.

2.2.5. Fiscal administration

A 1992 study of the World Bank-assisted Third Municipal Development Project (PREMIUMED) reveals that LGUs have two major sources of revenues:

- Local -- consisting of business taxes, real property taxes, earnings from economic enterprises (e.g. public markets) and fees and charges; and
- Government transfers -- including internal revenue and other allotments, national aids, and grants.

Expenditures, on the other hand, include:

- Recurrent -- pertaining to general government expenses, public welfare and security, economic development and others; and
- Capital -- principally for infrastructure development.

Real property and business taxes are the main sources of locally-generated revenues. In 1990, for instance, these constituted 66 percent of local revenues. Capital expenditures, including infrastructure, accounted for less than 6 percent of total expenditures. Over a five-year period (1985-90), the proportion of local government expenditures to total government (including national) expenditures declined from 13 percent to 6.6 percent (see Table 2-3).

Table 2-3: Consolidated income and expenditure for local governments (1985-1990), Philippines (in million constant 1980 pesos)

	1985	1986	1987	1988	1989	1990
A. Revenues						
Business taxes	506	523	494	518	572	579
Real property taxes	820	933	910	938	1,168	1,198
	1,326	1,457	1,405	1,455	1,740	1,777
Economic enterprises	290	326	315	320	405	364
Fees, charges and other	642	576	606	584	870	560
	932	902	921	904	1,275	924
Subtotal: Local sources	2,258	2,359	2,325	2,359	3,014	2,701
BIR and specific allotments	1,347	1,364	1,204	1,396	1,379	1,356
National aids	223	182	173	181	199	106
Total revenues	3,828	3,905	3,703	3,935	4,593	4,263
B. Expenditures						
Recurrent	3,143	3,314	3,271	3,343	3,725	3,678
Capital	365	251	225	257	246	243
Total expenditures	3,508	3,566	3,496	3,600	3,971	3,922
C. Surplus (deficit)	319	339	207	335	622	341
Local expenditures as a share of:						
GDP	1.4%	1.4%	1.3%	1.2%	1.3%	1.2%
Total government expenditures	13.0%	10.4%	8.4%	8.0%	7.5%	6.6%

Source: Staff Appraisal Report, Philippines. Third Municipal Development Project (Report No. 10042-PH), World Bank. February 27, 1992.

Identified limitations on sources of LGU revenues include:

- collection efficiency of real property taxes is, on the average, only 60 percent;
- rental fees and earnings from economic enterprises (e.g. public markets) are below commercial market rates and are generally not sufficient to cover maintenance; and
- non-availment of credit financing; i.e., borrowings do not form a significant part of local revenues.

If fully implemented, the 1991 Local Government Code will substantially increase the potential sources and revenues of LGUs, to a level presumed as compensatory to the corresponding increase in responsibilities.

2.3. Infrastructure and public services

2.3.1. Energy supply

The country's primary energy sources are oil, coal and hydropower and geothermal, characterized by a high dependence on imported oil and a continual increase in total energy requirements, averaging 7 percent annually. Electricity generation is dominated by oil, at 45.2 percent, while hydrogeneration accounted for 23.2 percent. geothermal 20 percent, coal 9.9 percent and non-conventional 1.7 percent.

The basic energy situation in the Philippines may be characterized by continued increases in total energy demand compounded by the deteriorating condition of many existing power stations, limited hydropower resources, and social and environmental conflicts in proposed energy developments, such as geothermal and coal. There is, in the country today, an energy crisis that is aggravated by the government's lack of a comprehensive power development program. For the meantime, power consumption has continued to rise at an average of 5 percent to 10 percent yearly.

2.3.2. Potable water supply

As of 1987, the potable water supply in terms of percentage of population served, is estimated at only 63 percent for the whole country. This level of service includes an estimated 86 percent of the population of Metro Manila, 55 percent for adjoining urban areas, while the provincial/rural areas had a coverage of 62 percent. The rest of the population depends on dug wells, rainwater, cisterns, lakes, and streams that are vulnerable to contamination. This situation is projected to improve this year, at which time 77 percent of the nation's population would be able to avail of communal water supply services.

Groundwater resources are generally exploited for domestic and industrial uses. While groundwater resources are considered as plentiful throughout most of the country, basic water infrastructure is still severely lacking in most rural areas and the incidence of water-borne diseases remains high.

2.3.3. Wastewater collection facilities

Rapid deterioration of a vast majority of the country's rivers, lakes and coastal areas as the result of pollution is mainly attributed to domestic (70 percent) and industrial (30 percent) effluents. Extensive squatter communities, with no proper sanitation facilities, are found near river banks leading to near septic conditions of these areas. In addition, only limited areas of Manila, Baguio, Zamboanga, and Cebu City are serviced by a formal sewerage system. Remaining urban areas of the country are connected to drains and esteros (open canals), which lead to nearby rivers and eventually the coastal zone.

Aside from domestic sources, many industrial plants are not in compliance with effluent standards. This is generally attributed to the high cost of establishing wastewater treatment plants as compared to direct discharge.

2.3.4. Solid waste collection

Throughout the Philippines, collection of solid waste from most urban centers can be considered as inadequate. In addition to deficiencies in resources and equipment, many areas exist that are not accessible to garbage trucks and waste materials that do reach the disposal sites are dumped, spread, and left exposed to the environment. The unsanitary conditions brought about by uncollected solid waste and the open dumping of collected wastes serves as breeding grounds for vermin and disease vectors. During the rainy season, uncollected garbage that has been dumped in the streets is washed into the stormwater drainage structures, creating annual flooding and public health hazards. In places where garbage collection is sporadic or non-existent, garbage is often indiscriminately dumped into rivers.

Lack of established landfill sites for the disposal of solid wastes is partly a "not in my backyard" attitude common among many cities and municipalities (World Bank, 1992).

2.3.5. Targeted chartered cities/municipalities

The Philippine archipelago has a total coastline of 17,410 km. As a result, 80 percent of the country's provinces and two-thirds of all municipalities are characterized as coastal. There are also some 10,000 coastal barangays or villages wherein an estimated 70 percent of the nation's population reside. The ten most highly populated urban centers of the Philippines are also located along the coast, including Metro Manila, Metro Cebu, Davao, Zamboanga, Bacolod, Iloilo, Cagayan de Oro, Butuan, and Iligan.

Most of these cities are not properly sewered and lack adequate solid waste treatment programs. In general, untreated sewage and uncollected garbage from urban residents tends to end up in the coastal zone. Rivers located within these cities are also congested with squatter communities, compounding the pollution load of these important waterbodies.

In summary, adverse environmental conditions many targeted cities and municipalities under the LGIF Project may face are as follows:

- uncollected garbage, open dumping and burning of solid waste;
- unsanitary conditions of existing public markets and slaughterhouses;
- inadequate sanitation facilities and dumping of untreated sewage into and slaughterhouse liquid wastes waterways; and
- lack of functional drainage infrastructures and supportive public utilities (i.e. water, power).

2.4. Environmental parameters

2.4.1. Local climate patterns

The climate of the Philippines can be described as tropical and monsoonal, with local weather patterns determined by geographical location and the respective air streams that prevail over the locality during different times of the year. In other words, the climate of the Philippines is far from homogeneous.

Predominant air streams that influence the climate of the Philippines are as follows:

- the Northeast Monsoon (amihan), which is relatively cold and less humid and prevails from November to February;
- the Southwest Monsoon (habagat), which is warm and extremely humid air bringing with it torrential rains and prevails from June to September; and
- the Trades, or trade winds, which are air masses that are extremely warm and humid and are generally dominant over the entire country during April and early May.

The climate of the country is officially described in terms of the distribution of rainfall received in a locality during the different months. Based on the Corona classification system, there are four basic types of climate or weather patterns in the Philippines (Figure 2-6). The division between different climatic types tends to run north to south parallel to the alignment of most local mountain ranges. These mountain barriers are high enough to cause variation in rainfall distribution (i.e., rain shadows). As a result of the seasonal alternation in general wind direction (northeast to southwest) and geologic alignments, rainfall patterns in the Philippines vary greatly in quantity as well as in annual occurrence (Table 2-4). The Corona classification of climate types, based on rainfall distribution, is as follows:

Type I. Two pronounced seasons; dry from November to April and wet during the rest of the year. All areas on the western part of the islands of Luzon, Mindoro, Negros, and Palawan are of this type.

Type II. No dry season but with a very pronounced period of maximum rainfall from November to January. This climate type includes the areas of Catanduanes, Sorsogon and the eastern part of Albay, the eastern and northern parts of Camarines Norte and Camarines Sur, and a greater part of eastern Mindanao.

Type III. Seasons not very pronounced; relatively dry from November to April and wet during the rest of the year. This type of climate is prevalent in the western part of the Cagayan Valley, Isabela, Nueva Viscaya, the eastern portions of the Mt. Province, southern Quezon, Masbate, Romblon, northern Panay, eastern Negros, central and southern Cebu, part of northern Mindanao, and part of eastern Palawan.

Type IV. Rainfall uniformly distributed throughout the year. areas with this climate type include Batanes, northeastern Luzon, southern part of Camarines Norte, the western part of Camarines Sur and Albay, the Bondoc Peninsula, eastern Mindoro, Marinduque, western Leyte, western Cebu, Bohol, and most of Mindanao.

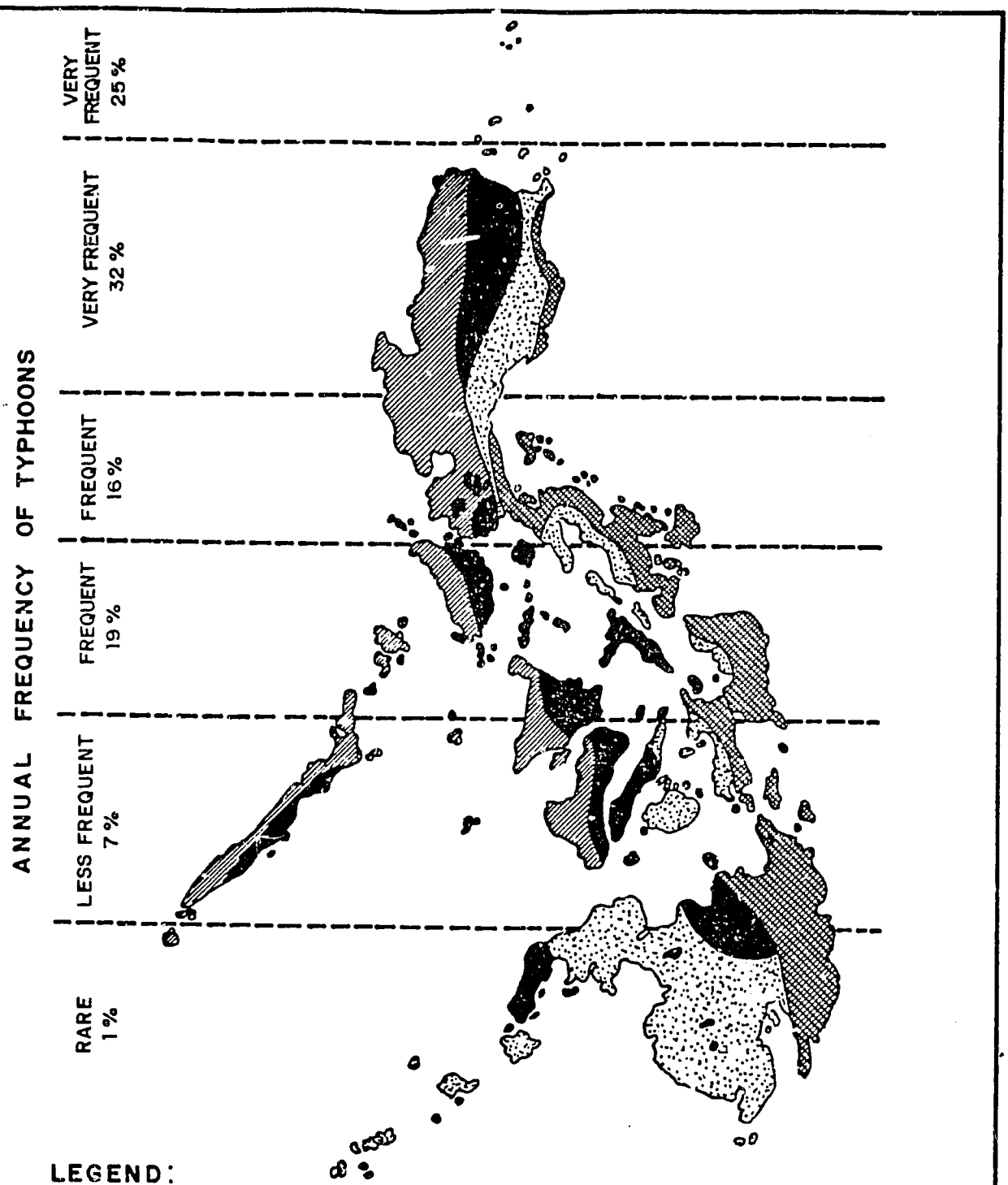


Figure 2-6 CLIMATE MAP AND TYPHOON FREQUENCY OF THE PHILIPPINES

Source: PAGASA

Table 2-4 Physical characteristics of 15 indicative provinces

REGION	PROVINCE	CORON-A'SCLI-MATIC TYPE	AVERAGE AN-NUAL RAINFALL		AVE. NO. OF RAINY DAYS ANNUAL	GENERAL TOPOGRAPHY
			(mm)	(in)		
Region I	Benguet	I	3,228	127	169	Mountainous
	Ilocos Norte	I	2,557	100	96	Coastal areas level to nearly level w/slope ranging from 0-3%; mountainous w/slopes greater than 65%
	La Union	I	2,743	108	100	Steep hills with slopes ranging from 15-30%
Region II	Batanes	IV	2,298	90	203	Level to nearly level w/steeply hilly land, slopes ranging from 30-65%
Region IV	Batangas	I	2,176	86	211	Gently sloping to undulating land w/slopes ranging from 3 to 8%
Region VI	Aklan	I (W) & III (E)	2,903	114	166	Level to nearly level, mountainous
	Antique	I	3,644	143	155	Hilly and mountainous
	Guimaras	I	(a)	(a)	(a)	(a)
	Negros Occidental	I	2,791	110	(a)	Level to nearly level, moderately sloping to rolling and mountainous
Region VII	Bohol	IV	3,878	153	164	Moderately sloping to rolling; gently sloping and mountainous
Region VIII	Leyte	II(E) & IV(W)	2,468	97	211	Level to nearly level; moderately sloping to rolling, steeply rolling
Region X	Agusan del Norte	II	3,228	127	(a)	Level to nearly level; steeply rolling, mountainous
	Bukidnon	III(E) & IV(S)	2,737	110	221	Level to nearly level in central plateau, mountainous borders
	Misamis Occidental	IV	2,544	100	(a)	(a)
Region XI	Surigao del Sur	II	4,646	183	218	Moderately sloping to rolling and mountainous

Source: Master Plan for Forestry Development, 1989 (Draft Report); 1990 Philippine Almanac.
Notes: (a) information not included in source material.
(b) Fifteen indicative provinces identified by USAID through prescreening of need criteria (average annual household income less than ₱50,000).

Tropical cyclones

The Philippines lie within a global region that experiences the highest frequency of tropical cyclones, locally referred to as typhoons. Over 50 percent of the rainfall in the Philippines is directly associated with typhoons and less intense tropical depressions. The local season for typhoons normally starts in June and ends in December, with a peak occurrence in August. The path of these typhoons generally follow a west-northwest direction, originating from the Pacific Ocean, with the "strike-zone" progressing from the extreme north (in June) to the central and southern Philippines by December.

Figure 2-6 also indicates the relative frequency of typhoons in various regions of the country while Figures 2-7 and 2-8 show the average path of typhoons within the Philippine area of responsibility. An average of 19 tropical cyclones enter the Philippine area of responsibility every year, accompanied by strong rains and violent winds.

2.4.2. Forests

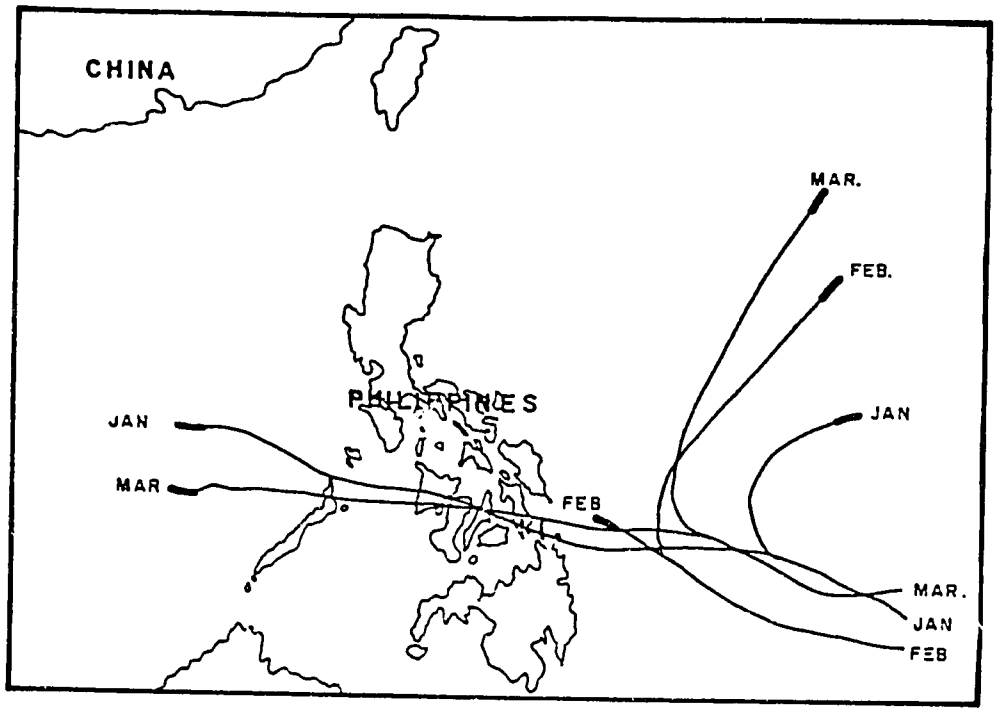
The Philippines, with a total land area of 30 million hectares (ha), used to be endowed with extensive tropical forest, the most widespread type of which was of the family Dipterocarpaceae. Other local classifications of forest types are the mossy, submarginal, pine, mangrove, and brushland forest area (Figure 2-9).

Only an estimated 25 percent of the country's original forest cover remains, compared with 75 percent in the 1950s. Based on various studies, the desirable forest cover is the range of 54 percent. At the rate the country is losing its forests (25 ha per hour or 219,000 ha yearly in the past 19 years), all remaining forests are predicted to disappear within the next 36 years. Presently, there is a general indication that only 700,000 to 950,000 ha of old-growth dipterocarp forests remain. Most of the previously forested areas have now been degraded through shifting agriculture, encroachment of settlements, legal and illegal logging. As such, these old-growth forests are now confined mainly to northeastern Luzon (Region II), Mindanao (Regions X and XI), and Palawan (Region IV) and legal logging operations are increasingly being banned or regulated. There also remains an estimated 3.4 million ha of secondary or residual growth dipterocarp forests, most of which are subject to varying degrees of degradation.

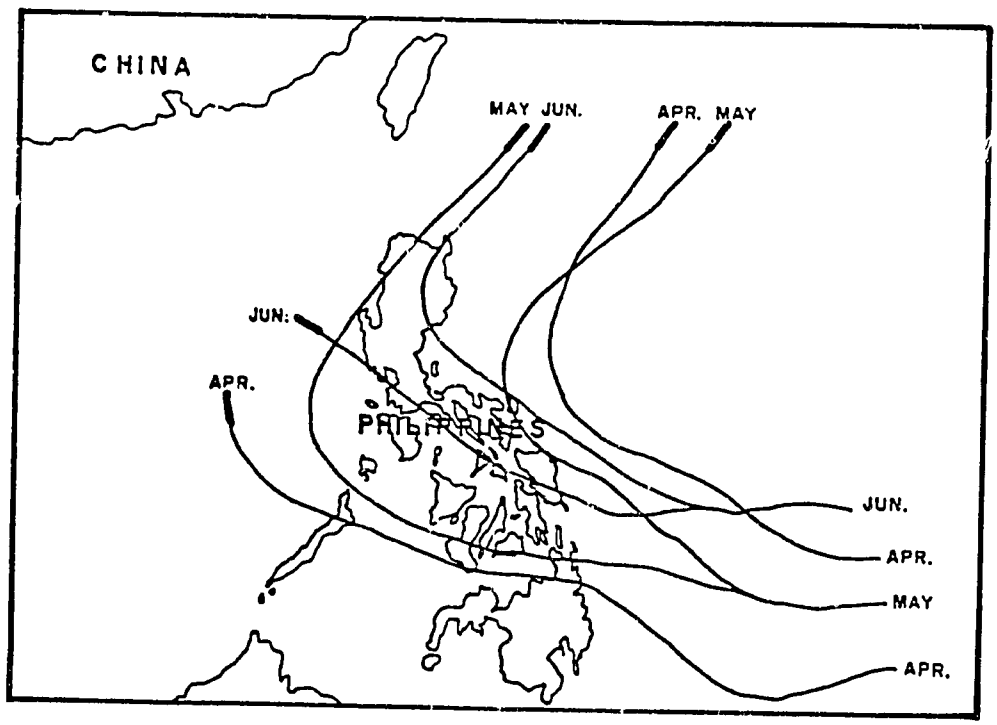
2.4.3. Agricultural lands

Croplands, or agricultural lands, comprise 13.1 million ha or 43 percent of the Philippines' total land area. Around 7 million ha are planted to rice and corn, 5 million ha to other food crops (coconut, sugarcane, coffee, cacao, fruits and nuts, and vegetables) and 1 million ha to non-food crops.

Agricultural land use opportunities are continually degrading and disappearing because of erosion, misuse of chemicals (fertilizers and pesticides), and conversion to non-agricultural use of prime agricultural lands. Large tracts of farmlands are now being converted to urban (residential) and industrial uses (industrial estates).



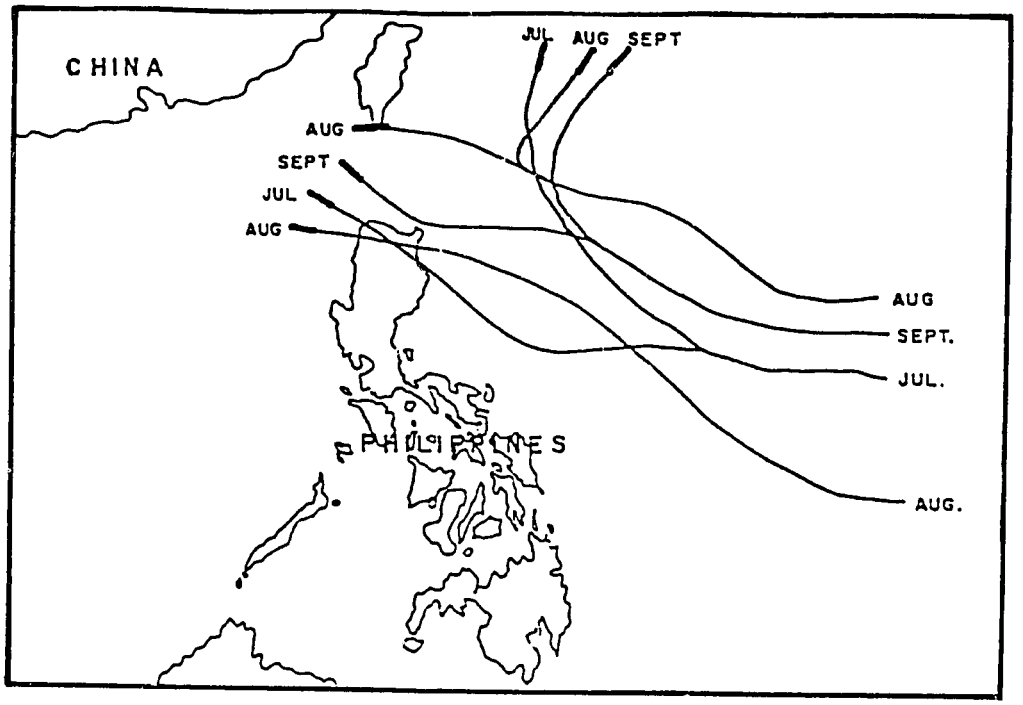
FIRST QUARTER (JAN., FEB., MAR.)



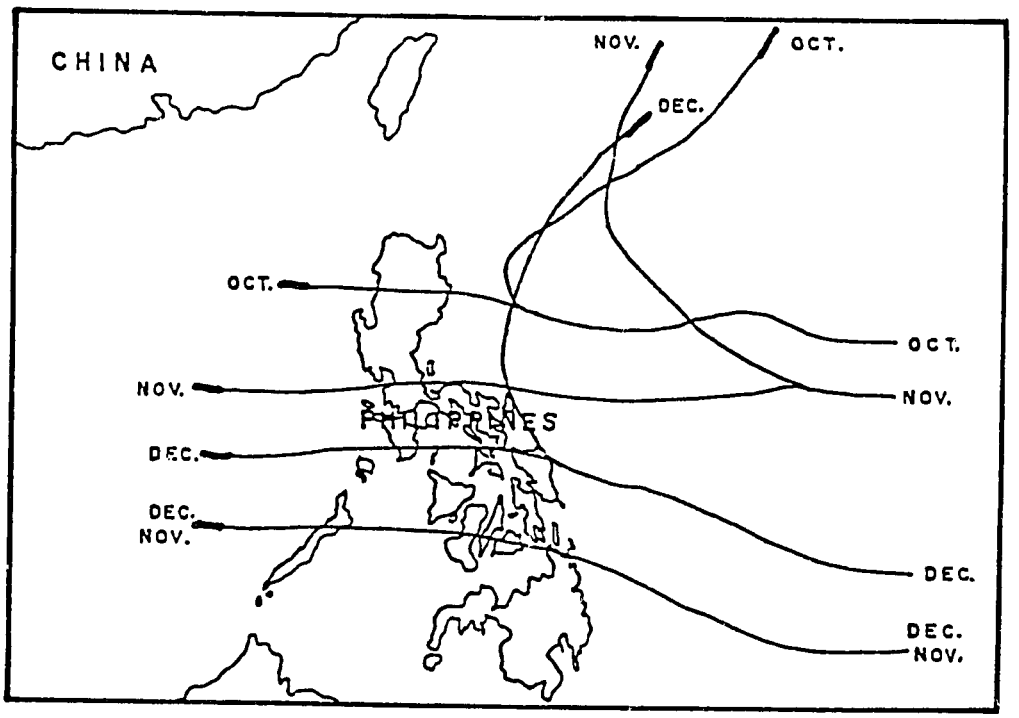
SECOND QUARTER (APR., MAY, JUNE)

Figure 2-7 AVERAGED PATH OF TYPHOONS WITHIN THE PHILIPPINE AREA OF INFLUENCE, 1951 - 1980

Source: PAGASA



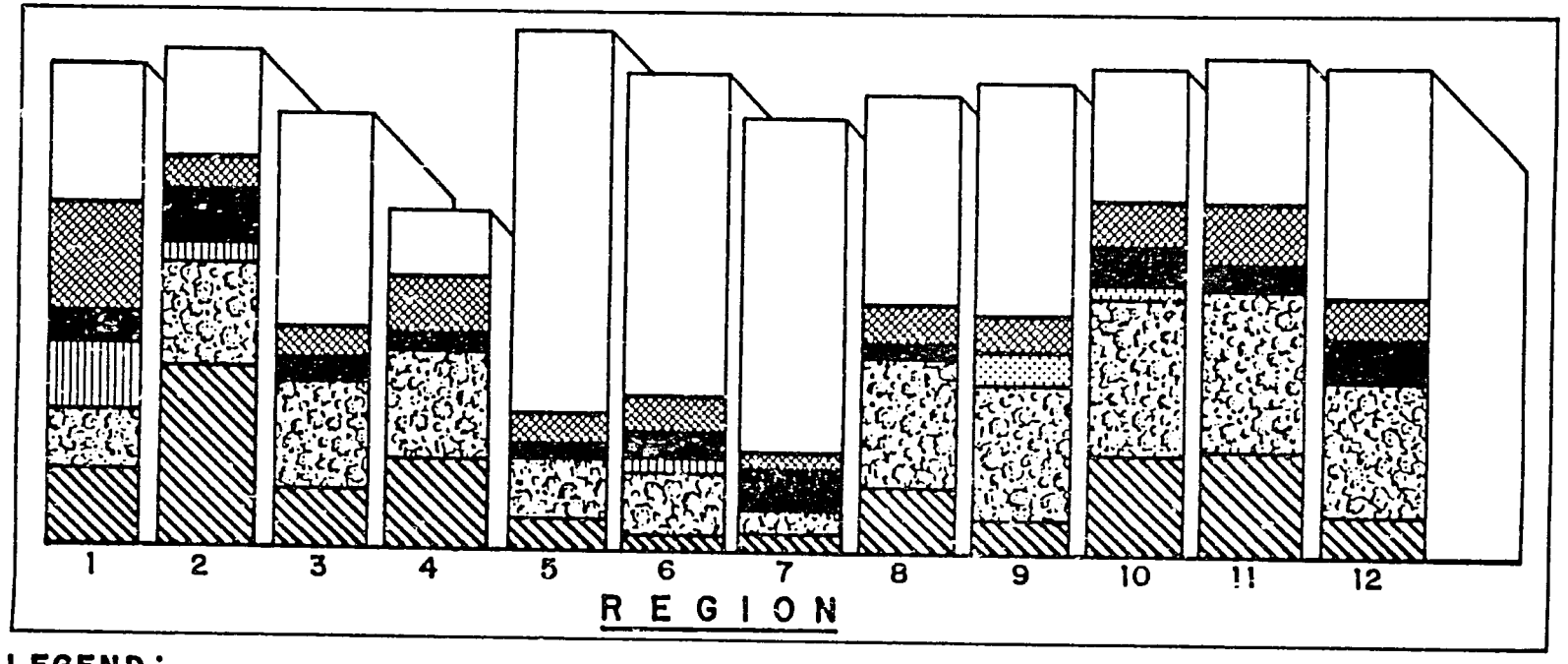
THIRD QUARTER (JUL., AUG., SEPT.)



FOURTH QUARTER (OCT., NOV., DEC.)

Figure 2-8 AVERAGED PATH OF TYPHOONS WITHIN THE PHILIPPINE AREA OF INFLUENCE, 1951 - 1980

Source: PAGASA



LEGEND:

- DIPTEROCARP, OLD GROWTH FOREST
- DIPTEROCARP, RESIDUAL FOREST
- PINE FOREST
- MANGROVES
- SUBMARGINAL AND MOSSY FOREST
- BRUSHLAND
- OTHER LAND USE

Figure 2-9 LAND USE AND FOREST TYPES BY REGION

Source: FMB as cited in EMB, 1990

2.4.4. Rivers, lakes and groundwater

The Philippines has 421 rivers, with drainage areas ranging from 40 km^2 to 25,000 km^2, 58 natural lakes, and more than 100,000 ha of freshwater swamps. Many of the various river systems in the country are now considered as polluted to varying degrees. The source of pollution of these river systems is mainly attributed to sewage, sediments, pesticides, heavy metals, and toxic chemicals.Except for Laguna de Bay, the water quality of the country's lakes has not been monitored on a regular basis, but it can be assumed that pollution and eutrophication are affecting these bodies of water to varying degrees.

A problem now facing some coastal areas in the Philippines is saltwater intrusion of groundwater resources. Significant increases in the salinity of wells in the coastal areas of Metro Manila, Cebu, and Bulacan have recently been detected. This typically occurs as a consequence of overpumping groundwater because of increased demands in these coastal areas, compounded by the lost of aquifer recharge and associated watershed capacities (deforestation).

2.4.5. Wetlands

Extensive wetland areas of the Philippines include mangrove swamps, fishponds, estuaries, deltas, marshes, and rice paddies. In addition to their local ecological role, these wetlands constitute important wintering areas for numerous migratory waterfowl, especially east Asian shorebirds.

Many of the wetland areas throughout the country are under varying degrees of disturbance and threat. These include the conversion of many wetlands and mangrove swamps into fishponds, residential areas and industrial estates, and induced pollution from industrial and agricultural sources.

2.4.6. Air quality

Air quality monitoring in the Philippines is primarily confined to the Metro Manila area and this is mainly limited to vehicular emissions. Moreover, monitoring of air quality outside Metro Manila is source-specific rather than area-wide.

As gathered from the limited data available, air quality in urban centers is described as deteriorating and is attributed to emissions from motor vehicles (70 percent) and industrial plants (30 percent). Major types of sampled air pollutants include total suspended particulates (TSP), sulfur dioxide (SO_2), and carbon monoxide (CO).

2.4.7. Problems and issues

Summarizing existing conditions, the anticipated urban/intra-community settings of the LGIF sub-projects are faced with a variety of environmental problems that include:

- Deteriorating air quality -- Mainly attributed to motor vehicle and industrial emissions that release large amounts of particulate matter such as dust, metallic and mineral particles, smoke, and acidic fumes. In addition, the common practice of open burning of solid wastes and a continued reliance on wood-fueled cooking contribute to a declining status of urban air quality.

- Siltation and pollution of local waterbodies -- Water pollution, due primarily to released sewage, sediments, heavy metals, and toxic chemicals, has become an issue of increasing concern. Siltation from denuded uplands and poor farming practices is a primary cause of the widespread deterioration of the country's coastal resources.

- Inadequate studies on pollution-related diseases -- There is a prevailing lack of data and studies on the effect of pollution on health. Potentially hazardous substances are reaching the general public through water, air, and food but these are not seriously monitored and studied.

- Lack of disposal sites -- To date, there are no sanitary landfill sites operating in the country. Solid waste disposal sites, if available, typically consist of open dumps.

- Constraints in pollution monitoring and enforcement -- There is a lack of reliable and uniform updated data on the state of water and air quality in the country. This is mainly the result of the lack of trained manpower, equipment and lack of funding support for responsible government agencies.

- Poor coordination among government agencies -- Aside from poor coordination, there is also the problem of overlapping responsibilities resulting in weakened and ineffective pollution control measures. The non-uniformity of monitoring schemes undertaken by these agencies has generally rendered available pollution data as unreliable or inconsistent.

- Weak environmental awareness of pollution -- Because of generally inadequate information dissemination programs, environmental awareness has not gained what may be considered as a critical mass.

2.5. Archaeological and historical resources

Archaeological sites in the country appear to be numerous on both land and underwater, and are an integral component of the country's cultural resources (Ronquillo, 1991). In addition, these resources, when properly managed and protected, are important to education, recreation, and tourism. Identified areas of the country rich in archaeological and historical resources include Palawan, Cagayan Valley, Agusan del Norte, the coasts of Batangas Bay, Manila, Pangasinan, and Laguna de Bay. Archaeological materials discovered to date, and the representative settlement periods, include:

- Paleolithic Period (ca. 500,000-10,000 B.C.)
    - pebble-cobble tools, flake tools, and fossilized bones
- Neolithic Period (ca. 10,000-500 B.C.)
    - polished stone and shell adzes, axes, gouges, beads, ornaments, implements, stone bark cloth beaters, and earthenware potteries

- Metal Age (ca. 500 B.C.-A.D. 800)
  - decorated earthenware potteries, glass beads, bracelets, gold ornaments, metal implements, blades and slags
- The Age of Contact and Trade (ca. A.D. 800 - 18th century)
  - stoneware jars, porcelain wares, coins, beads, and bracelets.
- Historical Period (1521 to the 20th century)
  - stone formations, walls, buildings, shipwrecks, nails, woods, metal sheets, European coins, and related artifacts.

Cultural resources are protected under Republic Act 4846, as amended by Presidential Decree No. 374, otherwise known as the Cultural Properties Preservation and Protection Act. This act empowers the National Museum of the Philippines to protect archaeological and unrecorded historical materials in the country. However, despite this law, numerous infrastructure projects in the past did not conduct an archaeological assessment prior to any development activities. Thus, important archaeological sites may well have been destroyed and lost (Ronquillo, 1991).

It is apparently only within the past two years that the National Museum has become actively involved in archaeological impact assessments of public infrastructure projects. This is attributed to the increasingly strict enforcement of 22 CFR 216, of the United States Foreign Assistance Act, which specifies that an environmental assessment must be undertaken for projects significantly affecting the environment of any foreign country. Both the USAID and the World Bank, leading institutions funding infrastructure projects in the country, are now implementing strict adherence to this requirement (Ronquillo, 1991).

During recent years, the National Museum has initiated compilation of a database of all identified and surveyed archaeological resources discovered to date within the country. An acknowledged weakness of the database is that it clearly describes what is known, rather than the greater unknown of yet to be discovered sites. As a consequence, an institutional emphasis of the National Museum is to accelerate data collection and site surveys in a desperate attempt to preserve or at least record the nation's archaeological and historic resources threatened by rapid development.

3. Identification of issues and impacts

3.1. Orientation

As described in Section 1.2.5, various methodologies were applied during the study period to identify the issues and impacts potentially associated with the proposed LGIF Project. In the absence of definitive sites and/or confirmed sub-projects, these methodologies tended to focus on a participatory approach, which was encouraged through:

- distribution of a Background Report (Appendix A-2) with letters of invitation to over 70 government agencies, non-government organizations (NGOs) and individuals;
- solicitation of public recommendations and comment through a scoping process that included a formal scoping session and subsequent workshops (Appendices H-1 and H-3);
- circulation of survey forms (Appendix A-4) to USAID and PREMIUMED project engineers;
- interviews and meetings with over 80 individuals representing 35 government agencies and NGOs (Appendix B); and
- distribution of 30 copies of the draft programmatic EA document for review and comment (Appendix A-7).

As a product of this approach, a number of written submissions were received (Appendix H-4) in addition to the minutes of the scoping session and workshops, completed project engineer's survey forms and site interviews.

As a basic orientation, the consultant team visited over 50 existing facilities and new facilities constructed under comparable donor-assisted programs (Appendix A-5), as well as reviewed all available literature, construction documents and designs pertaining to the LGIF Project (Appendix C).

This chapter includes a summation of the study's findings as broadly categorized by generic issues and potential impacts that might occur as a result of the construction and operation of each type of sub-project. For the purpose of discussion, the study's findings are considered by the consultant team to equally apply to infrastructure activities that may be considered under the LGIF Projects' Natural Disaster Component. Based on these identified issues and impacts, the proceeding chapters address possible alternatives and modifications to the project, with recommendations for the management, mitigation and monitoring of potentially negative environmental impacts.

3.2. A forecast of LGIF Project activities

The relative strength or weakness of a programmatic EA dwells in realm of predictions. For the proposed LGIF Project, the predicted range of activities and events is fairly well defined by the extensive history of USAID-assisted small-scale infrastructure projects in the Philippines, a number of recently-completed background studies, the availability of standard designs and a volume of comparable sub-projects constructed under basically similar donor-assisted programs.

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By design, the proposed LGIF Project is demand oriented, with the ultimate mix of implemented sub-projects dependent on the selection and justification (i.e. feasibility) of the proponent LGUs. A useful indication of potential LGU demand is provided by a tabulation of 559 applications from 305 cities and municipalities nationwide, filed for the 1993 Phase II of the World Bank-assisted PREMIUMED loan program (Table 3-1). This tabulation of the LGU demand for public infrastructures approximates the distribution of expenditures within the 1991 PREMIUMED budget (Table 3-2). In contrast to the grant funding arrangement proposed under the LGIF Project, application for loans under

Table 3-1 Summary of project applications under PREMIUMED II

Project type	Numbers of Applications	Percent of Applications
Public markets	206	37%
Roads	59	10%
Slaughterhouses	51	9%
Drainage structures	49	9%
Water systems	30	5%
Solid waste/sanitary disposal	20	4%
Bus terminals	16	3%
School buildings	9	2%
Flood control	10	2%
Port facilities	12	2%
Hospitals/health centers	4	1%
Bridges	4	1%
Other types	89	15%
Total number of projects applied for to date (June 24, 1992)	559	100%

Source:List of Applicant Centers for PREMIUMED II, June 24, 1992.
Consultant summation of applications from 305 cities and municipalities.

Table 3-2 Distribution of 1991 PREMIUMED expenditures by component

Components	Percentage of 1991 Budget	
Urban services	27.0%	
- National drainage		16.1%
- Flood control		5.2%
- Local drainage		3.2%
- Solid waste		[illegible]
- Area improvement		1.3%
- Sewerage/sanitation		0.0
Public service	32.5%	
- Public market		28.9%
- Slaughterhouse		3.0%
- Water supply		0.6%
Transport/traffic	18.0%	
- National roads		12.4%
- Local roads		4.6%
- Bus terminal		0.9%
- Traffic management		0.0
Training and technical assistance, tax mapping and front end fee	21.1%	
Maintenance	0.9%	
Detailed engineering	0.3%	
Technical assistance	0.2%	
Total expenditures listed (1991)	₱1697.7M/ $72.6M	

Source: PREMIUMED Annual Report, 1991.

PREMIUMED may be indicative of sub-projects of relatively high economic and financial feasibility. Based on this tabulation and a basic project objective to support private sector led economic growth, a priority of the ensuing LGIF Project is predicted to be assisting the construction of public markets, roads and slaughterhouses, with minor components involving school buildings, health centers and bridges.

According to available project descriptions (Appendix D), it is anticipated that most of the proposed sub-projects will be built as expansions or upgrades of existing facilities within established sites or right-of-way. Based on these project descriptions, public meetings and site surveys of comparable projects, predicted environmental impacts will primarily be within existing and relatively highly developed human settlement areas.

3.3. Generic issues and impacts

3.3.1. A summary of the scoping session

Because of the relative novelty of a programmatic assessment approach and the on-going decentralization process, a number of important issues of a generic nature were raised during the June 26 scoping session, including:

- how would Philippine environmental regulations and procedures be applied within the LGIF Project?
    - would sub-projects apply individually for environmental compliance certificates (ECCs)?
    - will archaeological assessments be conducted prior to implementing a sub-project?[7]
    - in the process of decentralization, who is responsible to certify sub-project environmental clearance(s)?
- with decentralization, as provided by the recently enacted Local Government Code, will LGUs have the capability to adequately assess and monitor environmental impact associated with sub-project implementation?
    - is there a corresponding fund for conducting environmental studies on the LGU level?
    - how will construction activities be monitored?
    - could an environmental guarantee fund be established for the LGIF Project?
    - how objective will proponent (LGU)-based environmental assessments be?
    - who will be responsible for the socioeconomic aspect of sub-project feasibility studies?
    - do specific provisions exist for environmental monitoring and evaluation within the LGIF Project?
- how will candidate LGUs be selected?
    - is there an existing list of sub-projects and sites and how is it categorized?
    - what are the selection criteria?
    - how will the LGIF Project be financed -- are these loans or grants?
- to what degree is the private sector involved in the sub-project selection process?
    - how can private sector benefits of the LGIF Project to the poor be improved?
    - will the private sector be consulted?
    - will implementation/construction of the sub-projects displace present occupants of the sites or road right of ways?
    - will waste disposal and hydraulic problems such as drainage be addressed?

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7 A specific example was provided of a recent discovery in Placer, Surigao del Norte, where artifacts dating from three civilization periods were recovered from a school building construction site (see Appendix F).

- is the disposal of potentially hazardous wastes from constructed high school science buildings to be considered within the environmental assessment?
- will there be a process to ensure local participation and support of LGU decisions and assessments?
- will the LGIF-PMO coordinate with the Department of Education, Culture and Sports (DECS) with regard to school building sub-projects to avoid overlap/conflict with DECS programmed construction activities?

Appendix H-1 provides the abbreviated minutes of the scoping session, which includes a full discussion of these issues as they apply to the LGIF Project and the proposed implementation process.

3.3.2. A summary of the workshop

To further address a number of the important issues raised during the scoping session, a subsequent workshop was held on July 24, during which additional issues were raised, including:

- who will be involved in the screening process during the feasibility stage, especially during the ocular inspection or site assessment?
  - who will provide funds for the National Museum (NM) if they will be involved?
  - will universities near the area be a reliable sources of trained personnel?
  - will the Environmental Management Bureau (EMB) be involved or will everything be conducted by the DENR regional offices?
- what will be the level of environmental training needed by the local government units (LGUs) and contractors?
  - for archaeological assessment, will it be better to just contract somebody from the NM or have somebody from the LGU or contractors trained?
- what will be the role of the newly formed inter-agency environmental network (Appendix E-5) in the various stages of the LGIF Project cycle?
  - what agency, or agencies, will be involved in the process of granting an environmental compliance certificate (ECC) at the regional level?
  - who will handle archaeological concerns considering that the NM does not have regional offices?
  - is there any way of deputizing the functions of environmental impact statement (EIS) evaluations down to the provincial level?
- will the LGIF Project be able to start on time if the decentrali . process will only be completed during the next two to five years?
  - how ready are the DENR regional offices in handling the responsibility given to them under the 1991 Local Government Code?
- what forms of social conflict might arise from this project?

- will it be necessary to conduct public hearings for all types of sub-projects proposed under the LGIF Project?
- what criteria (checks and balances) will be applied to evaluate the social soundness of a sub-project if the LGU is the proponent?

- what kind of monitoring will be needed during construction and operation of the LGIF sub-projects?

  - who will check the monitoring that will be done by the LGU?
  - where will funds for monitoring come from?
  - how will DENR Administrative Orders 34 and 35 be applied for effluents from public markets and slaughterhouses?

Public discussion and official responses to these additional issues is included in the abbreviated minutes of the workshop (Appendix H-2), which provides, in line with the public comments raised during the scoping session, a range of generic issues and impacts of concern to the LGIF Project.

3.3.3. Written submissions

In addition to numerous issues raised during the scoping session and subsequent workshop, written submissions (Appendix H-4) received to date from concerned government agencies and NGOs identified various considerations for incorporation within the framework of the LGIF Project.

These written submissions provide additional guidance towards environmentally sound project implementation, specifically full involvement of local private organizations (POs) and non-government organizations (NGOs) within the project cycle, compliance of proposed sub-project sitings to local zoning and/or development plans and recommendations to include landscaping features and open areas within proposed site development plans.

3.4. An assessment of construction-related environmental impacts

By general definition, negative environmental impacts could result from any type of construction activity. Within the Philippine context, identified issues of particular concern include the following:

- an increase in soil erosion, which may result in sedimentation, increased turbidity of nearby water bodies, and eventual siltation of sensitive coastal resources (e.g. coral reefs) as the result of stormwater runoff, alteration of surface water drainage and improper disposal of excavated materials and spoils;

- induced localized pollution from discharged solid and liquid wastes (wastewater and solid waste from the labor force, miscellaneous construction and site clearing debris), construction chemicals (paints, cleaning solvents, soil poisons), and petroleum products (oils, fuels, lubricants, kerosene, grease);

- an increase in noise and dust emission levels as a result of traffic congestion or disruption and type of construction equipment used;

- direct and indirect encroachment upon agricultural lands and forests;
- an increase in the depletion of "non-renewable" natural resources, such as tropical hardwoods;
- relocation/dislocation of existing residences, business or livelihoods within densely populated urban sitings;
- disruption and temporary displacement of existing commercial and social activities during the construction of replacement facilities; and
- destruction of archaeological resources through indiscriminate excavations, including borrow sites.

While these concerns apply to the constructional activities proposed under the LGIF Project, various parameters of the project's format, as presented in Chapter 1, substantially limit the potential scope and scale of construction-related environmental impacts. These defined project parameters are as follows:

- all identified sub-projects are small-scale and short term in nature, with anticipated construction cycles ranging from three months to one year, with most construction activities concentrated within an average period of two to five months (Figures 3-1 and 3-2);
- available standard designs and construction documents specify common materials that are generally locally available, such as cement, sand and gravel, structural steel, and galvanized iron (GI) roofing sheets (Tables 1-9 and 1-12). Lumber requirements are limited and range[8] from approximately 6,000 bd. ft. for a typical public market module, to approximately 16,000 bd. ft. for a 2 story, 4 classroom school building;
- as small-scale projects using locally based contractors and laborers, the traditional practice of establishing an on-site workcamp to accommodate laborers for the duration of the construction activities is not anticipated;
- local construction methods, particularly for such small-scale projects, is predominantly labor-based, with traditionally minimal use of expensive heavy equipment;
- virtually all sub-projects are described as expansions or upgrades of existing facilities within established sites or right-or-way; and
- because of the existing status of most anticipated sites, earthwork, including excavation, is predicted to be limited, as are the import (borrow) and export (surplus) material requirements. Estimated excavations to be incurred during the LGIF Project range from less than a hundred cubic meters for the foundations and footings of most proposed structures to several thousand cubic meters per kilometer of road improvements in moderately rough terrain (Figure 3-2).

8 Estimates of lumber requirements include concrete form lumber, which is generally reused, but do not include plywood which is measured by sheets or square feet (ft^2) rather than by board feet (bd ft)

Based on these project parameters and available descriptions of the proposed sub-projects, the potential environmental impacts anticipated to occur during, or as a result of, their construction is assessed as both minimal and manageable. During the field visits to construction sites of comparable infrastructure projects, the types of environmental impact observed were directly associated with:

- inadequate construction site management;
- construction schedules that coincided with the local rainy seasons; and
- general lack of specifications and budget line items for impact mitigation and rehabilitation.

To further minimize potential impacts of proposed construction activities, a number of alternatives are presented in Chapter 4, while Chapter 5 describes recommended management, mitigation and monitoring measures.

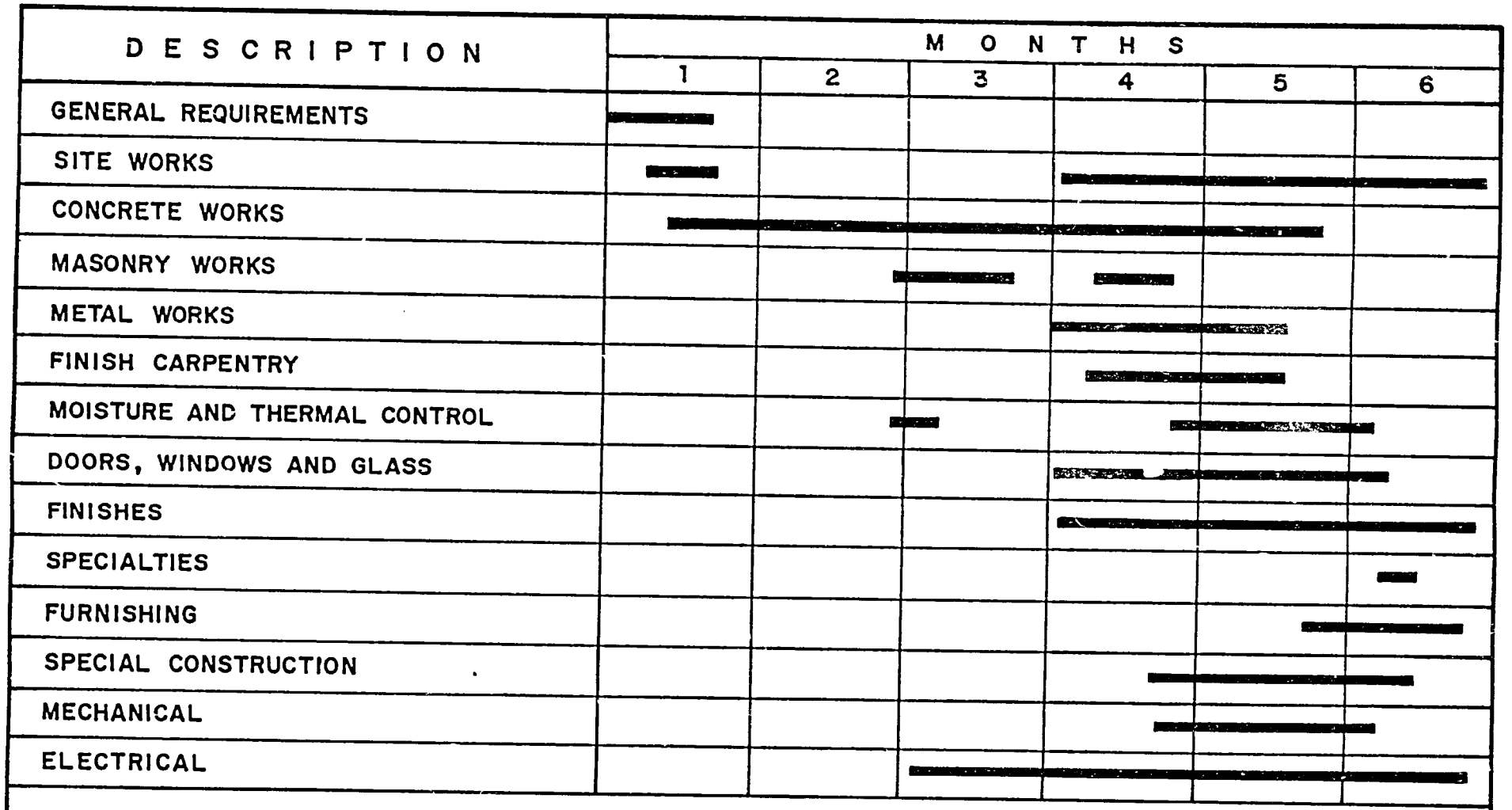
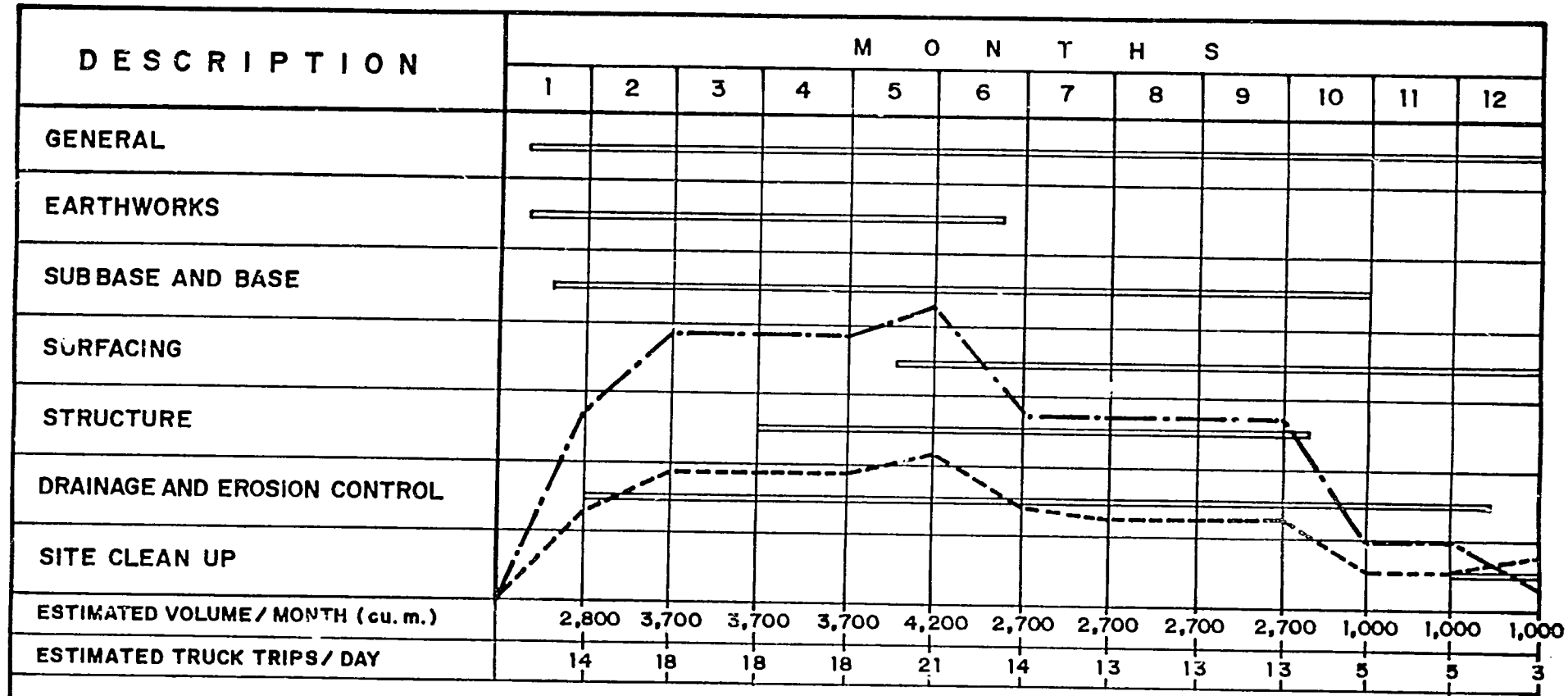


Figure 3-1 TYPICAL BAR CHART
FOUR CLASSROOM SCHOOL BUILDING

Source: MPE-PMO, James Gordon Elementary School

Tropical Research and Development, Inc. — Dames & Moore



LEGEND:

ESTIMATED VOLUME/MONTH

ESTIMATED NUMBER OF TRUCK TRIPS/DAY

NOTE:

BRIEF PROJECT DESCRIPTION - CONCRETING (5 m. WIDTH) OF EXISTING ALIGNMENT, 5 Km. IN LENGTH, MODERATE TERRAIN.

Figure 3-2 ESTIMATED MATERIAL HANDLING REQUIREMENT FOR IMPROVEMENT OF A PROVINCIAL ROAD

Soure: ESFS, Bid Schedule for the Construction of Bucot, Allaga Road

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3.5. Public markets

3.5.1. Socioeconomic impacts

In most Philippine communities, the public market is the center of local commerce and trade, and is run as a public enterprise. As a consequence, public markets are generally located within the congested center of the community (within the "poblacion") and add to the spatial congestion by their cultural popularity. Based on the ESF Evaluation Report (USAID, 1991), public markets, as funded under the LGIF Project, would most likely affect the following:

- New business and employment
  - generate new business, especially within and around the public market;
  - increase number of ambulant vendors; and
  - generate new employment.

- Consumer welfare
  - increase competition resulting to reasonable prices to consumers; and
  - enhance the quality and quantity of offered goods and services.

- Producer welfare
  - provide higher and more favorable returns to producers, especially farmers.

- Fiscal affairs
  - increase municipal revenues; and
  - increase land values, especially in areas adjacent market site, resulting to higher assessment levels and higher property taxes.

- Health and sanitation
  - provide relative improvements in public health and sanitation as compared to conditions in older markets; and
  - potentially increase local flooding caused by pre-existing inadequacies in site drainage.

- Circulation
  - increase vehicular and pedestrian traffic; and
  - possibly disrupt prevailing vehicular and pedestrian flows as a result of ambulant vendors occupying portions of adjacent streets and sidewalks.

A number of issues were identified within the 1991 evaluation of the ESF infrastructure program that could diminish the potential benefits and positive impacts of constructing new public markets including:

- generally weak capabilities of LGUs to operate municipal enterprises, including public markets;
- typically poor maintenance of public facilities;
- inadequate monitoring and accounting systems; and
- deficit rental rates of public market stalls, in comparison to the costs of operations and maintenance.

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3.5.2. Environmental impacts

Based on site surveys of existing and recently completed facilities, and consultations with concerned groups, potential environmental impacts associated with public market sub-projects are as follows:

- disruption and temporary displacement of commercial activities during the construction of replacement facilities;
- a spill-over of displaced commercial activities to adjoining streets and public access areas during the construction of replacement public market facilities;
- continued congestion as the result of occupation by ambulant vendors of public access areas;
- uncollected solid wastes; and
- resultant drainage obstruction, site flooding and public health concerns.

These potential impacts were also identified in the survey conducted of project engineers who further noted additional problems caused by improper disposal of surplus excavated materials and traffic disruption as a result of road closures and spillover of construction activities.

3.6. Slaughterhouses

3.6.1. Socioeconomic impacts

Slaughterhouses are generally operated as public enterprises, with building and operational standards set by the National Meat Inspection Commission (NMIC) of the Department of Agriculture. Potential impact areas of slaughterhouses would be similar to public markets, in addition to the following:

- higher value added for meat products by improving meat handling and quality; and
- improved public health as the result of reduced effluent pollution loads and improve on-site sanitation.

Poor project selection in terms of inadequate maintenance budgets, deficit rate structures and poor management were identified factors that typically determine the socioeconomic impacts of a slaughterhouse sub-project.

3.6.2. Environmental impacts

The main problems and issues observed during the site visits to existing slaughterhouses and identified through conducted surveys are:

- discharges of untreated solid and liquid wastes from existing slaughterhouses directly into rivers;
- foul odors attributed to uncollected solid and liquid wastes; and
- unsanitary conditions caused by stagnant wastewater around the existing facilities, and the presence of flies and cockroaches.

The same problems were identified during the scoping session, in addition to the issue of inappropriate siting of many existing facilities within congested urban centers.

3.7. Roads

3.7.1. Socioeconomic impacts

Improvement of roads, particularly feeder roads, is described in the existing background literature to the LGIF Project, to have the greatest impact on agricultural production, trade, and commerce, particularly in terms of:

- Accessibility and transportation
  - reduce travel time;
  - facilitate reliable transportation of goods and services;
  - increase access to markets;
  - more efficient transport of farm commodities; and
  - reduce vehicle maintenance and operating costs.

- Production and land use
  - increase use of existing farm land;
  - increase planting of cash crops;
  - higher production levels;
  - encourage a shift from small-scale to commercial farming;
  - facilitate the introduction of appropriate technologies; and
  - reduce food spoilage.

- Trade and commerce
  - increase sales by improving access to farmers;
  - facilitate the establishment of buying stations;
  - encourage construction of storage facilities; and
  - improve the availability of credit.

Identified factors that could reduce these potential positive impacts of road sub-projects include poor project selection, lack of monitoring inspections during construction and inadequate road maintenance.

3.7.2. Environmental impacts

As supported by observations of similar road projects recently implemented under the USAID-assisted RIF Project, negative environmental impacts associated with road sub-projects may include:

- increased soil erosion caused by poor handling of cut materials, poor slope stabilization measures, and the production of unstable surface conditions;
- dust emissions from traffic and earthworks; and
- induced siltation of sensitive coastal resources, such as coral reefs.

A potential impact identified during the scoping session, and in subsequent consultations, is the effect of new road construction and improved access to agricultural or forested areas. Based on available budgets and limited scale at eligible sub-projects, the construction of penetration roads is not anticipated under the LGIF Project.

The survey of USAID and PREMIUMED project engineers identified the following as potential impacts and issues typically encountered during small-scale road construction activities:

- sanitation problems and poor site drainage of the temporary workcamp;
- traffic disruptions; and
- right-of-way problems as the result of displacement of existing residents and structures located within designated easements and sites.

3.8. School buildings

3.8.1. Socioeconomic impacts

Similar to the school buildings constructed under the ESF infrastructure program, public school buildings assisted under the LGIF Project are expected to serve students from predominantly poor families. Identified impact areas include:

- Improved performance of teachers and students
  - more attention to individualized instruction;
  - improve attendance and learning; and
  - improve foundation skills leading to better preparation for higher education.

- Travel effort
  - reduce travel time; and
  - reduce transportation costs.

- Physical accommodations
  - partially alleviate the severe classroom shortage and overcrowding of school facilities;
  - reduce size of classes;
  - improve safety of students and teachers;
  - serve as a multi-purpose facility for evacuation, and community events; and
  - improve public health and sanitation through provision of toilet facilities.

3.8.2. Environmental impacts

From observations made of construction sites for several ESF school building sub-projects and from surveys of project engineers, the potentially negative environmental impacts of school building sub-projects include:

- groundwater contamination by petroleum products, soil poisoning chemicals, and stagnant wastewater within the construction site;
- generated solid wastes from the temporary work camp;
- fugitive dust emissions from the construction site;
- exhaust emissions from construction equipment;
- sanitation problems caused by the traditional lack of on-site toilet facilities for construction workers; and
- traffic problems related to the proximity of most school compounds to busy streets.

3.9. An assessment of environmental impacts caused by sub-project operations

Based on a history of small-scale public infrastructure projects in the Philippines, recent site surveys of a number of these constructed facilities and public comments received during the study, primarily positive environmental impacts have been identified for the sub-projects proposed under the LGIF Project. For example, significant health benefits have been repeatedly related to improving the conditions of existing public markets and slaughterhouses, particularly through the provision of on-site sanitation facilities and wastewater treatment.

Similar facilities constructed under previous projects (i.e. ESF infrastructure program) from which the available LGIF standard designs were derived, are generally referred to as the state of the art or as the showcase of the recipient community. While these comparable sub-projects are acknowledged as being well engineered and constructed, seemingly endemic sanitation problems often reappear during the operations of these facilities because of an apparent lack of adequate maintenance (e.g. regular cleaning of drains and septic tanks) or complementing public services.

As designed, the proposed facilities are relatively low in overall maintenance requirements. Additional design recommendations to further minimize maintenance demands are provided in Chapter 4. Supportive institutional and organizational structures are deemed essential by the consultants to the sustainability of any constructed sub-project and should be fully considered within the initial screening of candidate LGUs, as discussed in Chapter 5. For example, the solid waste treatment situation within the country varies greatly between different LGUs, with a general lack of designated dumpsites, manpower, equipment or operating budgets to overcome the equivalent lack of public emphasis, or sense of priority in many communities.

A principal environmental impact associated with the maintained operation of most the proposed sub-projects will be the legal creation of a point source of wastewater effluents wherever on-site treatment facilities are provided. These effluent point sources may range from the overflow of a small septic tank serving a three classroom school building to discharges from comprehensive public market complex comprised of several standard design modules, such as illustrated in Figure 1-10. Based on data previously presented in Section 1.5, Table 3-3 provides a summary of potential effluent flows, including washwater discharges in the case of public market modules.

Table 3-3 Summary of estimated effluent volumes and BOD loads of selected LGIF sub-projects

Sub-projects	Flow[2] (l/-day)	BOD (kg/-day)
3-classroom school building	2,460	n/a
District slaughterhouse	6,280	13
Type II public market	11,550	3.5
16-classroom school building	13,120	n/a
Type III public market	37,725	11
Satellite slaughterhouse	40,320	72
Public market complex[1]	70,725	20.9

[1]Estimated value for the public market complex represents the total of three independent market modules (Figure 1-10).
[2]Estimated flow volumes are based on calculated total water demands
BOD biological oxygen demand

These potential effluent flows, conservatively based on estimated total water demands, range from 2,460 l/day for a 3 classroom school building, to 70,725 l/day for a comprehensive public market complex, involving three standard design modules. Wastewater generation is typically calculated as 80 percent of domestic water demand (Metcalf and Eddy, 1972). As a standard measure of effluent load, biological oxygen demand (BOD) values were estimated and range from 3.5 kg/day for a Type II (Dry) Public Market Module, to 72 kg/day for a relatively substantial, satellite-class slaughterhouse. The estimated on-site reduction of BOD by the three types of wastewater treatment processes proposed by the LGIF Project are summarized in Table 3-4.

Table 3-4 Designed wastewater treatment and BOD reductions for typical sub-projects

	BOD influent (mg/l)	Designed treatment	BOD reduction by treatment	BOD effluent (mg/l)
School buildings	300	septic tank	30%	210
Small public markets	300	septic tank	30%	210
Large public markets	300	Imhoff tank[1]	60%	120
Slaughterhouses	1,000	anaerobic and aerobic ponds	80%	200

Source: ESFS Standard Designs, consultant estimates.
Note: An Imhoff tank is a two-level, combination sedimentation/septic tank.
BOD - biological oxygen demand

While most sub-projects proposed under the LGIF Project fall within the category of replacement facilities, existing facilities in general lack the basic amenities provided under the project -- improved water supply/service, public toilets and integrated drainage systems. Thus, while not exactly creating effluent, the proposed sub-project facilities may tend to concentrate existing effluent loads that in the past have been crudely dispersed, and has resulted in the poor sanitation conditions of the existing facilities.

Under DENR Administrative Order No. 35 (Series of 1990, Appendix E-7), effluent standards of all major point sources of discharges in the country are being substantially upgraded with full implementation targeted for 1994. An amendment to these regulations, DENR A.O. No. 2 (Series of 1991), further defines the legal applicability of these effluent standards, including the exemption from compliance for point sources discharging less than 30 m^3 (30,000 l) per day:

> The effluent standards apply to industrial manufacturing plants and municipal treatment plants discharging more than thirty (30) cubic meters per day. (Appendix E-8)

Based on the consultants' interpretation of DENR A.O. No. 35, evaluation of predicted effluent impacts is based not only on the classification of the waterbody at the point of effluent discharge, but also on the classification of the waterbody defined as the point of impact (e.g. effluent discharge to a drainage canal, which empties into a river).

In the interest of public health and sanitation, all anticipated site development plans of the LGIF Project will include the provision for on-site primary, and in the case of slaughterhouses, secondary treatment facilities that will need to comply with the legal requirements of DENR Administrative Order No. 35, as amended by DENR A.O. No. 2. For the proposed larger facilities, including public market complexes and slaughterhouses, additional design or process measures may be required to meet applicable effluent standards, based on this study's estimates. For smaller facilities with exemptible effluent volumes, secondary measures, such as subsurface wastewater infiltration systems (leach fields) are deemed appropriate because of the anticipated urban siting and/or public utility of these facilities. A discussion

of proposed effluent treatment processes and facilities, and recommendations for alternatives or supplemental treatment facilities is included in Chapter 4.

For potentially hazardous wastes generated in the operation of high school science buildings and health centers, separate holding tanks are included within their site development plans to avoid disruption of biological treatment processes or contamination of effluent streams.

3.10. Cumulative impacts

Construction of the small-scale infrastructure sub-projects as proposed under the LGIF Project will increase demand for specific construction materials such as cement, aggregate, and lumber. All of these materials are subject to temporary local shortages. Although this increased demand is expected to be minimal in relation to the consumption of these materials arising from other larger-scale infrastructure projects in the Philippines, as shortages occur, the increased demand could exacerbate their effects on the local availability, and corresponding cost, of these materials.

In addition to local shortages of lumber that occasionally occur, use of lumber for construction purposes may place additional demands on the nation's dwindling forest resources. The prospect of a nationwide ban on commercial logging operations continues to be discussed as these resources are placed under increasing pressure and the adoption of proposed legislative measures could significantly influence the availability of lumber for building purposes. It should be noted that this concern is focused on the nation's tropical hardwood species and forests rather than on other commonly used commercial species (i.e., coco lumber). If such a logging ban were to be implemented, then alternatives to the use of wood products affected by the ban (such as increased use of steel products and reusable forms for concrete) would need to be explored and encouraged through further design modifications.

In the short term, construction of infrastructure sub-projects may temporarily impact local water quality through erosion, increasing the sedimentation of affected waterways. While erosion control measures would be implemented, these are not entirely effective in eliminating sediments from reaching waterbodies. Construction during the dry season would substantially reduce potential erosion. Provinces identified in Chapter 2 as being potential recipients of LGIF Project funds are, generally, mountainous and subject to high rainfall in the range of 2500 mm (100 in) per year. Both of these factors will contribute to increasing the potential for erosion during construction activities.

Construction of the infrastructure sub-projects will also increase the amount of solid waste that will require proper disposal. These materials will primarily be construction debris and demolition rubble, which tends to be recycled or used as fill material.

During construction, there will be temporary increases in traffic in the vicinity of the construction projects. As these projects are to be generally located in urban areas (in the case of the public markets, it will most likely be located in the center of the municipality), it is likely that the site area will be subject to some measure of traffic congestion and the construction project will exacerbate these conditions. Duration of construction activity will, however, be limited, and impact of increased congestion will be similarly limited in duration.

LGIF-funded infrastructure activities are not the only such projects being undertaken by municipalities in the Philippines. Other donor assisted projects may be ongoing in communities simultaneously with

those under the LGIF Project. If this is the case, then the demand for construction labor, materials, and equipment may place strains on the local capabilities to meet the demand. Also, the construction of several projects simultaneously may strain the capability of the LGU to properly supervise and manage the activities.

The first round of USAID funding would involve an estimated $22.5 million (₱562.5 million) to assist 20 to 30 LGUs over an average project cycle of two years or ₱281.25 million per year. On a national scale, the fiscal impact of the LGIF Project is minimal. For example, ₱281.25 million represents only 1.25 percent of DPWH's infrastructure budget for 1993. This amount, however, becomes significant when compared to local budgets and is equivalent to 25 percent of the total capital expenditures of LGUs in 1990 (about ₱836 million adjusted from ₱243 million at constant 1980 pesos; see Table 2-2).

It is estimated that each selected LGU will receive a maximum allocation of $1.2 million (₱30 million) from the first round funding. Assuming that this amount would be expended over two years, this directly translates to ₱15 million annually of direct assistance to LGUs for small-scale infrastructure development. An indication of the magnitude of the impact of this amount is given when the annual revenues of a typical LGU are examined. For instance, General Santos City in 1989 had an annual income of ₱65.55 million. The indicative amount earmarked for each selected LGU would easily be the equivalent of at least one-fourth the annual income of a chartered city outside Manila and Cebu. Such a situation suggests an examination of the capacity of the LGUs to absorb significantly increased amounts of development funds and points to the need to develop the institutional, particularly financial and project management, capabilities of LGUs.

With respect to long-term environmental impacts of infrastructure projects to be funded under the LGIF Project, these are expected to be primarily beneficial rather than negative. Existing environmental impacts and poor public health conditions of the situation create the need for the infrastructure projects; their implementation is expected to alleviate these conditions.

Facilities tend to contribute to water quality degradation in the receiving waterbodies through improper (or non-existent) treatment of generated wastewater and solid waste, and to local flooding through inadequate drainage of the sites. Although the volume of wastes generated will likely increase as a result of project implementation, improvements to these conditions are expected to result from the LGIF Project through incorporation of wastewater treatment facilities and solid waste disposal systems. Also, the provision of on-site wastewater treatment and solid waste management systems will contribute to improvements in sanitation and public health by eliminating conditions conducive to disease vector proliferation. Improvements to site drainage are also expected to result from project implementation. Traffic congestion in the vicinity of the sites is expected to be improved through the provision of adequate space for vehicular and pedestrian traffic and the provision of space for parking and public transportation.

The expectation that environmental conditions will improve is, however, premised on the assumption that the facilities being constructed will be maintained by the LGU. If such systems are not properly maintained, then the situation will quickly revert to the condition and no overall improvement will be realized. Long-term maintenance of these facilities is beyond the capability of USAID to control and is subject to the demonstration of political will on the part of the LGU to ensure that the facilities continue to benefit the community and not contribute to environmental degradation.

4. Recommendations of alternatives and modifications

The following sections provide a general discussion of the recommendations of alternatives and modifications to the LGIF Project developed during the study process. Section 4.1 includes a brief description of a very basic alternative - no action (i.e. no project). Subsequent sections present a series of proposals for consideration within the ensuing phases of the LGIF Project. It is important to note that the screening process of candidate LGUs and sub-projects, and the standard designs for these sub-projects, will be finalized by the LGIF-PMO and their in-house consultants during these subsequent phases (Section 1.4). Bearing this developmental orientation in mind and the limitations of this study, the presented recommendations of this Final Report are intended to serve as a guide during project implementation.

4.1. Future conditions without the LGIF Project – the no-action alternative

The Government of the Philippines has initiated a decentralization process that will rapidly devolve responsibilities, along with an increased share of public revenues, to local government units (LGUs). Under the 1991 Local Government Code (Appendix G), the role of implementing small-scale public infrastructure has been transferred from a national level, the Department of Public Works and Highways, to local government levels, consisting of provinces, chartered cities, municipalities and barangays.

Reports from a number of recent orientation seminars held by the various national line agencies to disseminate information on the decentralization process indicate a wide disparity in the capability of LGUs to implement essential infrastructure projects. Similar to the findings of several background reports prepared for the LGIF Project (USAID, 1991), the general tendency is that LGU capabilities are highly correlated to the relative economic status of the LGU, and throughout devolving years. In other words, wealthy LGUs will tend to be more capable of accommodating decentralization.

Basic selection criteria for eligible LGUs under the proposed LGIF Project involves a screening of needs as well as capabilities and past performance. Under the no-action alternative, it is anticipated that needy LGUs might be disproportionally affected by the decentralization process with regards to adequately/positively meeting their public infrastructure responsibilities. The types of LGIF sub-projects that are proposed (i.e. small-scale, locally constructed, economically-oriented) are characterized by generally high multipliers of economic benefit, as well as potential financial benefits to recipient LGUs in the form of public enterprises, such as public markets and slaughterhouses. Without the LGIF Project, existing infrastructure facilities of targeted needy LGUs may be inadequate to meet the continued demand for their public utility under the decentralization process. While other donor-assisted programs supporting the construction of small-scale infrastructure are apparently available (PREMIUMED, Phase II), such programs are generally based on loans, which may further tax the limited financial resources of a qualified decentralized LGU.

In addition to a product, the proposed LGIF Project involves a process of capability building of LGUs in support of the national efforts towards decentralization. The no-action alternative would preclude these positive initiatives.

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4.2. Alternative implementing arrangements

The proposed implementing arrangement for the LGIF Project was developed during the preceding year, through a number of background studies and evaluations (Section 1.4.3) and is based upon previous experience gained from project management office (PMO) arrangements. In the process of this brief study, no alternative implementing arrangements were identified by the consultant team or in the public meetings and written submissions received to date. Recommended modifications to the proposed implementing arrangement include:

- accelerate the traditional mid-term outside evaluation of project as a feedback mechanism towards improving implementation performance and environmental soundness of the overall project; and

- for infrastructure sub-projects that might be implemented under the Natural Disaster Component (Section 1.4.5), the LGIF-PMO should consider including a site assessment and site adaptation review process to the proposed implementation cycle. As proposed, and in line with recent natural disaster reconstruction projects, the construction contractor directly performs the site adaptation of standard designs, for the purpose of expediency in responding to emergency situations.

Experience gained during recent Mount Pinatubo reconstruction activities indicate that additional steps for project management reviews of the condition and provision for each site, as well as the site adaptation of each standard design, is appropriate and foreseeably cost-effective. For example, the consultant team received several reports of school buildings that were constructed, under a natural calamity situation, in existing school compound sites that lack adequate water supply.

4.3. Alternative types of sub-projects

The proposed LGIF Project is demand-oriented with respect to types of eligible sub-projects available as standard designs, for selection and site adaptation, by the participating LGUs. In addition, the LGIF Project is intended to provide types of public infrastructure that encourages private sector led economic growth. Identified types of sub-projects (Section 1.5) are basically derived from recent programs (i.e. ESF infrastructure program) that did not specifically share the objectives of the LGIF Project, particularly the support for a decentralized sub-project selection and implementation process. As a consequence, alternative types of sub-projects may locally be in high demand and appropriate for consideration under the LGIF Project.

As an indication of pending LGU demand for small-scale, public infrastructure support, Table 3-1 provides a summary of project applications under Phase II of the World Bank-assisted PREMIUMED loan program. This summary represents 559 project applications, from 305 cities and municipalities nationwide. Alternative types of sub-projects identified through this summation are as follows:

- drainage structures;
- water systems;
- solid waste and sanitary disposal systems;
- bus terminals;
- flood control; and
- port facilities.

These types of sub-projects have been implemented during previous phases of the PREMIUMED program (Table 3-2) and should be evaluated for their appropriateness within the LGIF Project. In particular, a standard design could be developed for bus terminals, which serve an important local role as the result of a high dependence on public transport of passengers and cargo.

4.4. Modifications to existing types of sub-projects

Available standard designs of proposed LGIF sub-projects were adopted primarily from the ESF infrastructure program and are based on a history of USAID-assisted infrastructure programs. Because of the increasing social value placed on environmental issues (Appendix F and H) and the recognized economic benefits (i.e. improved public health, enhanced project sustainability) of their incorporation within project designs, a number of modifications to existing types of sub-projects were identified in the process of this study.

The primary, design-dependent environmental concern identified for the sub-projects proposed under the LGIF Project is adequate on-site treatment of wastewater effluent. The following recommendations of sub-project modifications focus on this basic design concern for on-site wastewater treatment technologies that are deemed appropriate to the siting and scale of the sub-projects, and the conceptual limits of economic/financial feasibility.

4.4.1. Public markets -- wastewater treatment recommendations

Wastewater from public markets can be divided into two distinctive streams:

- domestic wastewater from toilets; and
- washwater from floor and countertop washing operations that, in the Type I and III markets, will contain a variety of solid waste materials (e.g. fish offal).

Domestic wastewater generated by market operations is estimated to have a higher BOD and suspended solids level than that of most municipal wastewaters. Because of operation and maintenance requirements, nearly all existing public markets operate toilets of the pour-flush type that uses only 30 percent of the flushing water requirement of a conventional flush toilet. Using less flush water serves to increase the strength in terms of BOD concentration, of the sewage discharged by public markets. Similar pour-flush-type toilet facilities are recommended for incorporation within the LGIF Project.

Washwater from floor and countertop washing operations would normally be generated only by the Types I and III public market modules, which include fresh fish stalls. The washwater, containing blood, meat, scales and fish offal, is normally discharged into drains and from there into either the municipal drainage system or a nearby receiving waterbody. Some existing public markets combine the domestic wastewater and washwater for primary treatment within a single septic tank.

To maintain an adequate degree of sanitation, the fish market and meat market areas should be thoroughly cleaned with fresh water after each trading day and again washed down before trading commences the next day. Disinfectants and cleansing agents, such as chlorine and detergents, may be used during these regular washings. These chemicals could, in turn, disrupt the biological treatment process of septic tanks into which they flow, indicating a basic need of separate wastewater and washwater septic tanks.

The proposed septic tank, or Imhoff tank, treatment of public market liquid wastes may not meet the DENR Administrative Order 35 (Series of 1990) effluent standards for BOD and other pollutants (Section 3.9). These new standards call for BOD and suspended solids concentrations in effluent of not more than 150 mg/l and 200 mg/l, respectively, for discharges into class D waters, which are inland waters used for agriculture, irrigation, livestock watering, etc. If the wastewater effluent is discharged into a body of water that is presently not included in the existing classification system, as in the case of a drainage canal, DENR will review the proposal according to site and discharge specific parameters.

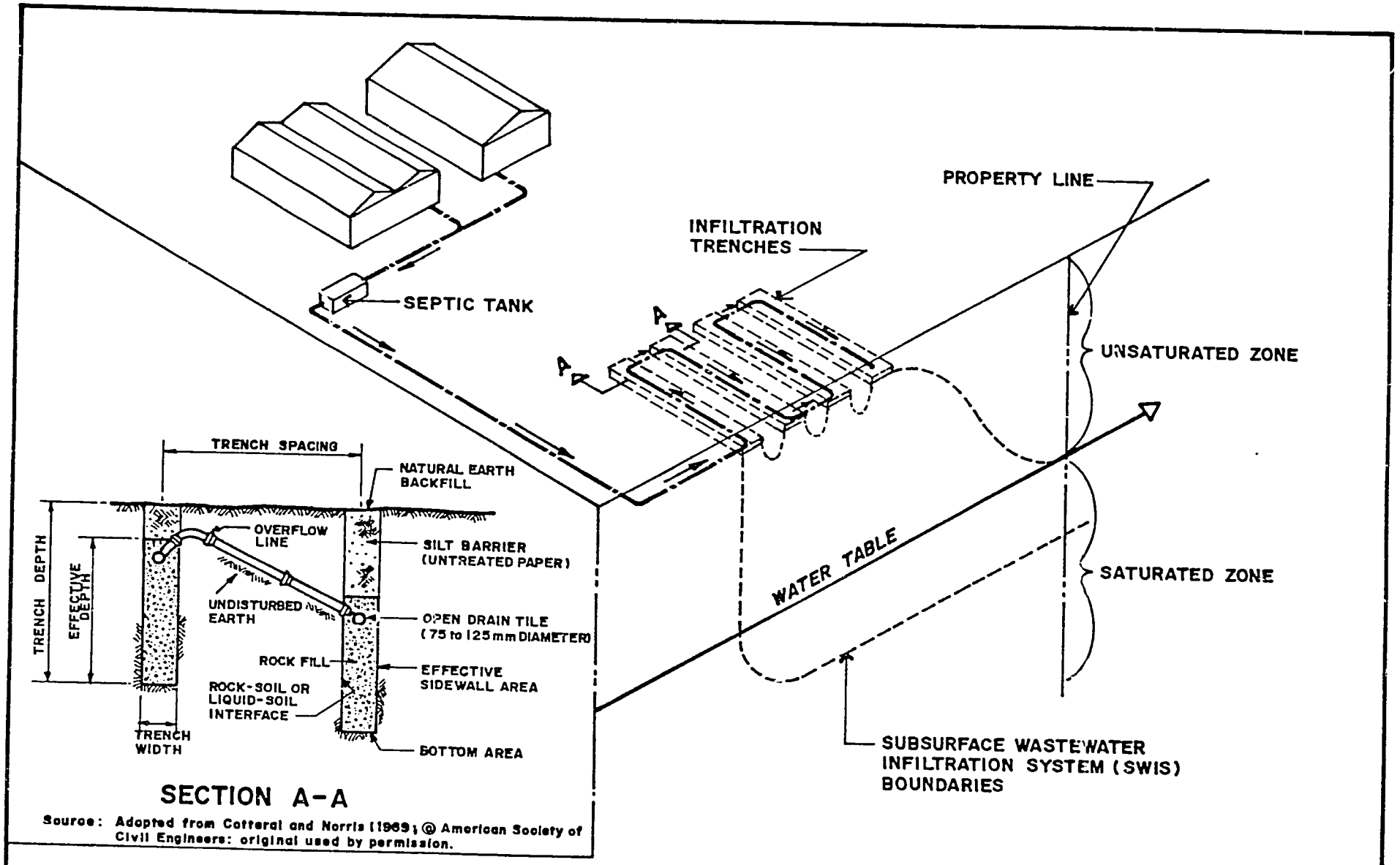
4.4.1.1. Wastewater treatment alternatives

Subsurface wastewater infiltration systems (SWIS's, also commonly referred to as leach or tile fields) are subgrade land application systems for wastewater treatment that are well suited for effluent flows of up to 200,000 L per day. Small SWIS's can be employed to treat the overflow from proposed sub-project septic tanks. SWIS's are often preferred over mechanical treatment facilities because of their consistent performance with little operator attention, and lower capital and operational costs.

Several different SWIS designs have been developed for use under various site and soil conditions, but all consist of soil infiltrative surfaces exposed in a buried excavation (Figure 4-1). Typically, the excavation is filled with porous media, such as sand and gravel, which maintains the structure of the excavation, allows the free flow of wastewater over the infiltrative surfaces, and provides wastewater storage during peak flows. The partially treated overflow from the septic tank is discharged onto the porous media where filtration, absorption and biochemical reactions provide a secondary-level of treatment. Further treatment is provided by similar processes as the wastewater percolates through unsaturated soil below the infiltrative surfaces. Ultimately, the renovated wastewater enters and flows into the local groundwater table (Figure 4-2).

Important disadvantages of SWIS's are their size and capacity, which are determined by the selected treatment site. The soil is the system; therefore, SWIS performance is difficult to predict and monitor. If failure should occur, significant environmental damage or health risk can result. Hydraulic failure can lead to ponding on the surface and run off from the treatment site. Since most public markets are located in or very near the cities or towns, this secondary type of treatment is not recommended for soils with poor drainage capacity or near-surface water tables, as typified by low-lying rice-growing regions. Ideally, a SWIS could be incorporated within a landscape area of the public market to recycle both moisture and nutrients provided by the system, through the adjoining planted vegetation.

Guidelines presented in most SWIS design manuals are based on domestic septic tank effluent loads. Effluent loading, as measured by BOD, on the infiltration surface is the most important factor determining the long term performance of the SWIS's. As a preventative measure, wastewaters from public market operations need to be screened before being discharged into receiving septic tank systems, as unscreened wastewater tends to clog infiltration zones.



Source: Adopted from Cotteral and Norris (1969); © American Society of Civil Engineers: original used by permission.

Figure 4-1 DEFINED BOUNDARIES OF A SUBSURFACE WASTEWATER INFILTRATION SYSTEM (SWIS)

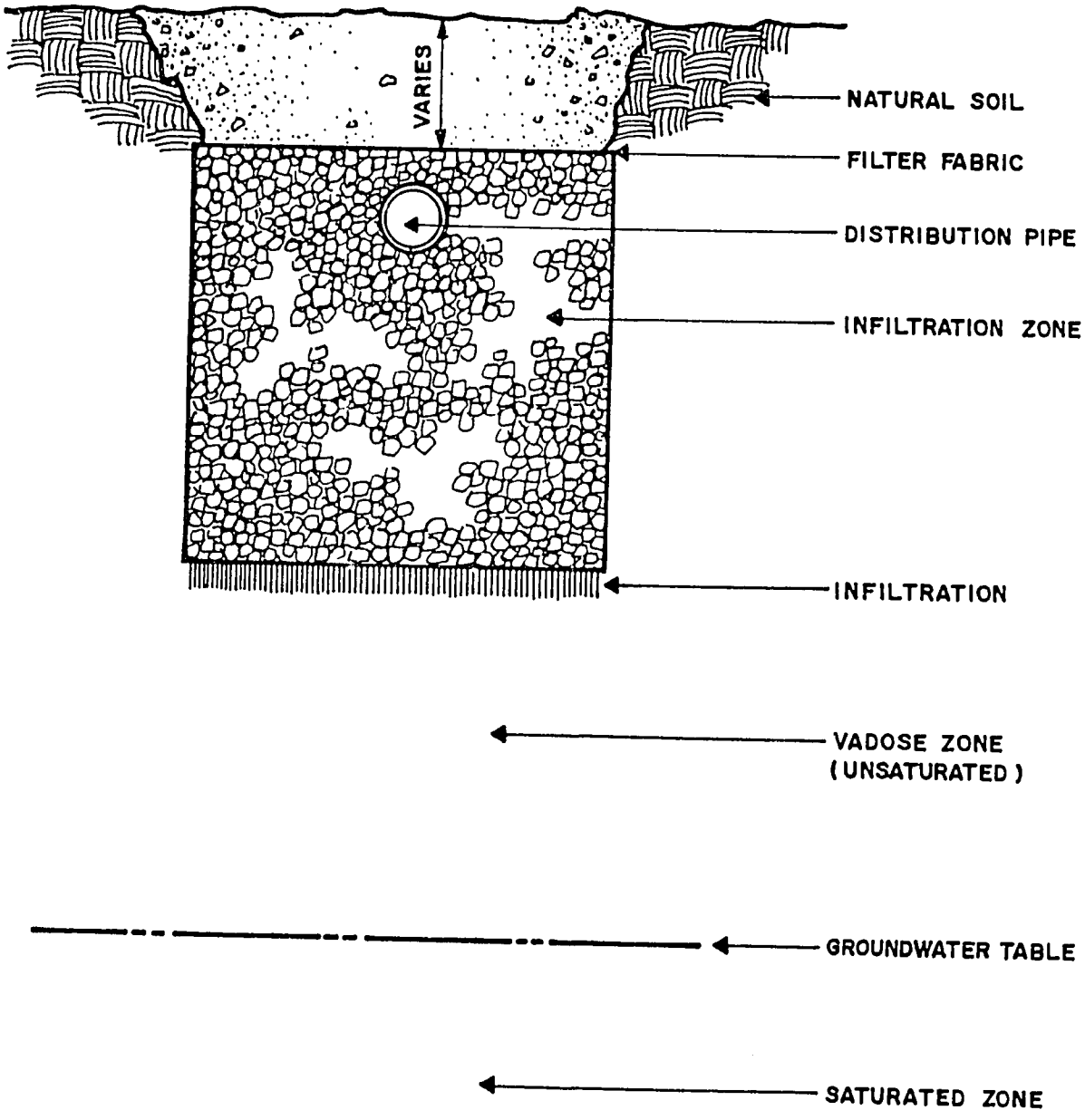


Figure 4-2 FLUID TRANSPORT ZONE IN A SUBSURFACE WASTEWATER INFILTRATION SYSTEM

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On-site systems, such as the SWIS, function on a year-round basis. Typical system limitations applicable to temperate climates do not apply to tropical settings, such as the Philippines. The area required for a small to moderate sized, on-site system is thus a function of a design flow rate and the permeability of the receiving soil. For preliminary sizing of a SWIS, to determine if the potential site has sufficient area, the following equation[9] can be applied:

$$A = \frac{1.5\,Q}{K}$$

where: A = estimated on-site area required (m^2)
Q = design daily flow (m^3/day) and
K = soil permeability (m^3/m^2/day)

Based on available literature, the estimated hydraulic loading rates on horizontal soil infiltrative surfaces for domestic septic tank effluents are listed in Table 4-1.

Table 4-1 Estimated hydraulic loading rates according to soil type

Soil type	Hydraulic Loading Rate (m^3/m^2/-day)
Gravel, very coarse sand	not recommended
Coarse to medium sand	4.0
Fine sand, loamy sand	3.2
Sandy loam, porous loam	2.1
Loam, silt loam	2.5
Clay loams	1.0
Clay	0.5
Expansive clay loams and clays	not recommended

Source: Consultant estimates.

The consultant's experience with SWIS's has shown that satisfactory performance can be achieved in moderately permeable soils where an aerobic unsaturated zone 1 to 1.5 m in thickness is maintained below the infiltrative surface during operation of the system. Typical infiltration trench width range from 0.6 to 1.2 m, although wider beds of up to 4.5 m have been employed. The infiltration surfaces should be maintained at 0.3 to 0.9 m below final grade.

[9] Source: US Water Pollutant Control Federation, 1990.

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Final design of a SWIS should strive to include the following features:

- narrow trenches, 0.2 to 1 m wide, excavated parallel to surface or groundwater piezometric surface contours;
- shallow placement (less than 0.6 m depth) of the infiltrative surfaces below final grade;
- pretreatment to remove organic and suspended solids to concentrations less than or equal to those of typical domestic septic tank effluent; and
- multiple cells (3 to 4 minimum) to allow annual or semi-annual resting and standby capacity for operational flexibility.

Allowing for poor soil conditions (clay loams), estimated SWIS areas required for the described public markets sub-projects would be:

Sub-project	Flow (m^3/day)	Area (m^2)
Type II public market	11.5	17
Type I public market	21.5	32
Type III public market	37.7	57
Public market complex	70.7	105

4.4.1.2. Wastewater treatment plants

Construction of septic tanks is not cheap. Larger tanks, suitable for primary treatment of public market effluents, are large underground vaults, 2.8 m wide x 5 to 8 m long, constructed of reinforced concrete.

The purpose of wastewater treatment plants, such as septic tanks, is to remove impurities to such an extent that the treated effluent will meet DENR effluent guidelines, if discharged into receiving streams and will be suitable for disposal or reuse. The process of removing objectionable matter from the wastewater and the final disposal should be accomplished in an environmentally acceptable and site-sensitive manner.

During the past two decades, a large number of companies have developed prefabricated package wastewater treatment plants for use by clients who do not have access to a conventional sewage collection/treatment system. Most of these package plants use small-scale, biological treatment plant facilities. The package plants are so called because they are self contained units, assembled and shipped to the installation site intact. All these biological treatment processes fall into the activated sludge category. Extended Aeration, a modification of the activated sludge process, is the most common and most easily maintained of all the activated sludge modifications (Figure 4-3), and may be appropriate for public market situations where available space, soil conditions and/or shallow water tables limit the applicability of a SWIS.

The extended aeration process normally consists of a bar screen for removing bulky solids, which can be removed and treated elsewhere (anaerobic digester), an aeration tank and a sedimentation tank for solids settling. The raw sewage (domestic waste and washwater) enters the head of the aeration tank and is mixed with return activated sludge from the clarifier. The return sludge from the clarifier hopper bottom is comprised of bacteria that ingest and breakdown the organic matter contained in the sewage in the presence of oxygen. As the mixture passes through the aeration tank, it is continually aerated and mixed, as aerobic bacteria oxidize the organic wastes. The mixture then flows into the clarifier, where most solids settle to the bottom of the tank. Under normal operations, all sludge and scum from the sedimentation tank is recycled to the aeration tank. Solids that build up in the system may be periodically pumped out of the system into a sludge holding tank for ultimate disposal into an anaerobic digesters.

4.4.2. Slaughterhouses – Wastewater treatment recommendations

The quantity of water used and corresponding volumes of wastewater generated, by the average Philippine slaughterhouse varies widely, based on water conservation practices, blood and solids handling methods and availability of water. For design purposes, the amount of water required by a small district slaughterhouse is estimated by the consultants as being approximately double the minimum requirements set by National Meat Inspection Commission (NMIC).
Figure 1-21 shows the typical process and waste flows for the operation of a satellite type slaughterhouse. Controlling in-plant wastes is the most cost effective means of reducing the wastewater problem in any new slaughterhouse. The recovery of materials previously lost in waste discharges has two economic benefits:

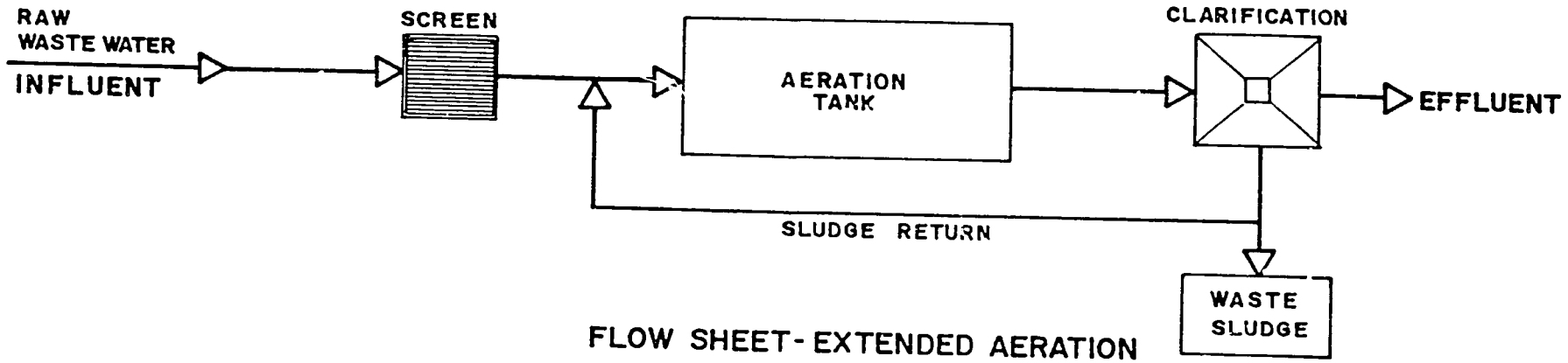
- it can be sold as a by-product; and
- it significantly reduces the cost of wastewater treatment.

In-plant waste reduction involves changes in water usage, process equipment and operations, and may require additional equipment and/or design modifications to collect, transport or process the material saved. Particularly important would be to integrate the recovery of blood, which has the highest BOD of any liquid material emanating from slaughterhouse waste. Additional considerations for recovery operations, as a means of waste minimization, are paunch manure, holding area wastes, and casings. Any form of material recovery is considered by the consultants to be highly cost effective with respect to reducing pollutant loads and costly downstream wastewater treatment requirements.

Wastewater treatment alternatives

Selection of the site to build a new slaughterhouse must include consideration of the appropriate wastewater treatment process. For a medium sized (satellite) slaughterhouse, the availability of land and operational requirements narrow down the siting alternatives: sufficient land must be available for both the slaughterhouse and the selected waste treatment method. Slaughterhouses should be located away from built-up areas, where land is also normally cheaper and easier to obtain.

Assuming land is available, treatment processes that should be considered are lagoons, sand filters and facilities for land application. The physical requirements of these treatment processes should be used to judge the suitability of the proposed site. In most cases in the past, sites selected for construction of slaughterhouses were proposed and purchased without significant regard to waste treatment facilities.



FLOW SHEET- EXTENDED AERATION

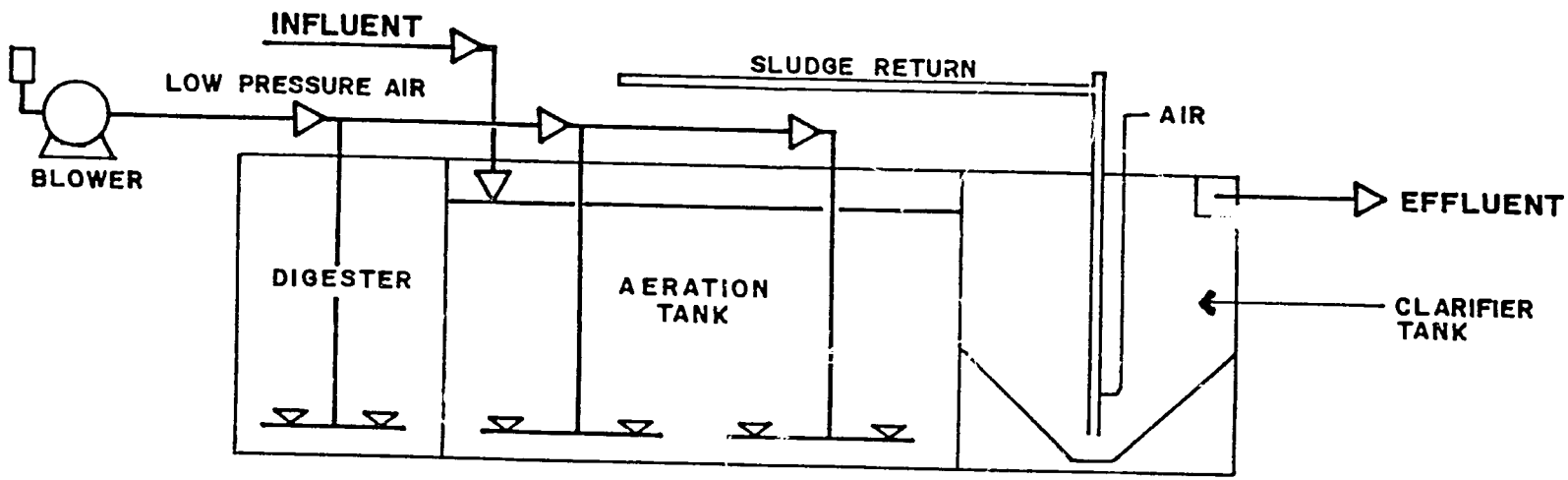


Figure 4-3 TYPICAL EXTENDED AERATION SYSTEM

Basic considerations for wastewater treatment processes proposed for small- to medium-sized slaughterhouses are as follows:

- low initial capital cost;
- low operation and maintenance costs; and
- minimization of mechanical and electrical equipment.

These three basic considerations encompass anaerobic lagoons, aerobic lagoons, intermittent sand filtration, land application and anaerobic digestion.

- Anaerobic lagoons

  The anaerobic lagoon is a treatment process widely used in the past for slaughterhouse wastewaters. The process uses anaerobic bacteria, which function in the absence of oxygen to break down organic waste. This type of lagoon is normally deep and covered with a blanket of floating sludge. The typical anaerobic lagoon can obtain BOD removals of up to 90 percent. This process functions very well in moist tropical climates, as experienced in the Philippines. The process has a low capital cost, is simple to operate and requires no mechanical equipment other than a transfer pump to transfer the collected wastewater to the lagoon, which should be located away from the slaughterhouse. The anaerobic lagoon can function without sludge recycling, which is a pre-requisite with conventional activated sludge plants.

  Two potential problems must be evaluated before selecting the anaerobic lagoon as a suitable treatment method. These are odor and discharges of ammonia. Sulfate in wastewater is reduced under anaerobic conditions to hydrogen sulfide, and protein is reduced to ammonia. The anaerobic lagoon should be at least 500 m away from any residential area or home.

  Anaerobic lagoons are designed with a low surface area to volume ratio to conserve heat and minimize surface reaeration. Depths of three meters or more are desirable. Economic considerations and depth of groundwater aquifers usually limit depths to less than 5.5 m. Volume is based on organic loading, and design parameters range between 4.5 to 5.4 kg of BOD loading per 30 cubic meter of lagoon volume.

  The anaerobic lagoon can produce an effluent that can be discharged into a municipal treatment plant (if they exist), but may not be suitable for discharge into surface waters without further treatment in aerobic lagoons to maintain dissolved oxygen in the water and further reduce BOD and suspended solids.

  The aerobic lagoon has been successfully used after anaerobic treatment of raw wastewater, achieving additional reduction of pollutants, to increase the dissolved oxygen content sufficiently to maintain fish life in the receiving stream. The maximum water depth for an aerobic lagoon is usually one meter.

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- Intermittent sand filtration

  If sufficient areas of land are not readily available for incorporation of aerobic lagoons, the anaerobic lagoon process can be followed by intermittent sand filtration. Intermittent sand filtration is capable of polishing pond effluent at relatively low cost. The process requires simple, infrequent maintenance, which is important to the average LGU in the Philippines. Intermittent sand filtration of pond effluents is the application of pond effluent on a periodic or intermittent basis onto a sand filter bed. As the wastewater passes through the sand filter bed, suspended solids and organic matter are removed through a combination of physical straining and biological degradation processes. The particular matter collects in the top 5 to 8 cm of the filter bed. The build-up of organic matter eventually clogs the top of the filter bed, preventing passage of pond effluent through the sand filter. The filter is then taken out of service, removing the top layer of sand, the contaminated sand is either washed and returned to service, discarded, or used as replacement sand. The filter is designed on the basis of hydraulic loading per unit of sand surface area and on effective size of the filter sand. Loadings of 450,000 to 1 million liters a day/ha, with filter sand having a averaged grain coefficient of 0.45mm can be used. BOD removals of 60 to 70 percent can be achieved using this process.

- Anaerobic digestion

  The Guidelines on Meat Hygiene, Inspection and Preservation, as issued by the National Meat Inspection Commission (NMIC, 1977), recommend that animal and vegetable wastes be used to produce methane, or bio-gas, for heat, light and power.

  The production of methane gas through anaerobic digestion can take place at any temperature between 5°C and 55°C, with the rate of gas production increasing with temperature. Optimum temperature for digestion has been found to be between 30 to 35°C (86 to 95°F).

  As pointed out by NMIC, wastes from slaughterhouses are ideally suited for the production of methane gas through an anaerobic digestion process, since these wastes include primarily organic materials, such as blood, urine, ruminal contents, meat and offal wastes. The typical flow sheet for a recommended anaerobic digestion system to treat slaughterhouse wastes would include:

  - collection

    A system of self-cleaning wastewater drains, incorporated in the overall design of the slaughterhouse and directed to a common sump.

  - anaerobic digestion

    High-rate continuous anaerobic digestion allowing for shorter retention times and quicker gas production.

- gas treatment and storage

  The initial digester gas contains moisture, particulate matter, hydrogen sulfide and carbon dioxide in addition to methane. If necessary, the removal of moisture and particular matter is easily accomplished through condensing and sedimentation methods.

  During a typical slaughterhouse operation (Table 1-18), heat is required to provide hot water for de-hairing operations and sterilization of meat handling equipment. For this purpose, hot water must be maintained at no less than 82°C (storage temperature) according to NMIC standards. A gas fired water heater or low pressure boiler can be directly fueled by methane gas, without prior treatment to remove moisture and particulates, at a considerable cost savings to slaughterhouse operations.

Of the available slaughterhouse wastewater treatment systems, anaerobic digestion seems to be most suited for the small to medium sized operations envisioned under the LGIF Project. The recommended anaerobic digestion system for such a slaughterhouse (Figure 4-4) would include:

- an equalization/storage tank;
- an anaerobic digester;
- a methane gas storage tank;
- sludge drying beds; and
- aerobic lagoons.

Slaughterhouses are normally located near marketing outlets of cities or towns, which also have one or more public markets. Solid waste disposal from these markets, containing mainly biodegradable organic material, is a problem for almost all LGUs in the Philippines.

To increase the amount of methane gas available to slaughterhouses while partially solving a local disposal problem, it has been suggested that organic wastes from nearby public markets be incorporated into the designed capacity of the slaughterhouse anaerobic digester.

Potential energy released through anaerobic digestion for combination of slaughterhouse/market waste is estimated to be sufficient to provide for all hot water needs of a small (satellite) slaughterhouse. Under tropical conditions, anaerobic digestion is a net energy producer, providing an acceptable treatment of effluent for discharge into receiving streams, while partially eliminating the existing problem of organic waste disposal from public markets. The anaerobic/aeration lagoon treatment system, as proposed under the present guidelines, is in comparison an energy consumer, with undefined application of potential end products (sludge).

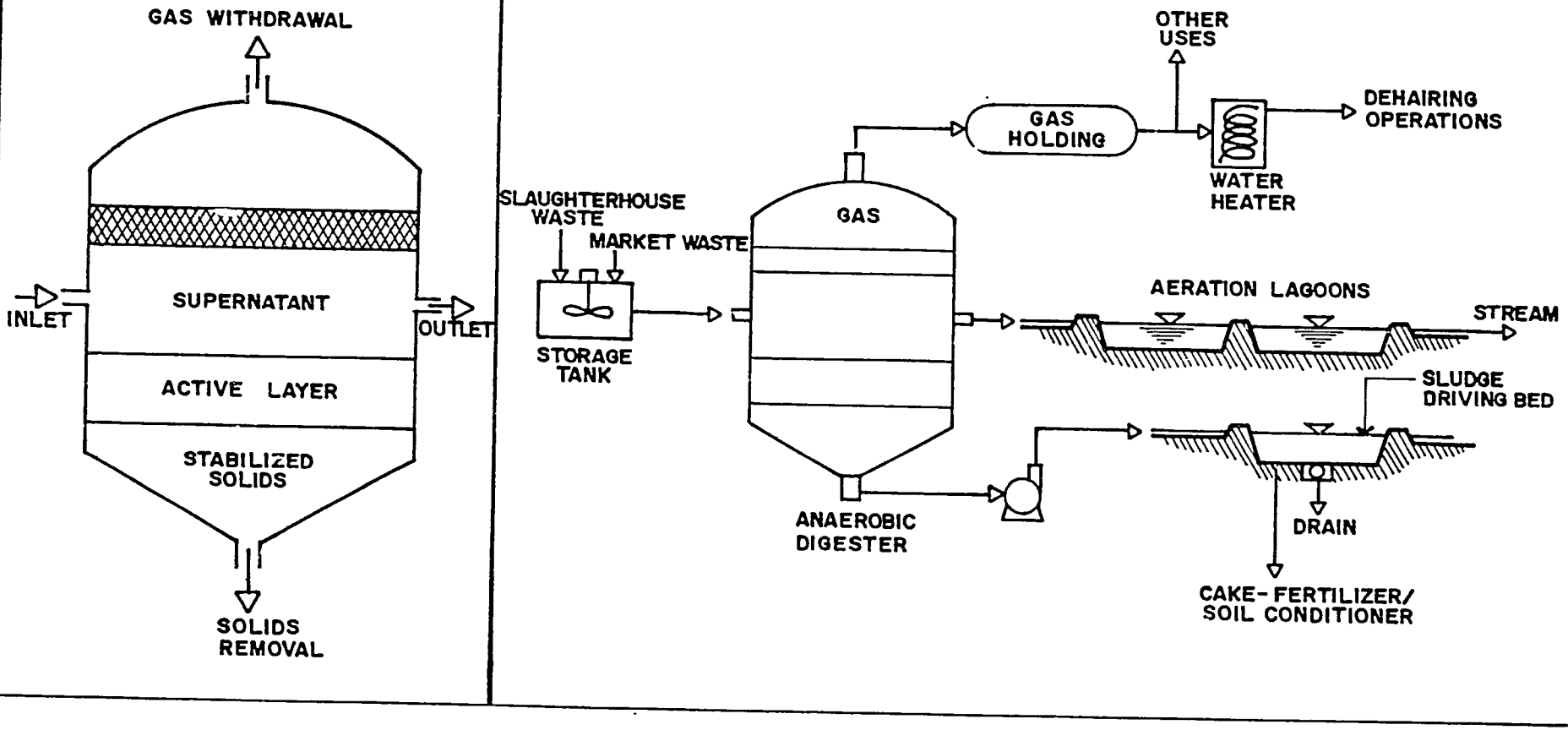

Figure 4-4 TYPICAL SLAUGHTERHOUSE ANAEROBIC DIGESTER/AERATED LAGOON TREATMENT SYSTEM

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4.4.3. Design considerations

A creative volume of recommended design considerations for the existing types of sub-projects was generated in the process of this study. In summary, these recommendations include:

- public markets (see Figures 1-6 to 1-10)

  - as described in Section 1.5.1, it is anticipated that all modular designed, public market sub-projects will be provided with supportive, supplementary facilities, such as drainage, water supply, sanitation facilities, administrative offices, open areas for ambulant vendors, landscaped areas, loading/unloading zones and parking areas. Figure 4-5 provides a conceptual site development plan for a public market complex involving three standard design modules and includes consideration of supplementary facilities;

  - for public health and sanitation reasons, provided toilet facilities should be located away from the wet market sections, where fresh fish and meat are sold, as well as away from on-site water sources (deep wells). The designed structures should allow for adequate natural ventilation, lighting (skylights), and drainage;

  - because of typical sitings within congested community centers, anticipate higher than design capacity usage of provided public toilet facilities and plan according (e.g. low maintenance/low volume pour-flush-type toilets and plumbing fixtures, over-sized septic tanks);

  - provide separate septic tanks, or vaults, for domestic wastewater and market-generated washwater to maintain essential biological treatment processes;

  - incorporate landscape areas within site development plans, which could provide dual service as siting for subsurface wastewater infiltration systems (SWIS's), and additional open space provisions (i.e. parking, loading and unloading areas) to accommodate the factors of future site congestion;

  - introduce sorting of solid wastes (organic/inorganic) by providing separate garbage bins or storage areas for these materials. Waste receptacles (trash cans) and exterior storage areas (bins) should be included in the capital costs of provided facilities.

    Based on values developed under the ESF infrastructure program (.064 m^2 of garbage area per stall; Santa Cruz, Laguna public market), the estimated exterior garbage storage areas may range from about 2 to 4 m^2 for a Type II and Type III market module, respectively. These estimated storage area values should be assessed for their adequacy, which may vary according to the local collection schedule. The separate, or divided, exterior storage areas for organic and inorganic solid waste should be enclosed and covered, to protect from rain, rodents and other disease vectors, and should also be located away from food marketing areas; and

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- consider incorporating rain catchment cisterns into site development plans to collect the run-off from roof areas for later use, including general cleaning and landscape maintenance applications.

- slaughterhouses (see Figures 1-18 to 1-20)

  - follow NMIC recommendations for simplified, replacement type facilities for existing substandard slaughterhouses. In addition to Figures 1-18 to 1-20, the basic NMIC design criteria are included in Appendix 1;

  - provide toilet facilities within or immediately adjacent to designed structures; and

  - evaluate the practicality of separate septic tanks and/or anaerobic digesters, for wastewater and washwater to avoid possible disruption of biological treatment processes; and

  - to reduce wastewater treatment requirements, incorporate waste recovery measures into structural designs, to include catch basins, sumps and traps.

- school buildings (see Figures 1-11 to 1-14)

  - anticipate the use of school buildings as "multi-purpose" centers, including dual purpose use as evacuation centers during periods of natural disasters. For example, in areas subject to flooding, specify higher than normal foundation elevations, as well as use of moveable partitions between rooms for flexible use;

  - provide simple, low maintenance/low volume toilet facilities (pour-flush toilets and urinals) similar to the described situation for providing toilets facilities for public markets, anticipate higher than design capacity usage of provided school toilet facilities and plan accordingly. In many cases observed in the field, the provided toilet facilities are the only functional sanitation facilities within the entire school compound; and

  - where sites allow, integrate a subsurface wastewater infiltration system (SWIS) into the school compound landscaping and garden areas to eliminate surface discharges of septic tank effluents. For a typical 16-classroom school building with an estimated effluent flow rate of 13 m^3/day, the calculated surface area required is 20 m^2 under poor soil conditions (e.g., clay loams).

- roads and bridges (see Figures 1-15 to 1-17)

  - establish design standards and parameters for slope stabilization measures of significant cut slopes and/or created embankments. Recommended stabilization measures may vary with soil type and situation, to include consideration of revegetation, slope benching and/or riprap treatment.

- community health care facilities (see Figures 1-22 and 1-23)
    - evaluate the practicality of providing X-ray and dark rooms, and an administrative office; and
    - consider substituting these proposed facilities with the provision of rooms for a dentist and sanitation inspectors.

In line with available standard designs, a basic design consideration should be sustainability in terms of low maintenance requirements and the typically high volume of use of similar public infrastructure.

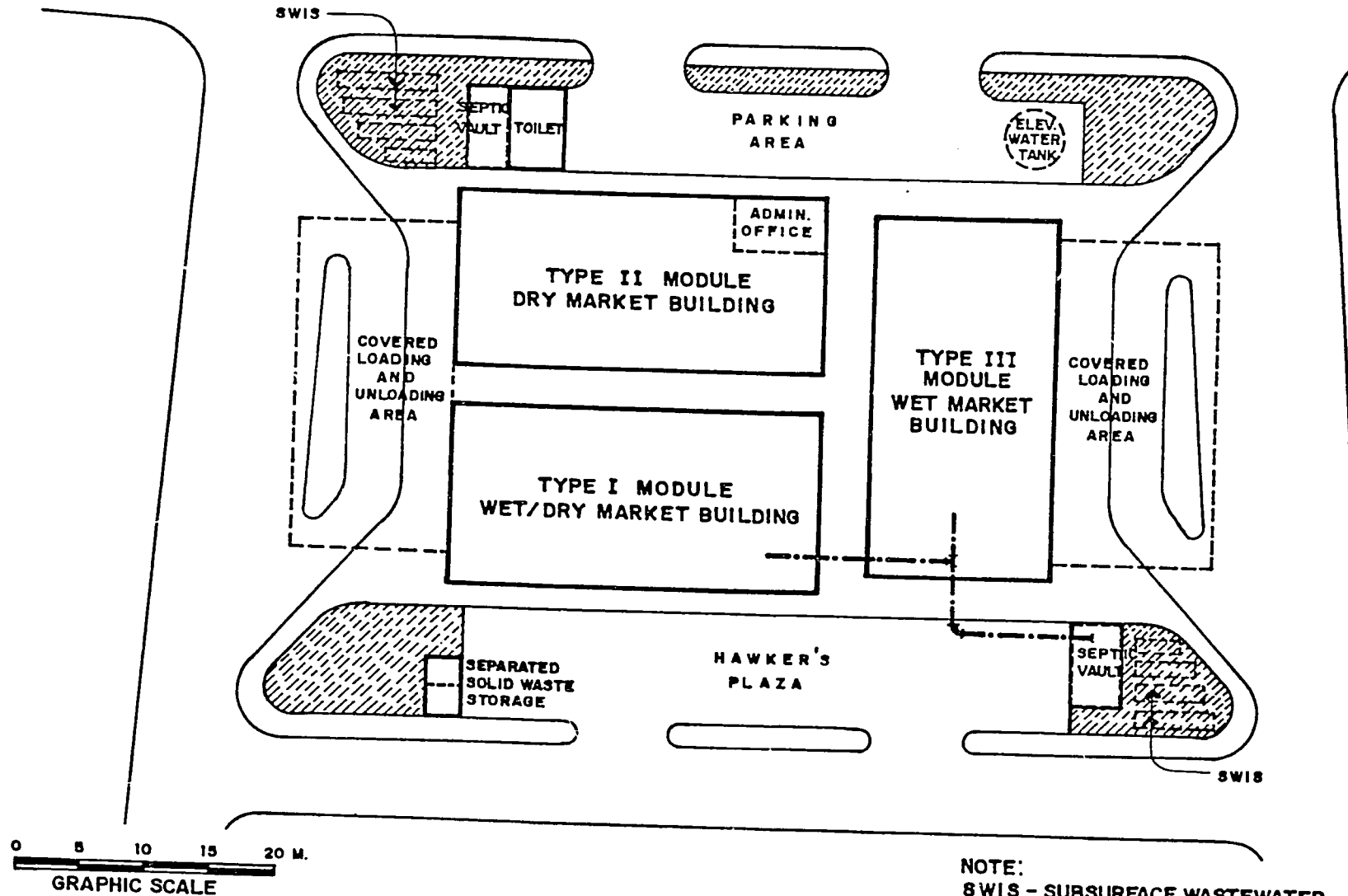

Figure 4-5 CONCEPTUAL SITE DEVELOPMENT PLAN, PUBLIC MARKET COMPLEX

Tropical Research and Development, Inc. — Dames & Moore

4.4.4. Modifications to standard contract documents

The following recommendations to modify standard construction documents are based on a review of available material, including the Invitation to Bid, Package No. OC-11, issued by the Mt. Pinatubo Emergency-Project Management Office (MPE-PMO), pertinent excerpts of which are included in Appendix J-1.

Recommended legal modifications to these documents include:

- Site visit

  The bidder, by submitting his bid, acknowledges that he has inspected the site and determined the general characteristics of the project and the conditions indicated above, including required environmental protection measures.

- Suspension of works

  If the contractor is ordered to suspend work, the construction site and the temporary facilities shall not represent a pending threat to the environment.

- Contractor's right to suspend work or terminate the contract

  The resident engineer of the CMES firm/LGU will indicate any potential environmental problems that could arise as a consequence of suspending work and what measures should be taken.

Additional modifications to available standard contract documents were identified within the Conditions of Contract of Particular Application, for the Rural Infrastructure Fund (RIF) Project, (DPWH, 1991, Appendix J-2). These contract clauses, recommended for incorporation within LGIF sub-project documents, describe technical specifications ranging from temporary utilities and services, construction safeguards, demolition of existing structures, fossils and objects of value, contractor's camp, sanitation and medical arrangements, earthwork, and excavation.

The LGIF Project construction agreements should also include a standard compliance clause, which reads:

> The Contractor shall comply with all the laws, ordinances and regulations of both the national and local government applicable to or binding upon the parties hereto, the works covered by this Agreement, or the persons engaged in the performance and accomplishment of the works covered by this Agreement and shall be totally responsible for all damages to the funding agency or to the government, national or local, for the non-observance of such laws, ordinances and regulations.

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4.4.5. Modifications to standard specifications

4.4.5.1. Soil poisoning specifications

Termites are a serious threat to any wooden structure, particularly in the tropics where subterrain termites are prevalent. The standard construction specifications (Appendix J-1, Section 2.3.6) include soil poisoning, by the chemical chlordane, as the specific preventive treatment for subterrain termites.

Chlordane is a highly regulated chemical worldwide, and as an organochlorine is highly persistent within the environment[10]. As a consequence, Chlordane is restricted by the Philippine Fertilizer and Pesticide Authority (FPA) for use only as a pre-construction soil treatment for termite control, to be applied only by certified FPA applicators.

Based on standard specifications for slab treatment, an estimated 100 liters of pure Chlordane would legally be required for treatment of a proposed 415 m^2 public market module. This estimated amount does not include additional treatments specified for foundation footings, along slab perimeters, and under expansion joints.

The proposed sub-project structures tend to use rather termite-proof materials involving steel trusses, rebar and roofing sheets, and concrete. Specified lumber requirements tend to be finish materials (doors, window jambs, plywood ceilings) rather than structural materials.

As such, direct surface treatment of wooden materials by a less hazardous type of chemical is highly recommended to avoid possible contamination of local ground water resources through the use of a persistent soil poison such as Chlordane.

4.4.5.2. Terms of reference for topographic surveys

Available terms of reference for topographic surveys conducted under the ESF infrastructure program specify that plotted contours shall be extended to at least 15 meters outside of the selected site property lines and to each side of a road sub-project centerline, in flat to rolling terrain, and extended to at least 20 meters, respectively, in mountainous terrain. Because of recurrent observations of potentially significant site flooding to newly completed facilities during field surveys, a re-evaluation of the minimum specified extension of topographic surveys conducted for LGIF sub-projects is recommended to fully consider existing drainage parameters.

10 Asian Development Bank, 1987. Handbook on the Use of Pesticides in the Asia-Pacific Region. Manila, Philippines.

5. Recommended management, mitigation and monitoring measures

5.1. Summary of identified project impacts

As proposed, the LGIF Project will provide funding assistance for the construction of small-scale public infrastructure, by local government units (LGUs) located outside of the National Capital Region. Various types of sub-projects are identified for possible funding under the project and it is estimated that between 80 and 200 such sub-projects might be constructed over the four-year life of the project.

A number of potential impacts were identified for the proposed LGIF Project in the process of conducting this programmatic environmental assessment. Based on an evaluation of comparable infrastructure programs, existing facilities, and available project descriptions, primarily positive environmental impacts have been identified for the types of proposed sub-projects. These positive impacts include anticipated socioeconomic benefits, such as the improvement in sanitation and public health conditions in the vicinity of the completed sub-projects.

Since the LGIF Project involves construction activities in a variety of locales, a series of potentially negative environmental impacts were also identified for the respective sub-projects (Table 5-1). As the project will primarily involve small-scale expansions or upgrades of existing facilities within established sites, easements or rights-of-way, the predicted negative environmental impacts are generally described as minimal and/or manageable. A summary of the recommended mitigation measures described within this chapter is included in Table 5-1.

Based on a preliminary environmental screening of the proposed LGIF sub-projects, the primary factors determining the degree and direction of predicated impacts are defined as:

- siting and timing of construction;
- on-site management of construction;
- treatment process for generated wastewater effluents; and
- operations and maintenance of completed facilities.

In addition to specific environmental concerns identified in the process of conducting the programmatic EA, a range of generic issues were publicly raised during the scoping process (Appendix H). These issues are briefly addressed in the following sections and should be fully considered in the subsequent phases of the LGIF Project.

Table 5-1 Preliminary Environmental Screening of LGIF Subprojects

Potential Negative Impacts and Recommended Mitigation Measures

Potential Negative Impacts	Public Markets	Roads	Slaughterhouses	School Buildings	Primary Variables	Recommended Mitigation Measures
dislocation/relocation of existing occupants or livelihoods	potentially high impact during construction of replacement facilities as well as new facilities within congested downtown areas	minimal to moderate impact depending on proposed alignment and status of existing road right-of-way	minimal to moderate impact depending on siting	very unlikely due to siting within designated school compounds	- siting - proposed alignment - social acceptance - compensation or temporary accommodations	- fully assess dislocation/relocation impact in initial Project Identification Document (PID) as well as subsequent feasibility studies - conduct local public hearings and require letters of support from affected groups, including NGOs - require detailed description of compensation/ relocation schemes with feasibility studies
dislocation of tribal/cultural communities	very unlikely due to anticipated urban sitings	potential impact with new alignments though unlikely due to scale of projects	unlikely impact due to anticipated intra-community siting	very unlikely due to siting within designated school compounds	- siting - new alignment - community acceptance	- same as above
disruption/destruction of archaeological resources	potentially high impact subject to siting and excavation requirements	potential impact with new alignments and for borrow sites.	potentially high impact subject to siting and excavation requirements	potentially high impact subject to siting and excavation requirements	- siting - new alignments - borrow sites and excavations	- pre-assess proposed sites and activities involving significant excavation for archaeological potentials utilizing local institutions and interviews . - provide copies of site reports to the National Museum, including profile summary of soil tests - finalize funding procedures for economically feasible yet archaeologically sensitive sites and subprojects - institute basic training for resident engineers to enable monitoring of construction
increased generation of solid wastes	potentially high impact if demolition of existing structures is involved. Minimal to moderate impact during operations including the need to dispose of sludge collected in proposed toilet facilities	minimal impact for improvement of existing alignments. Potential impact for new alignments requiring grubbing and export of unsuitable material. Potential impact of workcamp wastes	potentially high impact if demolition of existing structures is required. Previously discharged wastes will be contained in treatment facilities, including sludge	potentially high impact if demolition of existing structures is required. Sludge collected in new toilet facilities will require periodic disposal	- disposal sites for demolition and workcamp wastes - disposal sites for unsuitable materials from new road alignments - disposal of sludge from septic tanks	- require that all disposal sites and processes will be identified prior to initiating construction - assess subproject specific impacts within feasibility studies - include within construction documents clean up procedures for all temporary workcamps and construction sites
increased generation of liquid wastes	minimal impact due to on-site containment and primary treatment of effluents	minimal impacts limited to workcamp and equipment discharges	minimal impact due to on-site containment, primary/secondary treatment of effluent	minimal impact due to on-site containment and primary treatment of effluents	- effluent volumes and pollution (BOD) loads - receiving waterbody	- same as above - evaluate design modifications to incorporate subsurface wastewater infiltration systems (SWIS's), to include site assessment of potential impacts to local groundwater resources.

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Table 5-1 Preliminary Environmental Screening of LGIF Subprojects

Potential Negative Impacts and Recommended Mitigation Measures

Potential Negative Impacts	Public Markets	Roads	Slaughterhouses	School Buildings	Primary Variables	Recommended Mitigation Measures
increased soil erosion due to soil disturbance and poor material handling practices	minimal impact due to typical urban siting with low slope and high level of existing development	variable level of impact subject to local soil conditions, slopes, and weather	minimal impact due to siting within commercial districts, in low slope locations for treatment ponds	generally low impact due to siting within existing school compounds	- soil type - slope of site - material handling - weather	- limit construction during rainy season - provide for silt containment and slope stabilization - institute basic orientation trainings for resident engineers
contamination of local groundwater resources	potential impact due to specified soil poisoning treatment and generated effluents	minimal impact due to improper discharge of petroleum-based wastes from heavy equipment (if used)	potential impact due to specified soil poisoning treatment and generated effluents	potential impact due to specified soil poisoning treatment and generated effluents	- local water table - soil type - use of chlordane - waste storage and treatment	- investigate substitutes for chlordane or reduce application rates - provide adequate workcamp sanitation facilities - provide adequate on-site treatment of liquid wastes
displacement of prime agricultural lands	very unlikely due to typical urban siting	potential impact for new road alignments	minimal impact due to typical siting and size	very unlikely due to siting within existing school compounds	- siting - alignment of new roads	- assess impact within feasibility study
contribute to depletion of non-renewable/scarce natural resources	minimal impact due to specified materials. Low lumber requirement. Low energy design	minimal impact due to specified materials	minimal impact due to specified materials. Low lumber requirement. Moderate to high energy requirements	minimal impact due to specified materials. Moderate lumber requirement. Low energy design	- pending lumber shortage - recurrent energy shortage	- continue to substitute lumber requirements in standard designs - encourage use of reusable forms for concrete work - continue low energy demand orientation of standard designs - require certification that all lumber supplies are legally sourced - integrate anaerobic digesters with slaughterhouses to provide primary source of energy (bio gas)
depletion of local water resources	moderate impact, with water demand, estimated to range from 10 to 30 m^3 per day per 415 m^2 module	minimal impact during construction of concrete roads	moderate impact, with water demand variable, corresponding to size of operation	minimal impact, water use limited to sanitation facilities	- recurrent water shortages - high demand on intra-community water supplies.	- evaluate use of low water flow fixtures, including "pour-type" toilets rather than standard "flush-type" - assess community water resources, including site groundwater, in feasibility studies - incorporate rain catchment cisterns within site development
degrade ambient air quality	minimal impact during construction due to typically labor-based constructic.ı practices	minimal impact due to dust generated by construction traffic. Typically labor-based construction practices are utilized.	minimal impact during construction due to relatively remote siting, within commercial districts	minimal impact during construction due to labor-based construction practices	- dust and noise generation - construction traffic - open burning of construction and workcamp wastes	- integrate dust control measures, such as watering of access roads and construction site - restrict construction activities to normal working hours - evaluate local alternatives to open burning of construction and workcamp solid wastes

5.2. Experience gained from comparable infrastructure projects

A number of comparable infrastructure projects have been completed or are on-going in the Philippines, including the USAID-assisted ESF and RIF projects, and the World Bank-assisted PREMIUMED program. The experience gained under these projects provides an appropriate initiation to environmental impact management and mitigation within the proposed LGIF Project. Based on a review of these projects, a recommended approach to the environmentally sound and sustainable development of small-scale infrastructure would include:

- an initial site assessment of potential environmental impact and social acceptability, including the cumulative effects of implementing multiple sub-projects within a single area;
- a careful consideration of site selection criteria, including existing site drainage and access, cultural sensitivities, and appropriate land use planning;
- a clearance from responsible regulatory agencies (e.g. HLURB, DENR, NMIC, DECS) of standard designs, site adaptations and sub-project locations;
- incorporating within the standard sub-project designs and contract documents adequate and effective safeguards to mitigate environmental problems, particularly the scheduling of construction activities according to local climate;
- a budgeted provision for impact mitigation measures, including the relocation, and/or compensation of existing residents, businesses or livelihoods displaced by project implementation; and
- integral development of an operational plan for the completed facilities to ensure that environmental damage does not occur as a result of day-to-day activities.

As a practical impact management measure, the LGIF-PMO (and their in-house consultants) should initially familiarize themselves with the experience gained, the success and the failures, of previous or on-going infrastructure projects.

For example, the LGIF-PMO should establish and maintain a level of coordination with the operations of the PREMIUMED II program, which should include an evaluation of their alternative types of sub-projects (e.g. bus terminals) and their existing training modules for LGUs. These training modules are being conducted through the Local Government Academy (LGA), of the Department of Interior and Local Government (DILG), and include courses ranging from project development and management to infrastructure maintenance. Proposed training modules being developed under PREMIUMED II include construction supervision, project monitoring and evaluation, and environmental assessment. The World Bank is reportedly conducting an evaluation of recently completed PREMIUMED I, as well as a programmatic environmental assessment approach to the upcoming PREMIUMED II, which should prove of interest to the LGIF Project. Previous experience, as gained through PREMIUMED I, serves to support a recommendation of flexibility in training programs proposed under the LGIF Project as a result of diverse training needs at the local level. An early assessment and adaptation of existing training programs/modules would be an appropriate approach to avoid the common tendency to reinvent the wheel.

Based on the experience of the consultant team, comparable infrastructure projects have tended in the past to focus their attention primarily on the levels of feasibility, design and financial management. As an issue raised repeatedly during this study's scoping session and workshop (Appendices H-1 and H-2), the integration of environmental impact management in the form of construction scheduling and monitoring are critical steps too often skipped, or granted a low priority, within a project's implementation process. Most flow charts depicting project review and process cycles tend to end when the environmental permits are issued and construction begins (see Figures 1-4 and 1-5). As a consequence, environmental assessments generally tend to be treated as procedural documents necessary to obtain project approval and funding, with limited application as planning and regulatory documents. An emphasis of DENR's Environmental Management Bureau (EMB), as identified during the July 24 workshop conducted for this study (Appendix H-2), is for the environmental assessment process to serve an integral role throughout the entire project development cycle, to include the expanded application of EAs as regulatory documents.

According to the illustrative budget for the LGIF Project (Table 1-7), monitoring and evaluation will account for an estimated 0.5 percent of the total budget. Traditionally, monitoring activities are concentrated on engineering aspects, such as compliance to design and construction specifications, while evaluations tend to focus on administrative, financial and accounting performance. As described in Table 1-1 (Summary of Major Steps in USAID Environmental Procedures):

> Environmental monitoring is an integral part of project implementation to at least the same extent as other aspects of the project.

In line with identified public concerns, the experience gained from observation of the construction practices of comparable infrastructure projects and USAID procedural requirements, additional emphasis of the LGIF Project budget on environmentally oriented monitoring and evaluation activities is strongly recommended.

5.3. Recommended planning and procedural measures

5.3.1 Environmental screening of LGUs

Various levels of screening are included within the proposed LGIF implementation process, ranging from the selection of candidate LGUs, to the subsequent screening of sub-projects proposed by these LGUs. Under the proposed selection process, the candidate LGUs will be evaluated based on to-be-established criteria of need, capability and performance. As recognized in the process of this study, the criteria for selection of participating LGUs should include the consideration of their respective environmental management capabilities and performance, such as:

- availability and qualification of LGU staff;
- presence and capability of local academic institutions (a traditional source of local consultants and environmental expertise);
- proximity and accessibility to the DENR regional office;
- the capabilities of the DENR regional office;
- environmental sensitivity and climatic severity of the area;
- existing status of waste management programs and public services; and
- the prevailing environmental condition of existing facilities.

In line with the proposed LGIF Project's provision to fund training activities for qualified needy LGUs, which lack administrative capabilities, environmental management training of LGU staff should also be considered within the project's framework. The value of such training would be significant in light of LGU responsibilities for environmental planning and management under the 1991 Local Government Code.

An appropriate training program is the DENR component of the USAID-assisted Local Development Assistance Program (LDAP), "Capability Building for Environmental Management." The overall objective of this on-going program is to enhance the awareness and capability of LGUs with regard to environmental management planning, monitoring, and the EIA process. Past participation of an LGU in the LDAP program, or similar programs, should be considered within the capability selection criteria. LDAP environmental management training programs involve the LGU staff and NGO representatives from the provinces of Pangasinan, Tarlac, Palawan, Negros Occidental and Bukidnon.

Under DENR Administrative Order No. 21 (Series of 1992, Appendix E-3), the environmental evaluation of the LGIF types of sub-projects is to be conducted at the regional level. It should be noted, however, that most regions are geographically expansive with regional centers not easily accessible from many remote LGUs (Figure 2-2). This may pose an environmental management and monitoring problem in terms of travel effort and time requirements.

In addition to physical distance to regional centers, Table 5-2 provides rainfall and typhoon frequency characteristics for 13 indicative provinces as an example of incorporating environmental parameters within both the LGU selection process and succeeding implementation planning phases, such as construction scheduling.

5.3.2. Environmental screening of proposed sub-projects

Environmental screening criteria can assist project proponents (LGUs), project evaluators (DENR, USAID) and project management (LGIF-PMO) identify, in the early stages of project development, the potential areas of adverse environmental impact. Table 5-1 provides an example of a preliminary generic screening of the proposed LGIF sub-projects and was based primarily on the criteria matrix provided in the format of a DENR Project Description (Appendix E-3). In addition to the extensive screening criteria available in existing DENR regulations, recommendations received in the process of this impact assessment study support additional attention to the screening criteria for potential archaeological impact as well as the social soundness of proposed sub-projects.

Because of the public nature of the proposed sub-projects and the decentralized implementation process, primary levels of environmental screening will be at the LGU level, in the conceptual phase of sub-project proposals. As a practical measure, it is highly recommended that the respective LGUs initially present their proposals before a public forum, such as council meetings, and confer with the DENR regional office at the earliest stage possible to determine specific project-related concerns and impact assessment requirements.

Table 5-2 Comparative distances to regional centers, rainfall and typhoon characteristics of indicative provinces

Provinces	Distance to regional center[1] (km)	Average annual days with rainfall	Average annual total rainfall		Average incidence of annual typhoons[2] (%)
			(mm)	(in)	
Region I					
Ilocos Norte	150	96	2,558	100	32
Benguet	75	169	3,228	127	32
La Union	0	100	2,743	108	32
Region II					
Batanes	275	203	2,298	90	25
Region IV					
Batangas	100	211	2,176	86	16
Region VI					
Aklan	100	166	2,903	114	19
Antique	75	155	3,647	143	19
Negros Occidental	50	152	2,791	110	7
Region VII					
Bohol	50	164	3,878	153	7
Region VIII					
Leyte	0	211	2,468	97	7
Region X					
Agusan del Norte	100	n.d.	3,228	127	7
Bukidnon	50	221	2,737	110	7
Region XI					
Surigao del Sur	200	218	4,646	183	1

Source: Figures 2-2 and 2-6, Table 2-4.

Notes: (1) estimated straight line distance from provincial capital to regional center

(2) average incidence of typhoons based on percentage of total average annual typhoons within the Philippines

Indicative provinces identified by USAID through prescreening of need criteria (average annual household income less than ₱50,000).

n.d. no data available in source material

As described in Section 1.4.3, one of the responsibilities identified for the in-house LGIF-PMO consultant will be to disseminate information to candidate LGUs regarding environmental screening criteria. To assist this task of primary importance, a draft manual was prepared by the programmatic EA consultant team in the process of this study and will be submitted separately from the final report. The purpose of such a manual is to provide an overview to proponent LGUs of potential environmental concerns and

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impacts associated with the types of sub-projects they may elect for funding and the corresponding screening processes involved, from both funding (USAID) and regulatory (DENR) perspectives.

5.3.3. Environmental reviews in the implementation process

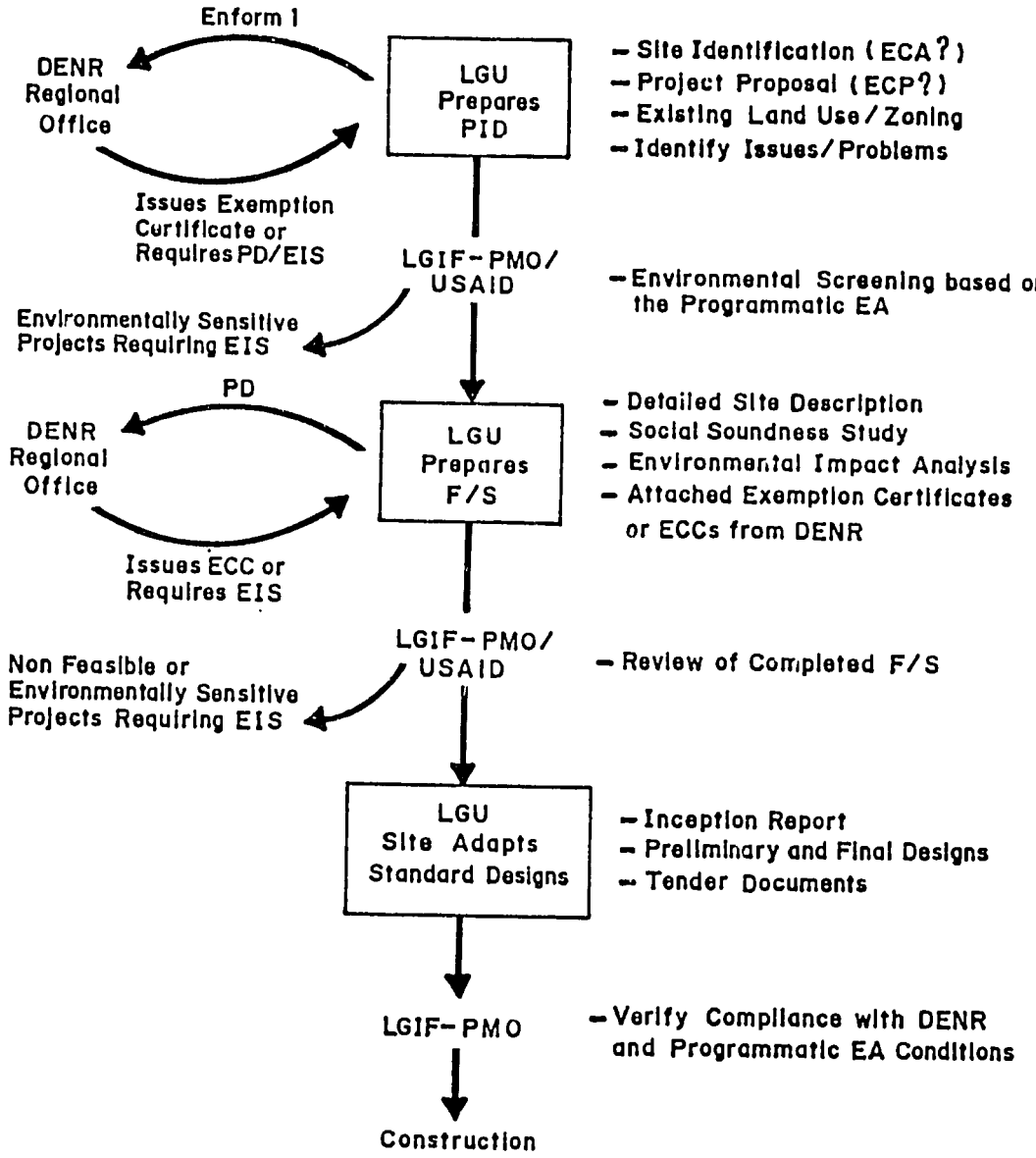
Implementation of the LGIF Project includes three major levels of sub-project studies to be conducted by the LGU proponent before final funding evaluation by the LGIF-PMO and USAID (Figure 1-5). These three levels of study, and the corresponding documents, are as follows:

- project identification, project identification document (PID);
- feasibility study, feasibility study report; and
- site adaptation of standard designs, preliminary and final designs, inception report, tender documents.

The general content of these standard evaluation documents provides a substantial source of information applicable to an environmental review at the DENR Project Description (PD) level (Appendices E-3 and E-5). A brief review of the information required by DENR supports a contention that sub-project evaluation documents, with minor amendments, could serve a dual purpose within the environmental review process. The timing of these studies, in the pre-feasibility, feasibility and design stages of a project, provides the perfect opportunity to fully integrate an effective environmental review process. In line with the Philippine Strategy for Sustainable Development, and public comments received in process of this study, economic and environmental concerns must be addressed simultaneously in the planning/decision making process. Recommended procedures for the environmental review and screening of the LGIF sub-projects is provided in Figure 5-1.

A stated purpose of the programmatic EA was to define appropriate guidelines to reduce the environmental risk and uncertainty of individual sub-projects to acceptable levels, and doing so with the least amount or paperwork and processing. As a product of this study, a simplified Project Description format was developed by the consultant team for application to the types of sub-projects proposed under the LGIF Project. A draft outline of this simplified "checklist" format was presented as a point of discussion during the workshop held to review the Draft Report (Appendix H-3). In line with comments received during the review workshop, and during subsequent meetings with representatives of the DENR Environmental Management Bureau (EMB), a modified proposal for a standardized Project Description outline was developed and is included as Appendix L. The proposed PD outline is under review by the EMB for possible general application to small-scale public infrastructure projects.

Based on findings of the programmatic EA, consultant interpretations of DENR regulations and public comments and written submissions received to date, Table 5-3 lists the recommended DENR documentary requirements for the proposed LGIF sub-projects.



LEGEND:

DENR - Department of Environment and Natural Resources
EA - Environmental Assessment
ECA - Environmentally Critical Area
ECC - Environmental Compliance Certificate
ECP - Environmentally Critical Project
EIS - Environmental Impact Statement
F/S - Feasibility Studies
LGIF - Local Government Infrastructure Fund
LGU - Local Government Unit
PD - Project Description
PMO - Project Management Office
USAID - United States Agency for International Development

Figure 5-1 RECOMMENDED ENVIRONMENTAL REVIEWS IN THE LGIF IMPLEMENTATION PROCESS

Table 5-3 Recommended DENR documentary requirements for proposed LGIF sub-projects

Sub-project	Upgrade/replacement	New location/facility within developed/urban areas	New location/facility within undeveloped areas
Roads and streets	Exemptible	Exemptible/PD	PD
Small public market Estimated effluent <30 m^3/day	Exemptible	Exemptible/PD w/ locational clearance	PD w/ locational clearance
Type I public market module Estimated effluent <30 m^3/day	Exemptible	Exemptible/PD w/ locational clearance	PD w/ locational clearance
Type II public market module Estimated effluent <30 m^3/day	Exemptible	Exemptible/PD w/ locational clearance	PD w/ locational clearance and conform w/ DAO 35
Type III public market module Estimated effluent >30 m^3/day	Exemptible conform w/ DAO 35	Exemptible/PD w/ locational clearance and conform w/ DAO 35	PD w/ locational clearance and conform w/ DAO 35
Public market complex Estimated effluent >30 m^3/day	Exemptible conform w/ DAO 35	Exemptible/PD w/ locational clearance and conform w/ DAO 35	PD w/ locational clearance and conform w/ DAO 35
District slaughterhouse Estimated effluent <30 m^3/day	Exemptible	Exemptible/PD w/ locational clearance	PD w/ locational clearance
Satellite slaughterhouse Estimated effluent >30 m^3/day	Exemptible conform w/ DAO 35	Exemptible/PD w/ locational clearance and conform w/ DAO 35	PD w/ locational clearance and conform w/ DAO 35

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Regional slaughter-house Estimated effluent >30 m^3/day	Exemptible conform w/ DAO 35	PD w/ locational clear-ance and conform w/ DAO 35	PD w/ locational clear-ance and conform w/ DAO 35
Community health care center	Exemptible	Exemptible/PD w/ locational clear-ance	PD w/ locational clear-ance

Legend:

LGIF - Local Government Infrastructure Fund
PD - Project Description
DAO 35 - DENR Administrative Order No. 35 (revised effluent standards)

Note: Proposed documentary requirements are based on findings of the programmatic environmental assessment conducted for the LGIF Project and represent recommendations of the consultant team in line with DENR regulations. Listed documentary requirements should be interpreted by project proponents as minimum requirements since additional documentation may be required by DENR to further define environmental impacts of specific sub-projects.

5.3.3.1. Project identification document (PID)

During this initial stage, the LGU nominates a list of eligible sub-projects. Sites are then identified and checked by the LGU as to whether they are situated in/on an environmentally critical area (ECA) as defined by DENR (Section 1.2.2). In the site selection process, the existing land use or zoning ordinances should be identified for compliance of the proposed sub-project with available LGU development plans. Other issues, such as the relocation of existing residents and businesses from proposed sites or right-of- ways, would be addressed within the standard Project Identification Document (PID).

The LGU submits the completed PID with an Enform I (Figure 1-2) to the DENR regional office. Based on the type, scale and location of the proposed sub-project, an exemption certificate may be issued, additional information may be requested or a determination may be made by the DENR regional office that a PD or EIS is required (Figure 1-4). For sub-projects issued an exemption certificate, an ocular survey of the proposed site is required and is conducted by the Regional Technical Director (RTD) of the DENR regional office.

The LGU then submits its list of candidate sub-projects with the attached DENR exemption certifications or statements of further requirements to the LGIF-PMO. The latter will initially screen the proposed sub-project and in this process, environmentally sensitive sub-projects that require an EIS will be "disqualified".

5.3.3.2. Feasibility study

As required, a feasibility study would then be conducted by the LGU for initially screened sub-projects. In general, feasibility studies are not performed for school building sub-projects. In addition, many LGUs may have an existing backlog of previously completed feasibility studies for eligible sub-project types. The feasibility study document typically includes a detailed site description, a social soundness study, and an initial environmental assessment.

Based on preliminary determination provided by review of the submitted Enform I, the LGU subsequently prepares and submits a project description (PD) to the DENR regional office as required for specific sub-projects. The content of a PD typically includes the following:

- a description of the location and area to be covered by the proposed project;
- a discussion of the project scale and cycle; and
- estimated project cost.

These types of descriptions are generally developed and presented within the feasibility study of a project. In addition, most feasibility studies conducted under comparable small-scale infrastructure programs (e.g., ESF, RIF) included a chapter or section on environmental impact analysis. A comparison of the annotated Project Description outline presently stipulated by DENR, and the contents of a typical

feasibility study suggests that the format of required feasibility studies should be amended to specifically include:

- identification of potential environmental impacts, such as by utilizing the matrix provided in Appendix E-3 and/or the checklist included as Appendix E;
- on the basis of the identified impacts, provide a general description of the proposed environmental management and impact mitigation measures to be defined during subsequent stages of the project cycle (.e.g., site adaptation/detail design, inception report and tender documents);
- a discussion of the temporary accommodations to be provided for existing commercial and social activities conducted within facilities identified for replacement;
- as possible, estimate the cost of the proposed impact mitigation measures and include these estimates within the sub-project's cost/benefit analysis;
- as part of the social soundness study, attach endorsements from the Local Development Council and/or concerned/affected community organizations, such as the public market cooperative; and
- include a listing of the preparers and their qualifications.

After screening by the DENR regional office, either an ECC will be issued, additional information requested, or the preparation of an EIS will be required. The estimated time requirement for DENR review of a submitted PD may vary with the review capabilities of each DENR regional office and the adequacy of submitted documents, but is in the range of one to two months, and also requires an ocular site inspection by the RTD.

The LGIF-PMO and USAID will then review and screen the completed feasibility studies of the candidate sub-projects, along with comments or conditions from DENR regional office concerning the proposed sub-project. Sub-projects that require the submission of an EIS will be construed as environmentally sensitive and will be disqualified.

5.3.3.3. Preliminary and final design

The LGU will make the final selection of the LGIF-PMO approved sub-projects. After the proponent LGU and the LGIF-PMO enter into a sub-project agreement, the LGU will then conduct a site adaptation of the standard designs.

The site adaptation process involves detailed site inspection (i.e. soil tests); an inception report; preliminary, pre-final and final designs; and preparation of tender documents. These documents and plans will then be submitted to the LGIF-PMO who will verify compliance per attached DENR preconditions (ECC or exemption certificate) and recommendations set forth in the finalized programmatic EA. Compliance verification is a critical step too often overlooked during the implementation process of comparable infrastructure projects and is considered by the consultants as essential to effective environmental review of each project. In addition to compliance with DENR and USAID preconditions,

verification of the site adapted, final designs and submitted tender documents must also address the concerns of the responsible government agencies, including DECS and NMIC.

5.3.3.4. Scheduling of sub-project construction

Scheduling for construction of approved sub-projects is ultimately dependent on the release of initial funding for contractor mobilization. In the consultant's opinion, proper timing of construction activities to avoid the prevailing (seasonal) pattern of local rainfall is the single most effective measure available to manage and mitigate environmental impacts of construction, particularly increased soil erosion and siltation caused by site disturbance and poor material handling practices. The submitted sub-project studies described in the previous sections should define the proposed period of sub-project construction in direct relation to local climate patterns. To the furthest extent possible within established funding caveats, USAID and the LGIF-PMO should require that the scheduling of all sub-project construction, especially earthwork, coincide with the traditionally dry season of the sub-project locale. Such scheduling is highly appropriate to the LGIF Project because of the limited scale of proposed activities, with anticipated construction periods in the range of four to six months.

In addition to limiting the potential for environmental impact, proper scheduling of construction activities according to local rainfall and typhoon incidence patterns would also serve to limit a major factor in construction delays and cost over-runs as the result of what is too commonly construed by contractors as Force Majeure. As a practical measure, the general conditions of each sub-project contract should include the following legal clause adopted from documents issued under the Mt. Pinatubo Emergency-Project Management Office (Appendix J-1, Section GC-21):

> .... Rain, windstorms, or other natural phenomena of normal intensity, based on the official weather reports for the particular season of the year in which the works are being prosecuted, shall not be construed as Force Majeure.

It is important to note that a recent amendment (June 1992) to the implementing rules and regulations for government-funded civil works (Presidential Decree 1594) specifies that unless the number of rainy or unworkable days are established before the bidding date and known to all participating bidders, the contract time is presumed to have excluded unfavorable conditions (Appendix F).

For the list of 15 indicative provinces provided by USAID (Figure 2-1), a recommended schedule for sub-project construction based on local climate and rainfall patterns is provided in Figure 5-2.

5.3.4. Archaeological resources assessment

The potential impact on archaeological resources tends to be overlooked under requirements for environmental assessment and review. The decentralization process may further weaken present levels of archaeological impact evaluation. Because of the anticipated urban siting of most proposed LGIF sub-projects and the tendency of Philippine communities to be established within historic patterns of habitation, the possible disruption of archaeological resources during sub-project excavations is a significant public concern (Appendices H-1 and H-2).

A recent manual published by the National Museum (Ronquillo, 1991; Appendix K) outlines a recommended archaeological impact assessment and review process, which includes the following:

- Overview -- intended to identify and ass archaeological resource potential or sensitivity within a proposed development area;
- Inventory -- involves a program of in-field identification and recording of archaeological resources within a proposed development area;
- Impact assessment -- only required where potential conflicts have been identified between archaeological resources and a proposed development;
- Mitigation/compensation -- only undertaken in situations where unavoidable conflicts between archaeological resources and a proposed development are identified; and
- Surveillance/monitoring -- generally necessary when impact assessment studies have recommended the implementation of resource management measures designed to protect archaeological resources during project construction.

These review procedures recommend that archaeologists of the National Museum conduct an examination of the project proponents' initial development proposal to determine whether further involvement in the archaeological assessment process is required. Unfortunately, the National Museum, the designated national agency responsible for the preservation of archaeological resources, does not have regional offices assessable to proponent LGUs. As a procedural recommendation, a memorandum of agreement should be established between the LGIF-PMO and the National Museum to facilitate their assistance in reviewing submitted PIDs, feasibility studies and inception reports on a timely basis. Of particular interest to the National Museum in their preliminary assessment would be access to site photographs and copies of soil profiles obtained from test pits and auger borings conducted during the soil investigation of each proposed site, which are generally included within the sub-projects' inception report.

The sub-project reports provided for review by the National Museum should clearly described the volume and depth of any proposed excavations, the construction activity presenting the greatest risk of disturbing buried archaeological resources. A recommended addition to these reports would be a description of available local information, such as generated through interviews with long term residents, of any previous discoveries of archaeological resources in the vicinity of the proposed sub-project. In line with orientation of an environmental assessment, the purpose of an initial evaluation of the archaeologic potentials of a proposed site is to avoid possible destruction of such resources of national importance, while also avoiding substantial delays in project implementation caused by their subsequent discovery during construction.

CLIMATE TYPE	INDICATIVE PROVINCES	MONTHS											
		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
I	BENGUET ILOCOS NORTE LA UNION BATANGAS AKLAN (west) ANTIQUE GUIMARAS NEGROS OCCIDENTAL	■	■	■	■	◇	◇	◇	◇	◇	◇	■	■
II	LEYTE (north, east) AGUSAN DEL NORTE SURIGAO DEL SUR	◇	■	■	■	■	■	■	■	■	■	◇	◇
III	AKLAN (east) BUKIDNON (north, east)	■	■	■	■	◇	◇	◇	◇	◇	◇	■	■
IV	BATANES BOHOL BUKIDNON (south) MISAMIS OCCIDENTAL LEYTE (south, west)	◇	■	■	■	■	■	■	◇	◇	◇	◇	◇

LEGEND:

■ RECOMMENDED PERIOD FOR EARTHWORKS AND EXTERIOR CONSTRUCTION

◇ MONTHS WITH HIGHEST AVERAGE RAINFALL - NOT RECOMMENDED FOR EARTHWORKS AND EXTERIOR CONSTRUCTION

Figure 5-2 RECOMMENDED CONSTRUCTION SCHEDULES FOR FIFTEEN INDICATIVE PROVINCES BASED ON CLIMATE TYPE

Source: Climate type according to Corona's classification system (Figure 2-6)

5.4. Recommended mitigation measures during construction

As granted by DENR/EMB, an environmental compliance certificate (ECC) is generally issued subject to an attached list of conditions and stipulated impact mitigation measures. As a consequence, most ECCs contain a standard, conditionality clause that reads:

> Non-compliance with any of the above stipulations will be sufficient cause for the suspension or cancellation of the Certificate and/or a fine ....

The following mitigation measures for typical construction activities are adopted from available ECCs and referenced to standard construction documents (Appendices J-1 and J-2). These mitigation measures are recommended for incorporation within the legal specifications and bid documents issued under the LGIF Project:

- all appropriate permits/licenses that are required by government agencies other than DENR shall be secured prior to project implementation (Appendix J-1, GC 10);
- any relocation requirements of affected residences and/or livelihoods shall be effected prior to project implementation, to include designated forms of compensation (Appendix J-1, GC-10);
- a team shall be formed to direct traffic flow, provide assistance to motorists and to monitor the project impacts during construction or provide a management plan for traffic to prevent congestion of the area by vehicles and heavy equipment (Appendix J-1, GC-22);
- dusts, noise, gaseous emissions from heavy equipment operation, effluents and domestic wastes and dusts resulting from temporary use of service roads shall be mitigated at all times to prevent disruption in the construction site and immediate vicinity (Appendix J-2, Sect. 2.10);
- any area exposed as a result of activities related to construction shall be rehabilitated and stabilized or that mitigating measures to prevent siltation and erosion during construction and operation should be effected at all times (Appendix J-1, GC-10; Appendix J-2, Sect. 102.1.2);
- use of beach sand shall be prohibited (Appendix J-1, Technical Specifications, Sect. 3.2.5);
- all archaeological resources discovered at a project site shall be deemed to be the absolute property of the Government of the Philippines without exception. The Contractor shall take reasonable precautions to prevent the removal or damage to any such resources and shall upon discovery thereof, inform the Project Engineer of such discovery and carry out, at the expense of the Government, the Project Engineer's orders as to the treatment and disposal of the same (Appendix J-1, GC-13);
- to minimize potential erosion, spoil materials that can be carried into drainage systems and waterways should be removed immediately. Silt traps should also be considered for incorporation within proposed drainage structures to trap silt from flowing into the existing waterways (Appendix J-2, Sect. 102.2.9);

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- accelerated export of surplus cut materials to a satisfactory location offsite should be done. Unnecessary stockpiling of cut materials on-site should be avoided (Appendix J-2, Sect. 102.2.9);

- there should be adequate disposal and collection of solid wastes, garbage, and wastewater within the construction site (Appendix J-2, Sect. 2.4, 9.10 and 10.0);

- upon completion of the work, all construction supplies, materials, rubbish, and temporary works of every kind should be cleared and removed offsite (Appendix J-2, Sect. B.3);

- the project site shall be cleared of spoiled materials and construction debris, which shall be disposed of properly during construction period and prior to abandonment (Appendix J-1, GC-47; Appendix J-2, Sect. 2.4.3); and

- proper abandonment and rehabilitation measures should be adapted for affected areas (Appendix J-1, Sect. 1.2.2).

Additional specifications appropriate to the mitigation of anticipated construction-related environmental impacts are included within Appendices J-1 and J-2. As legally binding measures, such specifications are critical to the field implementation of environmental impact management procedures. In addition to the standard contract documents, copies of the DENR environmental compliance certificate (ECC) or exemption certificate issued for the sub-project should be provided to the designated construction contractor, the specific conditions of which shall be incorporated as formal mitigation measures and bid as budgetary line items.

Most anticipated LGIF sub-projects are described as replacement facilities. In the case of public markets and slaughterhouses, the construction of replacement facilities within existing sites may temporary displace existing occupants and commercial activities into adjoining public areas and streets. Recommended LGU planning measures to mitigate secondary impacts to adjoining areas during the construction of replacement facilities include:

- public market and slaughterhouse sub-projects -- identify and establish temporary facilities for the duration of construction;

- road sub-projects -- provide adequate detours, and schedule construction activities to avoid local rush hours; and

- school building sub-projects -- schedule construction during school vacations, and arrange for temporary facilities during construction.

The prevalence of illegally sourced lumber and a pending legal shortage provides justification that the LGIF-PMO require certification within all contract bids and billing documents that all lumber used during sub-project construction is legally sourced.

Needless to say, only prompt payment of the contractor by the LGU, and in turn by the LGIF-PMO, can sustain private sector initiatives towards environmental impact mitigation. The all to common tendency

to extend government payment schedules beyond due dates significantly weakens private sector incentives to mitigate constructional impacts.

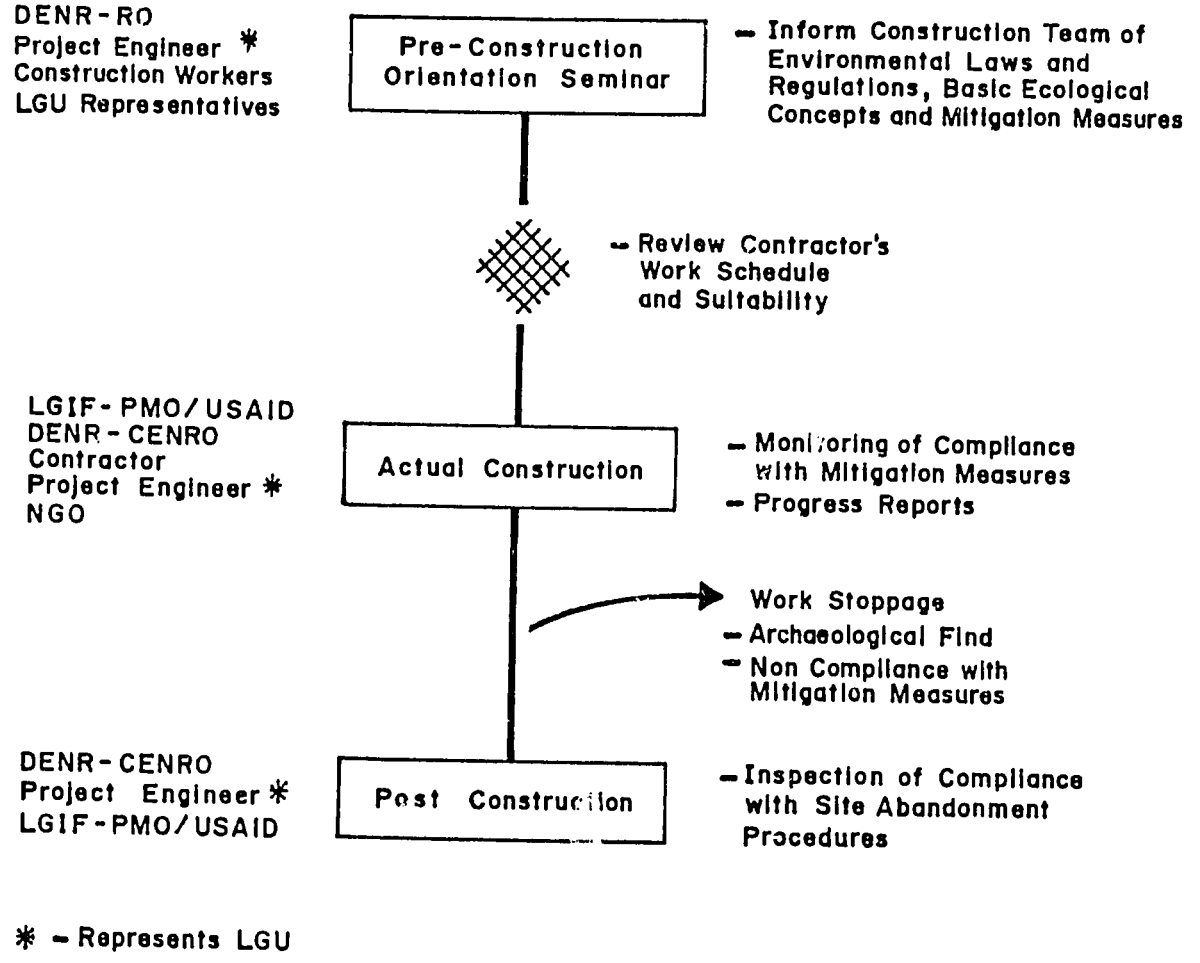
Recommended environmental monitoring

During public meetings conducted for this study, repeated reference was made to a traditional lack of environmental monitoring during construction (Appendices H-1 and H-2). To adequately address this public concern and to ensure contractor compliance to applicable laws, regulations, and pre-conditions of each sub-project, environmental monitoring procedures must be formulated within the LGIF-PMO and fully integrated throughout the construction process of each sub-project.

The following sections provide basic recommendations for environmental monitoring procedures deemed appropriate to the LGIF implementation process and small-scale infrastructure sub-projects. These basic recommendations are referenced to Figure 5-3 and provide continuity to the previously described environmental review process (Figure 5-1). These recommended monitoring procedures are additionally important to the LGIF Project because of anticipated exemptible status of many of the proposed sub-projects to more rigid forms of documentary and regulatory enforcement.

Critical day-to-day monitoring of construction activities is generally provided by the project/resident engineer who represents the proponent LGU as either a staff member (e.g. city engineer) or as a consultant of the construction management and engineering services (CMES) firm contracted by the LGU. The various tasks assigned to the project/resident engineer under standard ESF contracts include the following:

- inspect construction and ascertain that the construction conforms with the plans and technical specifications;
- inspect all contractor's installations, housing, shops, warehouses, and equipment to ensure compliance with the terms of the construction contract, including safety and environmental considerations;
- furnish assistance to the construction contractor in interpreting the plans or contract documents;
- observe and report on any adverse implications of construction on the natural and/or social environment, and instruct the contractor to rectify them;
- inspect all safety aspects of the construction and report any deficiency to the LGU;
- when appropriate under the terms of the contract, instruct the contractor, through the LGU, to suspend construction work; and
- when construction is approximately 95 percent complete, perform a pre-final inspection and inform the contractor of items requiring correction or rectification before final inspection.



LEGEND:

CENRO – Community Environment and Natural Resources Office
DENR – Department of Environment and Natural Resources
LGIF – Local Government Infrastructure Fund
LGU – Local Government Unit
NGO – Non Government Organization
PMO – Project Management Office
RO – Regional Office
USAID – United States Agency for International Development

Figure 5-3 RECOMMENDED ENVIRONMENTAL MEASURES DURING THE CONSTRUCTION PHASE

Similar requirements should be incorporated in standard CMES contracts and construction documents prepared for LGIF sub-projects to formalize on-site environmental monitoring responsibilities. These project/resident engineer monitoring activities should be specifically described within the progress reports to be submitted monthly to the LGIF-PMO.

In addition to day-to-day construction monitoring by the project/resident engineer, it is anticipated that the LGIF-PMO and USAID will schedule regular (monthly) site visits, during which environmental compliance should be evaluated at the same time as other sub-project factors, such as design and material specifications. By utilizing a performance-based funding approach and quarterly dispersements, USAID will maintain the legal capacity to rescind sub-project funding agreements with LGUs because of their non-compliance with construction specifications and conditions, to include environmental factors.

The DENR maintains a legal right and institutional responsibility to conduct monitoring and compliance inspections at any time during project construction in coordination with concerned groups. The DENR may be represented by personnel of their regional offices or staff of the proposed Environmental and Natural Resources Unit, which may be created within provinces, cities, and first class municipalities (Section 2.2.3). To facilitate construction monitoring by the DENR requires the full cooperation of the sub-project contractor and representatives of the proponent LGU.

5.5. Pre-construction stage

Before initiating construction, an orientation seminar should be conducted for construction workers and engineers to inform them of applicable environmental laws and regulations, specific mitigation measures and basic ecological concepts. Suggested participants in this orientation seminar would include LGU representatives, the project engineer and resource persons from the DENR regional office.
The recommended environmental orientation seminar may be conducted in line with the traditional pre-construction conference, which is held for most public infrastructure projects for the purpose of establishing the guidelines and procedures for the smooth execution of the project. Specific activities normally conducted during a pre-construction conference (Appendix J-1, Section GC-06) include the identification of the following:

- project organization set-ups, with definition of lines of authority;
    - sources of materials;
    - right-of-way problems;
    - coordination meetings, schedules and frequency;
    - reporting and monitoring procedures;
    - clarification of applicable laws; and
    - other matters/problems of specific nature to the project that could affect construction progress.

Before actual construction, the LGIF-PMO and the project engineer will review the contractor's proposed work plan and schedule in terms of its compliance with environmental requirements imposed by DENR, as well as applicable local laws and regulations.

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5.6. Post-construction stage

The construction site will be inspected to determine compliance with site abandonment procedures, for example, clearing and proper disposal of construction debris, as well as of compliance to design and material specifications. The following parties will be involved during this stage: DENR-CENRO, project engineer, contractor and LGIF-PMO/USAID.

Environmental monitoring during operations will involve the regional office of DENR and local LGU officers as designated under the 1991 Local Government Code. Because of the observed tendency of completed facilities to return more or less to the previously unsanitary condition of the facilities that were replaced, a concerted effort must be made by the LGU and the LGIF-PMO to clearly define and fully explain to the respective sub-project management the appropriate measures required during operations and maintenance to sustain positive environmental conditions. This could take the form of an operational manual, a turn-over orientation program and/or an operators training activity as an extension project of the LGU or a local NGO.

As a standard practice, USAID typically provides funding for independent mit-term and/or end-of-project evaluations to assess project outputs in relation to defined project objectives and goals. In accordance with the USAID principle of replicability and sustainability, these independent evaluations should fully consider the predicted programmatic and specific sub-project environmental benefits and impacts versus those realized through implementation and operation of the particular sub-projects. In particular, these independent evaluations should assess the adequacy of the recommended impact mitigation measures identified in the process of this study and supplemented during the subsequent project phases.

5.7. Operations and maintenance measures

Among the sub-projects proposed under the LGIF Project, public markets and slaughterhouses are typically operated as public enterprises. These are traditionally under the supervision of the city/municipal mayor; effective management, however, is generally exercised by the public market or slaughterhouse administrator. The city/municipal council establishes rental rates, designates market sites and appropriates funds for market maintenance. There are other municipal officials who are responsible for certain aspects of market administration, such as the municipal treasurer for the collection of fees and the municipal health officer for sanitation. However, because they are not corporate entities, the administration and operation of public markets and slaughterhouses are treated as part of the regular bureaucracy and do not have sufficient autonomy to manage their own affairs, such as setting appropriate stall rental fees.

Under the 1991 Local Government Code, LGUs are allowed to lease public markets and slaughterhouses to, and enter into management contracts with, private groups such as cooperatives. Such an arrangement would allow these facilities to operate with a commercial business orientation, for example, in setting realistic fees that compare to prevailing commercial rental rates and consider maintenance, operating and capital recovery costs, adjusted to the rate of inflation. Typical stall rates are set by area occupied by each vendor. Recommended stall rates would include consideration of the costs to handle liquid and solid waste production. For example, wet sections of the markets, as well as carinderias, would pay proportionally more than dry market sections because of their higher waste production. These appropriate

fee schedules should be clearly defined within the feasibility studies conducted for such sub-project. In addition, the feasibility of privatizing public markets and slaughterhouses through lease arrangement should be thoroughly evaluated within these studies as an appropriate operations and maintenance measure towards sustainable development.

Regardless of the feasibility of privatizing public enterprises/facilities, an orientation training of operators and occupants of the completed facilities is deemed essential to their long term sanitary, environmentally sound operation. As a practical step, in the case of public markets, a resolution should be solicited and signed by all stall occupants regarding sanitation and public health procedures. In turn, the LGU must support their endeavors with timely public services, including solid waste collection services and regular septic tank cleaning.

Appendices

Environmental assessment:

Local Government Infrastructure Fund

A.I.D. project no. 492-0463

Prepared for:
United States Agency for International Development/Philippines
Under contract number PDC-5517-I-00-0105-00, D.O. #10

Prepared by:
Tropical Research & Development, Inc.

November 4, 1992

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Appendices

Environmental Assessment
for the
Local Government Infrastructure Fund Project
(USAID Project Number 492-0463)

Final Report

By:

Michael Ross, team leader and natural resource economics policy specialist
Menajem Bessalel, engineer
W. Palarca, Land use planning specialist
D. Palaypay, wildlife biologist
R. Wellner, environmental engineer

"This study was completed through the assistance of the United States Agency for International Development (USAID) under USAID Contract No. PDC-5517-1-00-0073-D0-10. Views expressed and opinions contained in this report are the author's and are not intended as statements of policy of USAID or of the author's parent institutions."

November 4, 1992

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APPENDIX A
METHODOLOGY

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A-5 List of Visited Facilities
A-6 Representative Photographs of Visited Facilities

APPENDIX A-1

INVITATION AND DISTRIBUTION LETTERS

Tropical Research and Development, Inc.

Dames & Moore

5th Flr., Adamson Center Bldg., 121 Alfaro Street, Salcedo Village
Makati, Metro Manila Tel. Nos. 868-036/818-6808 Fax No. 817-9491

June 22, 1992

(insert title and address of invitee)

Dear Sir/Madam:

You are cordially invited to attend a scoping session for the Programmatic Environmental Assessment being prepared, by the joint consultancy of Tropical Research and Development, Inc. and Dames & Moore, for the Local Government Infrastructure Fund (LGIF) Project, which is proposed for funding by the United States Agency for International Development (USAID). The LGIF Project is intended to provide small scale infrastructure (e.g. public markets, roads, school buildings and slaughterhouses), outside of the national capital region, to increase economic productivity, especially in the private sector, and to promote participation and decentralization of the development process in line with efforts of the national government.

The objective of the Programmatic Environmental Assessment is to identify impacts associated with the construction of the small-scale infrastructure subprojects proposed under the LGIF Project and to assess mitigation measures which could be adopted to eliminate or lessen potentially negative environmental impacts. An important product of the project-scale, Programmatic Environmental Assessment will be the development of screening criteria for the subsequent, site specific environmental review of LGIF subprojects.

The scoping session will be held on June 26, 1992 at 9:30 A.M. in the Humabon-Soliman Function Room of the Sulo Hotel, in Quezon City.

The purpose of the scoping session is to provide all interested parties with the opportunity to comment on what they believe are the important issues that should be addressed in the environmental assessment. These comments will help the impact assessment team to focus their efforts and the scope of work on significant issues and critical concerns at the earliest stage possible.

Your participation in the environmental assessment process is requested, for which can take the form of attendance and verbal comments during the scheduled scoping session or through submission of written comments and recommendations. If you plan to attend the scoping session on June 26, 1992, please RSVP to JoJo de Dios, at 818-6808 or 812-4061. Feel free to contact us if you should have any questions or require additional information. Also feel free to circulate this invitation to agencies and organizations that may share your interest in this important infrastructure project.

We look forward to your participation in the environmental assessment process.

Sincerely yours,
TROPICAL RESEARCH AND DEVELOPMENT, INC.

Michael A. Ross
Environmental Team Leader

Tropical Research and
Development, Inc.

Dames & Moore

5th Flr., Adamson Center Bldg., 121 Alfaro Street, Salcedo Village
Makati, Metro Manila Tel. Nos. 868-036/818-6808 Fax No. 817-9491

July 10, 1992

(insert name and address)

Dear Sir:

A scoping session was recently conducted for the on-going Programmatic Environmental Assessment of the proposed Local Government Infrastructure Fund (LGIF) Project. The attached Scoping Session Report is a product of this session and includes background on the LGIF Project and a summary of our preliminary findings. Also included within this report is a discussion of our current activities to assess general, overall impacts relating to the LGIF Project and to define standard mitigation measures, such as design modifications and environmental management procedures.

As a programmatic assessment, the current study provides a unique opportunity to preview and critically evaluate the LGIF Project prior to implementation. In a participatory approach to impact assessment, we are pleased to provide you a copy of the Scoping Session Report for your review and comment and we look forward to receiving your recommendations.

Should you have any questions or require further information regarding the Programmatic Environmental Assessment of the LGIF Project, please feel free to contact this office.

Very truly yours,
Tropical Research and Development, Inc.

Michael A. Ross
Environmental Team Leader

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Tropical Research and Development, Inc.

Dames & Moore

5th Flr., Adamson Center Bldg., 121 Alfaro Street, Salcedo Village
Makati, Metro Manila Tel. Nos. 868-036/818-6808 Fax No. 817-9491

July 21, 1992

(insert name and address)

Dear Sir:

You are cordially invited to participate in a workshop which is to be conducted as part of programmatic environmental assessment of the Local Government Infrastructure Fund (LGIF) Project. The LGIF Project, which is proposed for funding by the United States Agency for International Development (USAID), involves the construction of small-scale infrastructure through a decentralized, local government unit (LGU) implementation process. The objective of the scheduled workshop is to define screening criteria and review procedures appropriate to the programmatic-level of study and applicable to the proposed LGIF Project activities. As envisioned, the workshop will serve as an interactive forum to discuss draft proposals of the consultant team, including our approach to issues raised during the scoping session, which was held on June 26, 1992.

The workshop will be held on July 24, 1992 at 9:00 A.M. in the Humabon-Soliman Function Room of the Sulo Hotel, in Quezon City.

Your participation in the environmental assessment process is requested, for which can take the form of attendance and verbal comments during the scheduled workshop or through submission of written comments and recommendations. If you plan to attend the workshop on July 24, 1992, please RSVP to JoJo de Dios, at 818-6808 or 812-4061. Feel free to contact us if you should have any questions or require additional information. Also feel free to circulate this invitation to agencies and organizations that may share your interest in this important infrastructure project.

We look forward to your participation in the environmental assessment process.

Sincerely yours,
TROPICAL RESEARCH AND DEVELOPMENT, INC.

Michael A. Ross
Environmental Team Leader

Tropical Research and
Development, Inc.

Dames & Moore

5th Flr., Adamson Center Bldg., 121 Alfaro Street, Salcedo Village
Makati, Metro Manila Tel. Nos. 868-036/818-6808 Fax No. 817-9491

August 17, 1992

(insert name and address)

Dear Sir:

A Programmatic Environmental Assessment was recently conducted of the proposed Local Government Infrastructure Fund (LGIF) Project. The attached Draft Report is a product of this study and includes a discussion of the identified environmental impacts of the LGIF Project and recommended standard mitigation measures, such as design modifications and environmental management procedures.

As a programmatic assessment, the current study provides a unique opportunity to review and critically evaluate the LGIF Project prior to implementation. In a participatory approach to impact assessment, we are pleased to provide you a copy of the Draft Report for your review and comment and we look forward to receiving your recommendations on a timely basis. As you review the Draft Report, you may notice that public recommendations received to date are incorporated directly into the assessment and form a significant portion of the findings. Due to the success of the scoping session and workshop meetings, a follow-up meeting, to present and discuss the Draft Report, may be organized in the coming weeks. A separate invitation letter will be distributed to you.

Should you have any questions or require further information regarding the Programmatic Environmental Assessment of the LGIF Project, please feel free to contact this office.

Very truly yours,
Tropical Research and Development, Inc.

Michael A. Ross
Environmental Team Leader

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Tropical Research and Development, Inc.

Dames & Moore

5th Flr., Adamson Center Bldg., 121 Alfaro Street, Salcedo Village
Makati, Metro Manila Tel. Nos. 868-036/818-6808 Fax No. 817-9491

September 09, 1992

(insert name and address)

Dear Sir:

You are cordially invited to participate in a workshop which is being conducted to finalized the programmatic environmental assessment of the Local Government Infrastructure Fund (LGIF) Project. The LGIF Project, which is proposed for funding by the United States Agency for International Development (USAID), involves the construction of small-scale infrastructure through a decentralized, local government unit (LGU) implementation process. The purpose of the scheduled workshop is to present and review the findings and recommendations of the Draft Report of the programmatic EA, in line with the requirements of the Environmental Management Bureau (EMB). As envisioned, the workshop will serve as an interactive forum to discuss this draft proposals of the consultant team and to formalize the guidelines for the implementation of the proposed guidelines for the implementation of the proposed LGIF Project activities. Based on the results of the workshop and solicited review comments, the Final Report of the programmatic EA will be produced and submitted to the concerned agencies and organizations.

The workshop will be held on Monday, September 14, 1992 at 9:00 A.M. in the Humabon-Soliman Function Room of the Sulo Hotel, in Quezon City.

Your participation in the review process is requested, for which can take the form of attendance and verbal comments during the scheduled workshop or through submission of written comments and recommendations. If you plan to attend the workshop on September 09, 1992, please RSVP to JoJo de Dios, at 818-6808 or 812-4061. Feel free to contact us if you should have any questions or require additional information. Also feel free to circulate this invitation to agencies and organizations that may share your interest in this important infrastructure project.

We look forward to your continued participation in the environmental assessment process.

Sincerely yours,
TROPICAL RESEARCH AND DEVELOPMENT, INC.

Michael A. Ross
Environmental Team Leader

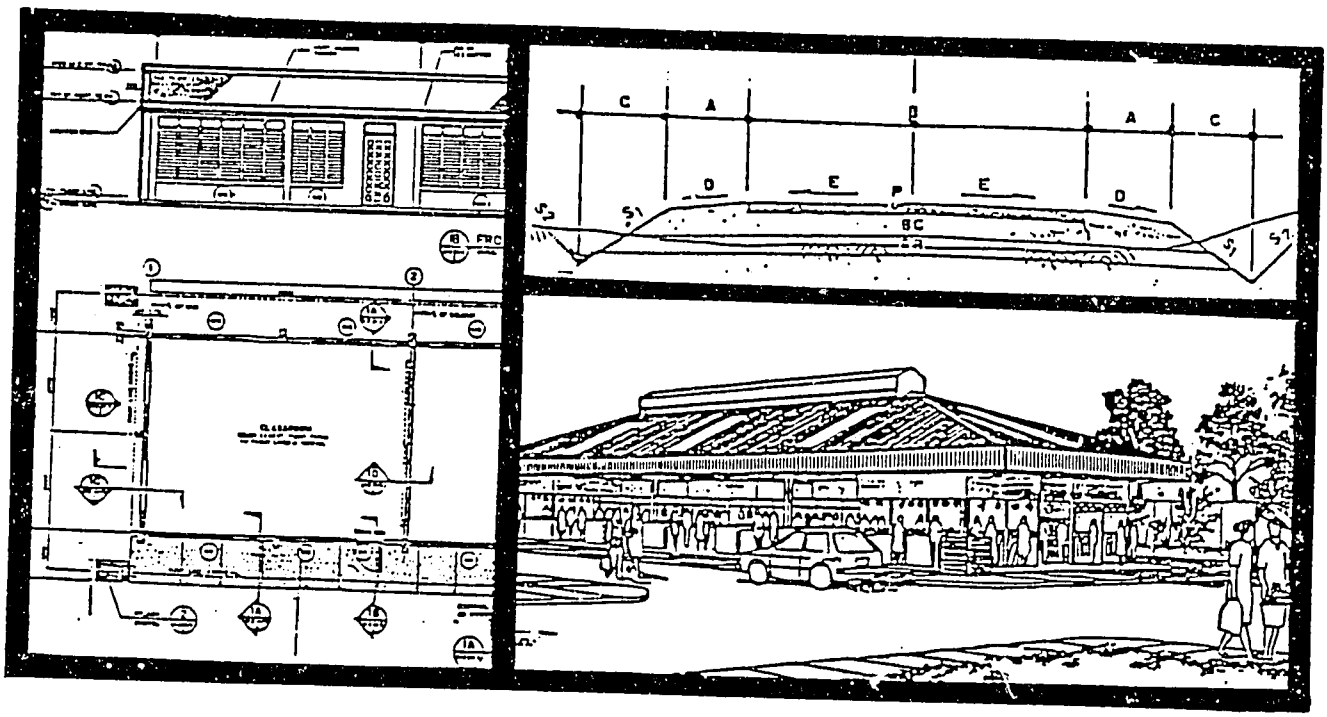
APPENDIX A-2

BACKGROUND REPORT

The United States Agency for
International Development
Mission to the Republic of the Philippines

LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

BACKGROUND REPORT
ENVIRONMENTAL SCOPING SESSION



Tropical Research and Development, Inc.

Dames & Moore

June, 1992

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BACKGROUND REPORT
ON THE
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
OF THE PROPOSED
LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

Prepared for the

ENVIRONMENTAL SCOPING SESSION

held on June 26, 1992

Sulo Hotel, Quezon City

"This study was completed through the assistance of the United States Agency for International Development (AID). The views expressed and opinions contained in this report are that authors, and are not intended as statements of policy of AID or the author's parent institutions."

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1.0 PURPOSE OF THE SCOPING SESSION

In accordance with USAID regulations, a scoping session is being held to inform interested parties of the proposed scope of the Programmatic Environmental Assessment of the Local Government Infrastructure Fund (LGIF) Project and to solicit their assistance in identifying the significant issues relating to the proposed project. As one of the initial steps in the impact assessment process of USAID, the environmental scoping session serves an important role by:

- starting the process of communication early in project planning;
- involving parties that may be potentially affected by the project;
- identifying local concerns;
- focusing subsequent studies on those issues deemed significant; and
- identifying issues of lesser significance.

The purpose of the scoping session is to provide all interested parties with the opportunity to comment on what they believe are the important issues that should be addressed in the environmental assessment. These comments will assist the impact assessment team to focus their efforts and the scope of work on significant issues and critical concerns at the earliest stage possible.

In addition to identifying specific environmental issues and concerns, public comments received through the scoping process will also assist the evaluation of the LGIF Project, including:

- the proposed standard designs, which were largely developed and tested in the process of the on-going Regional Development Fund Project;
- possible modifications to these standard designs and the contract documents for subprojects;
- alternative types of subprojects, including additive or supplemental facilities and/or training activities for subprojects; and
- alternative implementing arrangements and program processes to further ensure that the candidate LGUs are capable of implementing subprojects in an environmentally sound manner.

1.1 Your Role in the Participatory Process of Environmental Impact Assessment

This handout report has been prepared to provide background information to a proposed project that may be of importance to you and your group's/agency's involvement in environmental protection and infrastructure development in the Philippines. The effectiveness of the environmental assessment process depends in a large part to the participation and involvement of the affected community, concerned agencies and organizations at the earliest stage possible.

In the "two way street" process of communication essential to effective impact evaluation, your input is fully solicitated within this program-level assessment. In addition to participation during the scheduled scoping session on June 26, 1992, at the Humabon-Soliman Function Room of the Sulo Hotel, in Quezon City, your written, phoned or faxed comments will be most appreciated and incorporated within the assessment process and submitted reports. Please contact:

Michael A. Ross
Environmental Team Leader
5th Floor, Adamson Center Building
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Tel. Nos. 868-036/818-6808
Fax No. 817-9491

2.0 BACKGROUND OF THE LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

The lack of adequate physical infrastructure, including roads, public markets and school facilities, has been identified as one of the major impediments to dynamic private sector growth in the Philippines today. The goal of the Local Government Infrastructure Fund (LGIF) Project is to promote private sector led growth and diversification by alleviating some of the infrastructure constraints in various provinces and chartered cities of the Philippines. The purpose of the project is to construct critically needed small-scale infrastructure through, and based on the priorities of, eligible local government units (provincial or chartered city governments).

As proposed, the LGIF Project will provide for the construction of small-scale infrastructure subprojects by local government units (LGUs), supported by feasibility studies and training. Those LGUs meeting project eligibility criteria may enter into agreements with the Local Government Infrastructure Fund - Project Management Office (LGIF-PMO) of the Department of Public Works and Highways (DPWH) to receive funds for the construction and implementation of the subprojects, which will be chosen, and subsequently site adapted, from a library of standard designs maintained by the LGIF-PMO. The estimated duration period of the LGIF Project is five years with anticipated project initiation in late 1992. Total funding level of the LGIF Project by USAID grants is yet to be determined, with possible funding ranging from $30 to 100 million. To ensure that every subproject is viable, the LGIF Project may finance local studies demonstrating subproject technical, economic, financial, environmental and social feasibility. These site specific studies will be performed by, or contracted for, the LGU, and will be cleared through normal procedures of the Philippine government for inclusion of a subproject in the LGUs development plan. The feasibility study will in turn be submitted to USAID by the LGIF-PMO and acceptance of the study by USAID will allow the LGIF-PMO to sign the subproject agreement with the LGU.

The LGIF Project may also fund emergency reconstruction of small-scale infrastructure damaged as a result of natural disasters. Because of the need to reconstruct damaged or destroyed facilities as quickly as possible, contracting and implementation activities related to emergency reconstruction would be undertaken by the LGIF-PMO itself.

2.1 Description of the Proposed LGIF Subprojects

For the purposes of the LGIF Project, eligible LGUs are defined as chartered cities and provinces outside of the national capital region. The LGIF-PMO will establish selection criteria that will target those LGUs with the most pressing need and with demonstrated performance with regard to implementing small-scale infrastructure projects. Based on projected funding levels, it is anticipated that not more than 20 LGUs will be approved for participation in the first round of funding. It is also anticipated that the maximum initial planning budget offered to any single LGU in the first round of funding will be on the order of magnitude of ₱30 million. Such a budget would be sufficient to fund a mix of subprojects, including public markets, school buildings, and roads, to be selected from a library of standard designs approved by USAID, with the opportunity for each LGU to program the offered budget as it sees fit and justifies through component feasibility studies.

Examples of standard designs which may initially be available for funding include:

- medium-size public market module (Type I) - 415 sq.m. wet and dry market with 4 carinderias, 8 dry goods stalls, 12 fruit and vegetable stall, and 8 fish stalls, and 8 meat stalls.
- medium-size public market module (Type II) - 415 sq.m. dry market with 32 dry goods stalls.
- medium-size public market module (Type III) - 415 sq.m. wet market with 32 fish stalls and 32 meat stalls.
- small-size public market - 242 sq.m. open market
- slaughterhouse - 246 sq.m. single-story building for cattle and hogs.
- provincial road (concrete) - 6 meter wide concrete road pavement with open side ditches.
- provincial road (gravel) - 6 meter wide gravel surface road with open side ditches.
- barangay road (concrete) - 5 meter wide concrete road pavement with open side ditches.
- barangay road (gravel) - 5 meter wide gravel surface road with open side ditches.
- city street (concrete) - 6 meter wide concrete road pavement with curb and gutter and storm sewer.

- city street (bituminous) - 6 meter wide bituminous concrete pavement with curb and gutter and storm sewer.
- bridge - 7 meter wide reinforced concrete deck and girder bridge with sidewalks.
- 3-classrooms school building - 144 sq.m., single-story building with detached comfort room.
- high school science building (2 story) -780 sq.m. building with 4 classrooms, 1 laboratory, 1 library, 1 faculty lounge, and comfort rooms.
- high school science building (3 story) - 1710 sq.m. building with 12 classrooms, 3 laboratories, 1 library, 1 faculty lounge, and 2 sets of comfort rooms.
- 10-classroom school building - 1071 sq.m., two-story building with faculty room and comfort rooms.
- 12-classroom school building - 1250 sq.m., two-story building with faculty room and comfort rooms.
- 14-classroom school building - 1428 sq.m., two-story building with faculty room and comfort rooms.
- 16-classroom school building - 1912 sq.m., two-story building with faculty room, home economics room, and comfort rooms.
- 18-classroom school building - 2091 sq.m., two-story building with faculty room, home economics room, and comfort rooms.
- health center[1] - 474 sq.m., single story building with male and female infirmaries, assembly, laboratory, utility, dark, x-ray, waiting, office, consultation and treatment, nurses station, administration, clerical, toilet, and locker rooms.

This list of anticipated standard design subprojects is not exhustive and recommendations for alternative and/or supplemental subprojects is a component of the scoping process and a criteria for the programmatic assessment.

The LGIF-PMO will be responsible for ensuring that an environmental review is conducted for each subproject in accordance with the criteria contained in the finalized LGIF Programmatic Environmental

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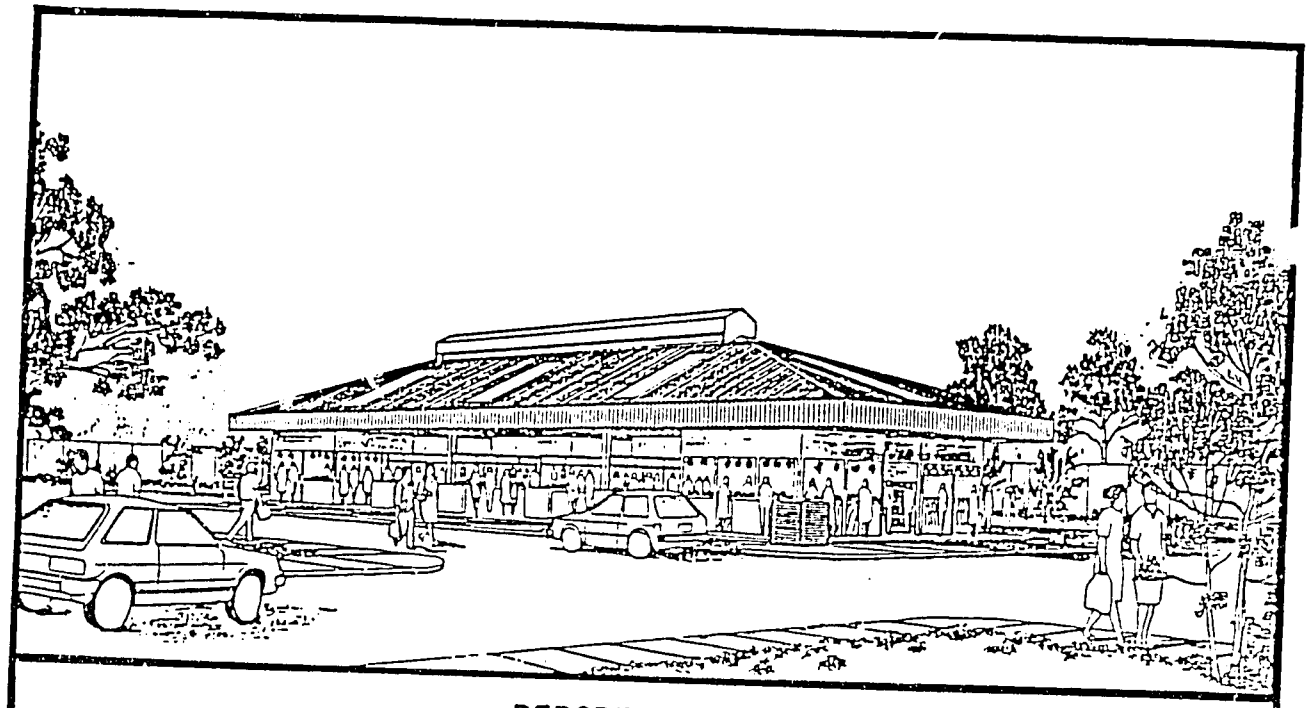
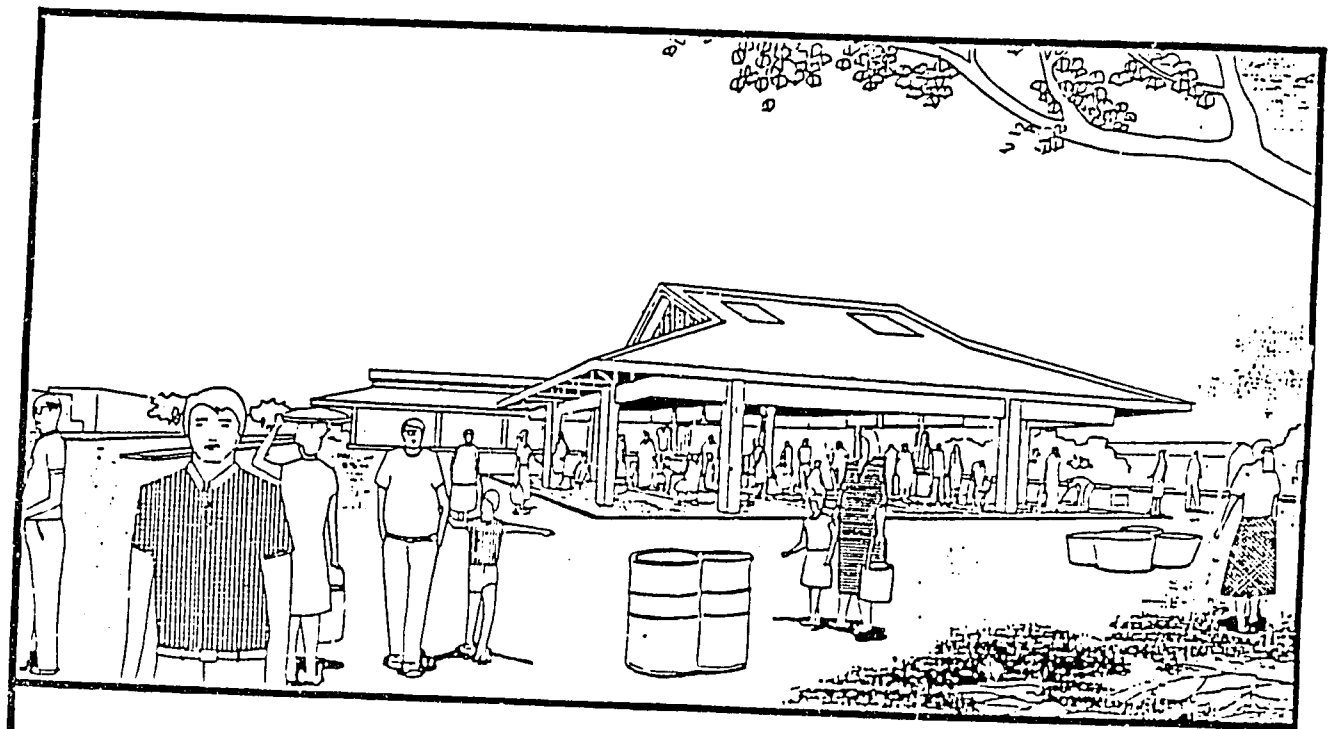
[1] Eligible only under the natural disaster component of the LGIF Project

Assessment document in compliance with USAID funding requirements and Philippine environmental regulations (Environmental Management Bureau, EMB).



PERSPECTIVE

STANDARD PUBLIC MARKET
TYPE I (WET & DRY MARKET)



PERSPECTIVE

MANTICAO PUBLIC MARKET

3.0 THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT OF THE LGIF PROJECT

Based on the criteria of the funding agency, USAID, a positive determination has been made, requiring that a Programmatic Environmental Assessment (PEA) be conducted for the LGIF Project. Since the LGIF Project deals with the construction of variety of infrastructure, any single subproject could have potentially significant environmental impacts. However, there are several characteristics of the LGIF Project which reduce overall relative environmental risk:

- all subprojects will utilize easily replicated, standard designs which will be site-adapted as required;
- all subprojects are small-scale public infrastructure with an anticipated average values in the range of $200,000 to $400,000 per subproject; and
- virtually all subprojects will be expansions or upgrade of existing facilities within established sites or right-of-ways.

The identified objectives of the Programmatic Environmental Assessment to date include:

- the development of screening criteria which will enable the LGIF-PMO to concentrate its environmental focus on those subprojects and sites which pose the greatest risks;
- the identification of standard mitigation measures, in lieu of a subproject environmental assessment, for design, construction, and administrative activities required for the implementation of those subprojects which might have greater relative environmental risk; and
- to recommend guidelines and simplified procedures for use by LGUs in the preparation of environmental assessments for those relatively high risk subproject types which cannot be adequately covered by standards mitigation measures.

In accordance with those identified objectives, the Programmatic Environmental Assessment of the LGIF Project is being conducted in order to assess general, overall impacts of the various categories of subprojects and to define an environmental review process which can be applied to each of the individual subprojects within the framework of LGU implementation.

3.1 Present Status of the Programmatic Environmental Assessment

A team of specialists has been assembled to examine the potential environmental impacts of the proposed LGIF Project based on an evaluation of the proposed program, available standard designs, and site assessments of comparable small-scale infrastructure projects. The impact assessment will include the characterization of the physical, biological, cultural, and socio-economic conditions, including an examination of climate and meteorology, water and air quality, geology and soils, terrestrial ecology, public health and sanitation, and cultural resources as they apply to the LGIF Project, the proposed implementation process, eligible subprojects and targeted LGUs.

The environmental team has initiated the impact assessment studies through:

- contact and interviews with concerned agencies;
- literature and design reviews;
- site surveys of on-going or recently completed small-scale infrastructure projects including interviews of local officials and engineers; and
- implementing the scoping process, soliciting public review and comment.

The following page illustrates the proposed Schedule of Activities for the environmental study team, including target dates for specific steps in the assessment process.

LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
SCHEDULE OF ACTIVITIES

	JUNE			JULY				AUGUST	
	15	22	29	6	13	21	28	4	11
1. Preliminary Contacts/ Literature Review									
2. Review of Standard Design Documents for Sub-projects									
3. Site Reconnaissance									
4. Scoping Session Handout Production									
5. Submission of Scoping Session Handout for USAID/Manila Approval		*							
6. Identification and Invitation of Concerned Groups and Individuals									
7. Scoping Session (Manila)		*							
8. Scoping Session Report Production									
9. Submission of Scoping Session Report			*						
10. Baseline Surveys and Data Collection									
11. Evaluation of Possible Alternative Actions									
12. Assessment of Environment Impacts									
13. Identification of Mitigation Measures									
14. Production of Draft Environmental Assessment									
15. Submission of Draft Environmental Assessment							*		
16. Presentation of Draft Environmental Assessment Findings to USAID/Manila, LGIF-PMO and DENR									
17. USAID Review of Draft Environmental Assessment									
18. Revision of Draft Environmental Assessment based on Review Comments									
19. Submission of Final Environmental Assessment									

3.2 Potential Environmental Issues Identified to Date

A purpose of the scoping process is to identify issues of significant concern at the earliest stage possible. Among the potentially significant environmental issues identified to date are the following:

- treatment and disposal of liquid wastes from slaughterhouses;
- utilization and disposal of solid wastes from slaughterhouses;
- treatment and disposal of liquid wastes from wet markets;
- utiliztion and disposal of solid wastes from wet markets;
- treatment and disposal of comfort room wastes from schools and markets;
- adequacy of potable water supply for school and markets;
- public health standards for food handling at wet markets;
- public health standards for meat handling at slaughterhouses;
- displacement of informal vendors and squatters at public market sites;
- dispersements and disposal of stormwater runoff at public markets;
- increased congestion in the vicinity of downtown market sites; and
- displacement of businesses and residents along road right-of-ways.

It is anticipated that as a result of the scoping process and as the study proceeds, additional issues will be identified and evaluated in relation to the LGIF Project.

3.3 Proposed Scope of the Programmatic Environmental Assessment

While the format of a programmatic environmental assessment may be similar to that of a project - specific EA, the content and scope have considerable difference, including:

- concern for multiple activities of a typically similar nature (e.g. the construction of standard design school buildings in various LGUs);
- addressing cumulative and irreversible impacts and how these can be avoided/mitigated through design, siting adaptations or reductions in number;
- consideration of supportive or contradictory policies, institutional constraints, including management and maintenance capability, and cross-sectoral impacts;
- the necessity for detailed recommendations on design, administrative, policy and other changes which can be made to the project to address site-specific environmental review requirements.

Initially, the scope of the Programmatic Environmental Assessment will endeavor to satisfy the funding requirements of USAID, as defined in 22 CFR 216.6 (d):

> "Other programmatic evaluations of classes of actions may be conducted in an effort to establish additional categorical exclusions or design standards or criteria for such classes that will eliminate or minimize adverse effects of such actions, enhance the environmental affects of such actions or reduce the amount of paperwork or time involved in these procedures."

In the process, the Programmatic Environmental Assessment will further address the major, substantive environmental issues identified and agreed upon during the scoping process. The defined scope of the assessment includes the primary and secondary environmental impacts associated with the overall project and the various categories of subprojects, taking into account potential impacts attributable to improper construction, as well as improper operation and maintenance which may occur as a result of institutional weaknesses within the various LGUs. As virtually all subprojects identified to date are classified as expansions or upgrades of existing facilities within established sites or rights-of-way, the assessment will tend to evaluate subprojects based on an action/no action alternative comparison, which weighs predicted environmental conditions and impacts with and without subproject implementation.

A vital component of the assessment will be to define the requirements of the Philippine's Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR)

for the issuance of an Environmental Compliance Certificate (ECC) or an exemption for the various categories of subprojects and that the proposed procedures and screening criteria conform to existing review processes. A prerequisite of the Programmatic Environmental Assessment is approval by EMB/DENR of the proposed guidelines and simplified procedures to be utilized by the implementing LGUs for obtaining environmental clearances for their candidate subprojects.

APPENDIX A-3

SAMPLE OF A SITE SURVEY INTERVIEW

SITE SURVEY INTERVIEWS

1. **Respondent**

Ms. Liza Savalla, City Planner Officer

Olongapo City, Zambales

Status: No particular projects was discussed. The interview was directed toward the capabilities of the municipality to implement and operate city infrastructure

2. **Type of project**

During our visit to Olongapo, the team visited several infrastructure projects.

3. **Other local information**

population: 330,000

4. **Description of situation before implementation of project**

Ms. Savalla indicated that through her office, or through the Public Works Center of the Subic Base the city can provide services to perform:

- geotechnical investigation
- topographic survey
- water supply: the city provides potable water.
- wastewater: the city does not have wastewater treatment facilities
- solid waste: The city has a 8 trucks for solid waste collection. However the existing landfill is not more than a dumping place.
- drainage: the drainage is discharge into Subic Bay, however the existing drainage structures are not properly maintained and show signs of deterioration. Stagnate water was observed in several places.
- existing facilities: the city has public services which include; public school, public market, slaughterhouses and health care facilities.

5. **Present capabilities of the city for preparation of initial project data**

The city technical development staff has one civil engineer and an architect who provide the capabilities to perform:

- geotechnical studies
- topographic survey
- hydrologic and hydraulic studies
- sedimentation and erosion studies
- socio-economic studies to define impacts due to implementation of specific infrastructure projects

6. **Capability of the city to enforce the specifications during construction and responsibilities to carry out inspection and control for:**

- pollution control: through their inspectors and control staff the city is able to give citations.
- construction quality control: the city have the capability to enforce specifications during construction

7. **Capability of the city to maintain and repair the facility after construction was completed:**

The city has the capabilities to maintain and repair the municipal facilities. However the team found several facilities were toilets and septic tanks were not functioning.

8. **Collection and treatment of solid waste:**

Collection: The city recently purchased 5 trucks with a capacity of 6 cu. m. each. Additionally, the city currently has 3 trucks of 8 cu. m. each. Collection is performed twice a week. The regulation for individual disposal is strictly enforced.

9. **Slaughterhouse - collection of animal waste**

The city has two slaughterhouses, the animal wastes are disposed into the river with no treatment, with exception of the hides, which are sold in the market.

10. **Capacity of the city to implement pollution control associated with:**

. pesticides: very limited
. nutrients: very limited
. solid waste: enforcement of the solid waste regulations are performed through citations and penalties. No major concern with industrial waste.

11. **Participation of NGOs**

no answer was given to this question

12. **Process of project selection**

The city set priorities for implementation of projects

13. **Anticipated financial capabilities**

The city assigns a percentage of tax revenues for maintenance and repair of public services. For solid waste management, the city reportedly assigns 15% of tax revenues.

APPENDIX A-4

ENGINEER'S SURVEY FORM

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

ENGINEER'S SURVEY

This brief survey is intended to solicit your observations and recommendations as engineers familiar with small-scale infrastructure projects.

Please consider in your responses to this questionnaire, construction and environmental problems that you have observed related to:

- displacement of present occupants of the sites or road right of ways;
- demolition, of existing structures (if any);
- disposal/reuse of demolition-generated materials;
- actual construction operations;
- the location of the constructor's work camp;
- earthworks, location of borrow pits and disposal sites of surplus or exported materials;
- site drainage, sedimentation and erosion;
- air quality impacts, such as dust and noise generation;
- sanitation and solid waste of the construction site and construction workshop;
- construction material storage;
- traffic diversion and disruption;
- construction schedules in relation to local weather patterns (rainy season); and
- social issues, including the impact of the construction workers on the community.

The purpose of this survey is to provide information on environmental impacts which may incur in the process of constructing small scale infrastructure projects and to identify potential mitigation measures through your observations and recommendations. In addition to the listed survey questions, any comments or advice you may have with respect to improving the environmental soundness of implementing small scale infrastructure projects would be greatly appreciated.

ENGINEER'S SURVEY

1. From an environmental aspect, what are the most significant problems that are reported or that you have observed during the implementation of small-scale infrastructure projects, such as school buildings, public markets, roads and streets, and slaughterhouses?

   1.1 _____

   1.2 _____

   1.3 _____

   1.4 _____

   1.5 _____

   (continue on additional sheets as needed)

2. For the problems you have listed above, what are your recommended solutions to eliminate or minimize these problems?

   2.1 _____

   2.2 _____

   2.3 _____

   2.4 _____

   2.5 _____

3. What are the most significant environmental problems that are reported or that you have observed during the construction of:

   3.1 School Buildings

   _____

   _____

   _____

   3.2 Public Markets

   _____

   _____

3.3 Roads and Streets

_____

_____

_____

3.4 Slaughterhouses

_____

_____

_____

3.5 Others (please specify type of project)

_____

_____

_____

4. What would you recommend so that the environmental problems that you have listed above could be avoided or minimized?

4.1 _____

4.2 _____

4.3 _____

4.4 _____

4.5 _____

5. Based on your experience with local construction practices, how would you recommend to best monitor potential environmental problems which might occur during the typical construction cycle?

5.1 _____

5.2 _____

5.3 _____

5.4 _____

6. From an environmental point of view, what improvements could you recommend in the site adaptation process utilized in the small-scale infrastructure programs that you have observed?

6.1 _____

6.2 _____

6.3 _____

7. Selection of construction materials

What materials do you recommend to be used in lieu of the presently used?

7.1 _____

7.2 _____

7.3 _____

8. Equipment

Is the contractor using the appropriate equipment for construction? If not, what do you recommend?

8.1 _____

8.2 _____

8.3 _____

9. What are the major constraints in the implementation of a small-scale infrastructure project?

9.1 _____

9.2 _____

9.3 _____

9.4 _____

APPENDIX A-5

LIST OF VISITED FACILITIES

LIST OF VISITED FACILITIES

LOCATION	TYPE OF FACILITIES		
	EXISTING	ECONOMIC SUPPORT FUND (ESF)	MOUNT PINATUBO EMERGENCY (MPE)
Olongapo, Zambales	Olongapo Public Market	Pag-asa Public Market	Nellie E. Brown Elem. School (10 classroom bldg.)
	Slaughterhouse	Olongapo City National School (6 classroom science bldg.)	Olongapo Science School (3-10 classroom bldgs.)
	Landfill/ Dumpsite	Tapinac Elem. School (10 classroom bldg.)	Tapinak Elem. School (12 classroom bldg.)
		James L. Gordon Elem. School (10 classroom bldg.)	Kalalake Elem. School (10 classroom and 12 classroom bldgs.)
		Ilalim Elem. School (6 classroom bldg.)	Asinan Elem. School (14 classroom bldg.)
		Gordon Heights High School (3 Classroom bldg.)	Banicain Elem. School (12 classroom bldg.)
		Sta. Rita Elem. School (10 classroom bldg.)	James L. Gordon Elem. School (16 classroom bldg.)
			Barreto I Elem. School (two - 10 and 12 classroom bldgs.)
			Barreto II Elem. School (10 classroom bldg.)
			Mabayuan Elem. School (two - 10 classroom bldgs.)
			Balic-Balic Elem. School (10 classroom bldg.)
			Olongapo City Elem. School (18 classroom bldg.)
			New Cabalan Elem. School (10 classroom bldg.)
Floridablanca, Pampanga		Slaughterhouse	
Iba, Zambales	Public Market		
Batangas City, Batangas	Batangas Public Market	Batangas Public Market	
	Batangas City Slaughterhouse	Batangas National High School (4 classroom bldg.)	
	Batangas City Landfill/Dump	J. P. Laurel Sr. A/T.	

LOCATION	TYPE OF FACILITIES		
	EXISTING	ECONOMIC SUPPORT FUND (ESF)	MOUNT PINATUBO EMERGENCY (MPE)
La Trinidad, Benguet	La Trinidad - Baguio City Landfill/Dump	The Trading Center (wholesale market)	
		Don Mariano Marcos Elem. School (3 classroom bldg.)	
		Street connecting to Trading Center	
		Benguet State University - Elementary School (6 classroom bldg.)	
		Tacdian Elem. School (3 classroom bldg.)	
		Alno-Kaporie Elem. School (3 classroom bldg.)	
Baguio, Benguet	Baguio City Slaughterhouse		
	Public Market		
Antipolo, Rizal	Piggery		
	Public Market		
	Slaughterhouse		
	Regalado Clinic		
Malaybalay, Bukidnon	Public Market		
Bacolod City, Negros Occidental	Public Market/ Landfill/Dump		

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APPENDIX A-6

REPRESENTATIVE PHOTOGRAPHS OF VISITED FACILITIES

Plate - 1 New Public Market Facilities Constructed under ESF Infrastructure Program

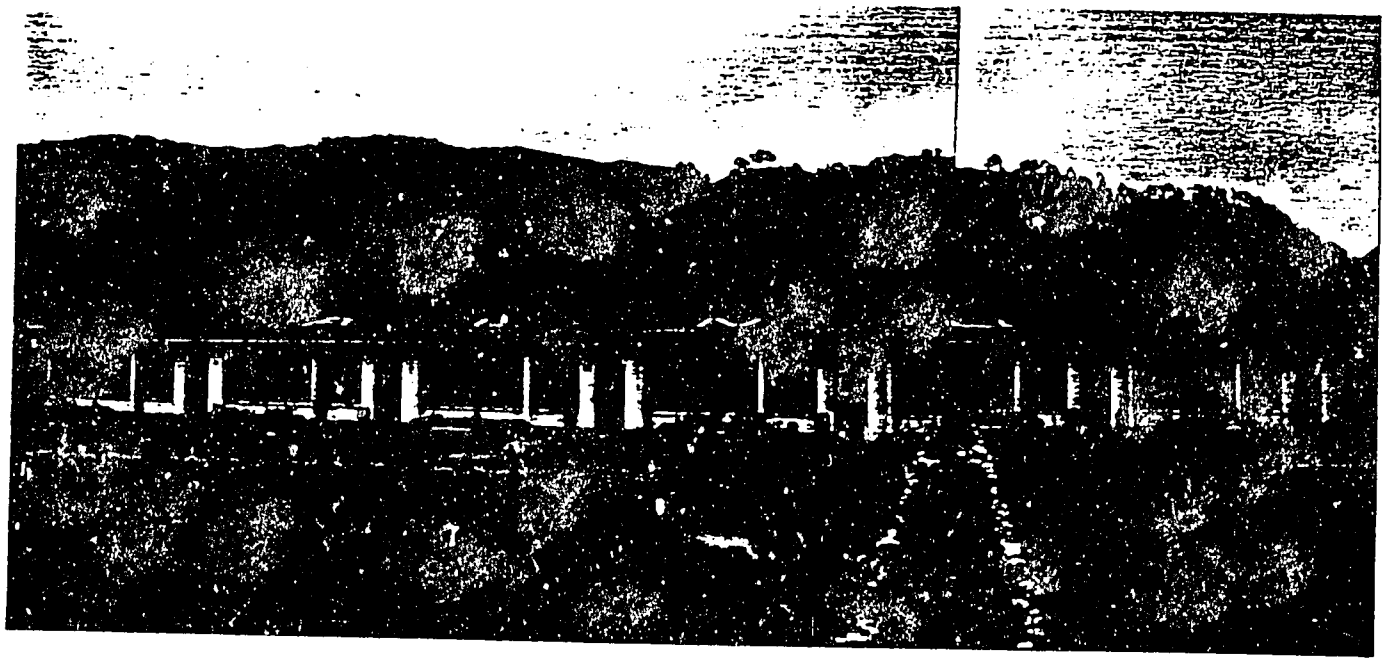


Plate - 2 ALNO KADOORIE Elementary School (Dangwa)
6 - Classroom School Building

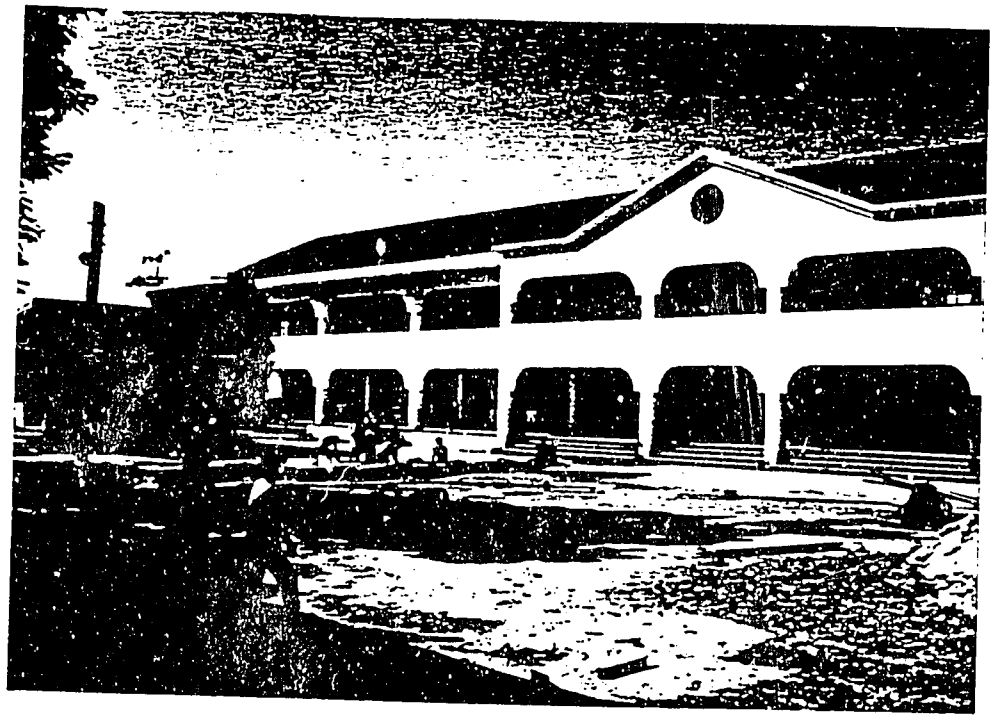
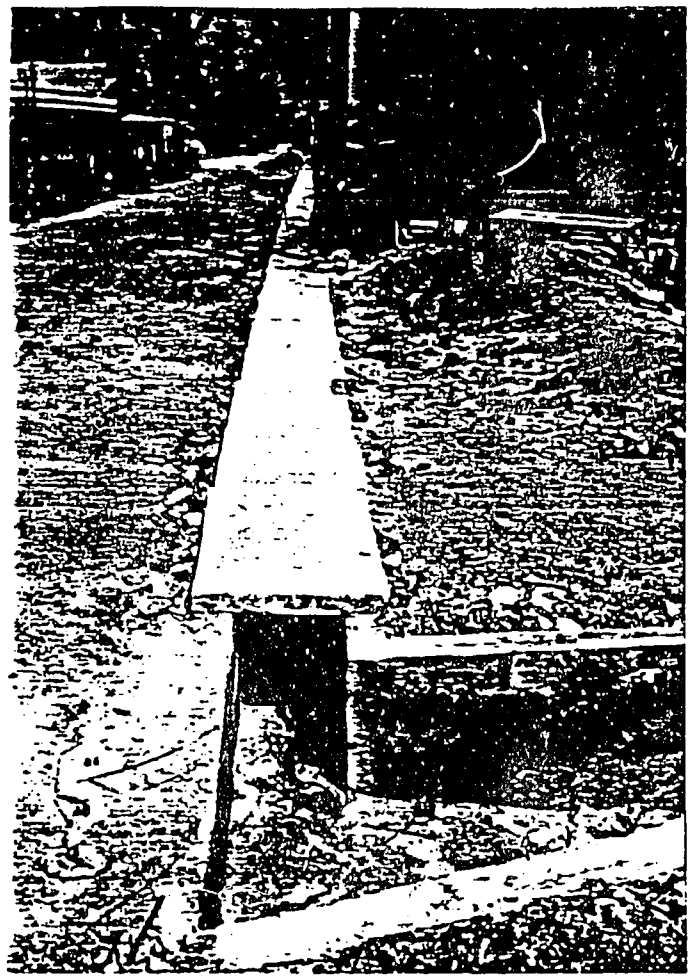


Plate - 3 New James L. Gordon Memorial School, Olongapo City



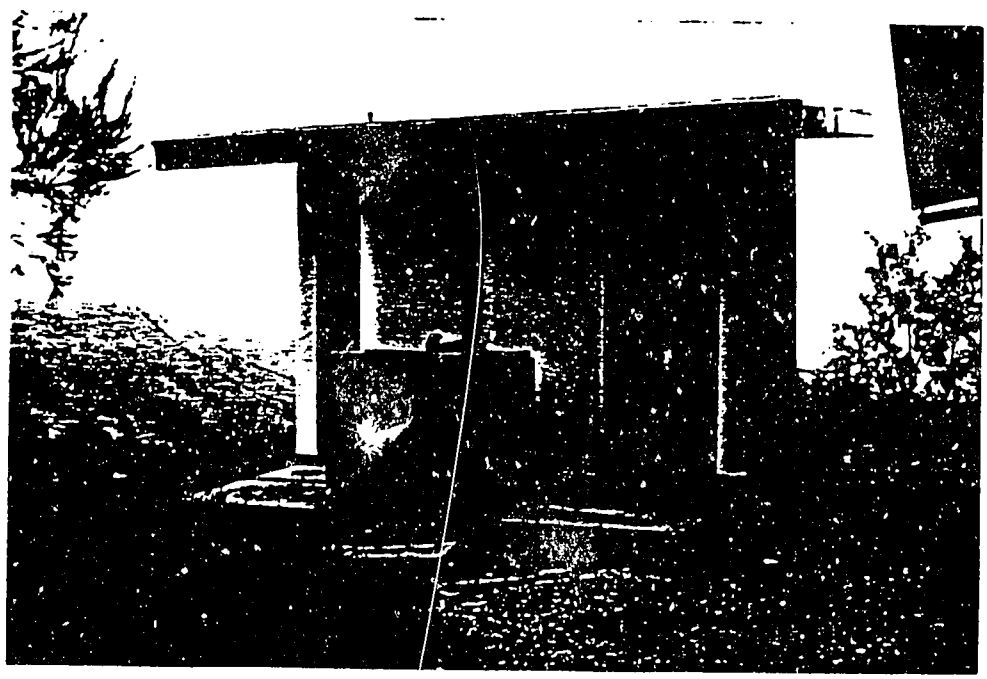


Plate - 4 Auxiliary Facilities of Recently Constructed School Buildings ; Drainage Structure and Toilet Facilities with Rainwater Collection Tank

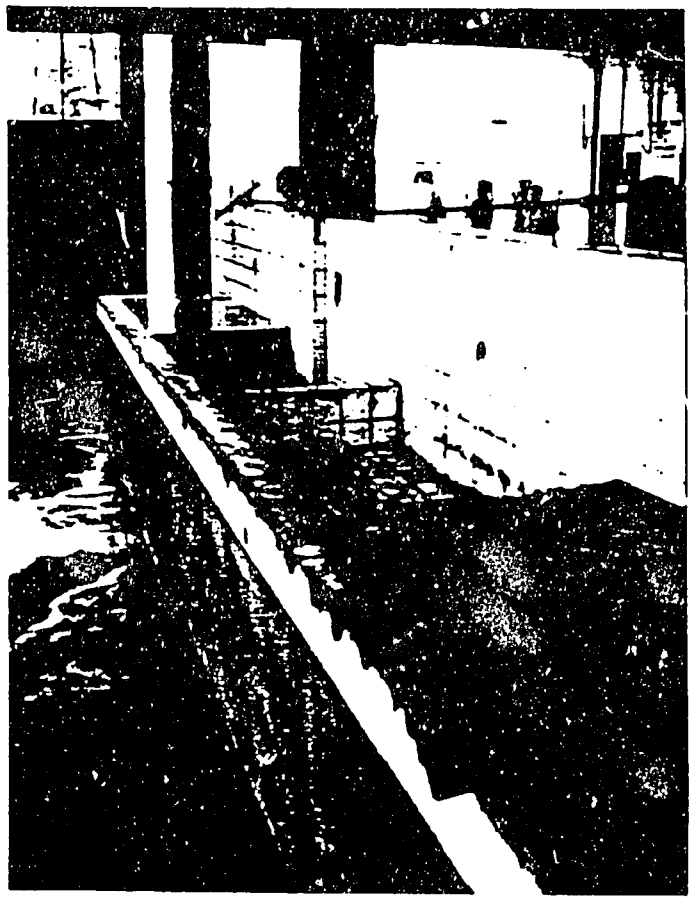


Plate - 5 Existing Slaughterhouse, Olongapo City

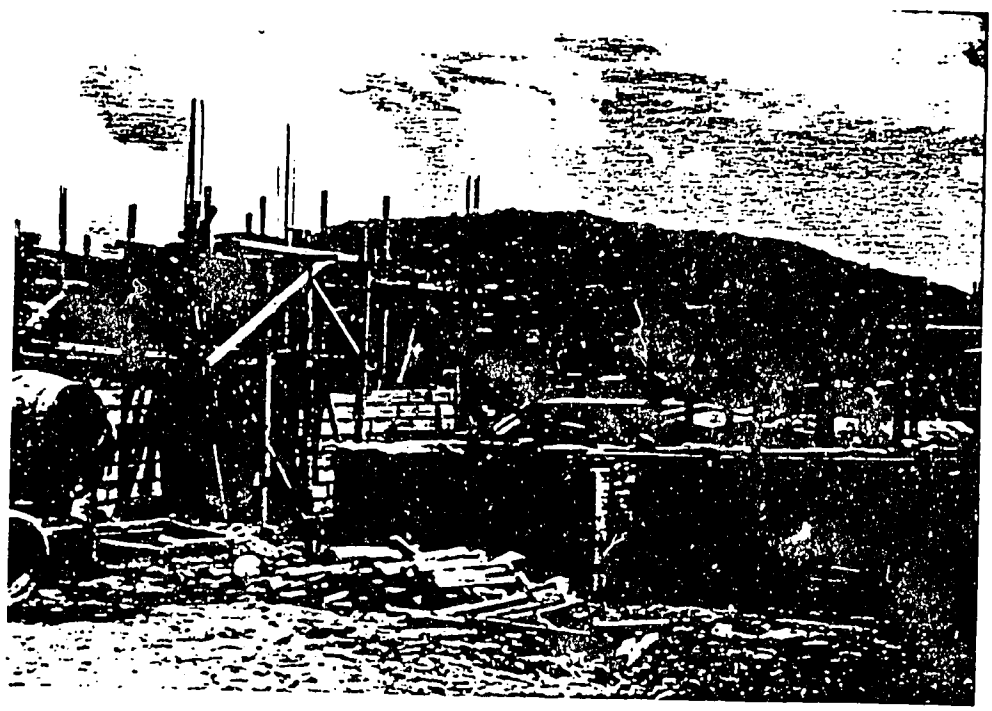
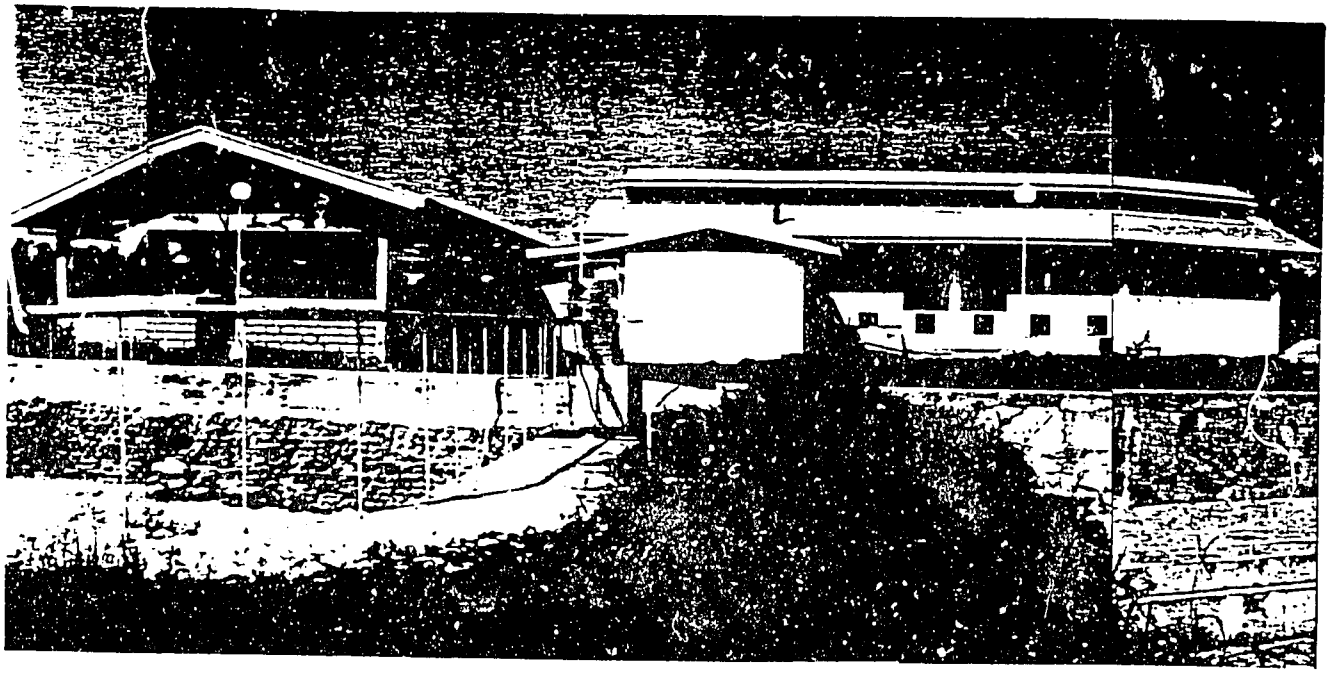


Plate - 6 New Slaughterhouse under Construction, Baguio City



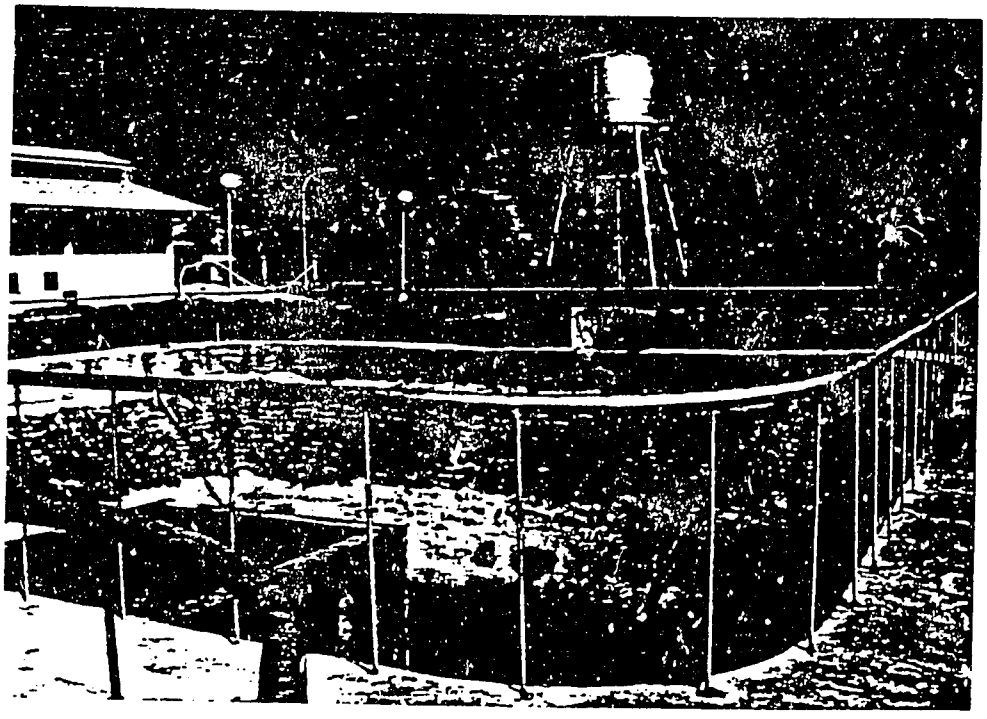


Plate - 7 Recently Constructed Slaughterhouse including Waste Treatment Ponds and Water Storage Tank, Floridablanca, Pampanga

APPENDIX B

CONTACT LIST

LIST OF CONTACT PERSONS

BATANGAS CITY GOVERNMENT	- Batangas City
Atty. Edward B. Dimacuha	- City Mayor
BOARD OF INVESTMENTS (BOI)	- Investment & Industry Bldg. 385 Gil Puyat Ave., Makati, Metro Mla.
Service Industries Department	
Ms. Gloria Santos	- Director
CENTER FOR ECONOMIC POLICY RESEARCH	- ZETA Bldg. Salcedo Street Legaspi Village Makati Tel. 8104366/8103433
Ms. Beta Balagot	- Vice President
DE LA SALLE UNIVERSITY	- 2401 Taft Avenue Manila
Department of Biology, College of Science	- Tel. 504611 (460)
Dr. Armando A. Andaya	- Professor, Aquatic Biology and Environ. Toxicology
DEPARTMENT OF AGRICULTURE (DA)	
National Meat Inspection Commission (NMIC)	- Visayas Avenue Quezon City Tel. 971189
Dr. Manuel D. Rocha Engr. Romeo E. Mapaye Dr. Octavio R. Olivas	- Executive Director

DEPARTMENT OF EDUCTION, CULTURE AND SPORTS (DECS)

Educational Projects Implementing Task Force (EDPITAF)	- University of Life Complex Pasig, Metro Manila Tel. 6316926
Mr. Achilles del Callar Mr. Jesse Mateo Ms. Teresita Felipe	- Executive Director

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)

	- 3F DENR Bldg. Visayas Avenue Diliman, Quezon City Tel. 976626
Foreign Assisted and Special Projects Office (FASPO), DENR	
Ms. Hilda Hamoy	- Project Officer, LDAP-PMO
Environmental Management Bureau (EMB)	- 6F, Phil. Heart Center East Ave., Quezon City - Tel. 980421 (3617) 975698/973254
Mr. Sixto Tolentino, Jr. Mr. Cesar Siador, Jr. Ms. Linda Quiocson	- Head, EIA Group
Mr. Moreno M. Peñalba	- Supervising Environ. Management Specialist, Environmental Quality Division (EQD)
Mr. Albert Magalang	- Project Management Staff (PMS)
Mr. Esterlito M. Pinlac	- Environmental Quality Division (EQD)
Strengthening Environmental Assessment Project (SEAP), EMB	- Tel. 980421 (3612)
Mr. Neil Urwin Mr. Reynaldo P. Alcanses	- Team Leader, AIDAB

DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT (DILG)

Local Government Academy (LDA)	-	6F Agustin Bldg. Emerald Street Ortigas Complex Pasig, Metro Manila Tel. 6317195
Mr. Johnny Volfango Nelda D. Leds	-	Director

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

DPWH-CLB/CARP Office	-	CLB CARP Offices DPWH, Reg. IV-B Comp. EDSA, Q.City Tel. 971255
Mr. Jose Guanzon Ms. Marilyn T. Rodaje	-	Project Officer
Development Planning Division	-	Rm. 307, DPWH Bldg. Bonifacio Drive Port Area, Manila Tel. 489396
Engr. Jaime S. Magnaye	-	Engineer IV
Planning Evaluation Division	-	Rm. 303, DPWH Bldg. Bonifacio Drive Port Area, Manila Tel. 489429
Mr. Jesus Averilla	-	Economist / Environmentalist
Engr. Rebecca T. Garsuta	-	Engineer IV
Ms. Lirio M. Carla	-	Economist III
Mount Pinatubo Emergency-Project Management Office (MPE-PMO)	-	DPWH Motorpool Comp. Chicago St., Port Area Manila Tel. 473328/474164 Fax 473328/8154107
Engr. Paul Couniotakis	-	Chief of Party, Louis Berger International, Inc. (LBII)

ECONOMIC SUPPORT FUND (ESF) SECRETARIAT	-	5F, SEDCCO I Bldg. Legaspi Village Makati, M.M. Tel. 8178061 (237)
Engr. Vincent Luz	-	Chief Design Engineer
Engr. Mickey M. Yamashiro	-	Chief Construction Engineer, LBII
EDRON CONSTRUCTION CORPORATION (ECC)	-	Suite 803 Manufacturer's Bldg. Plaza Sta. Cruz Manila Tel. 495322/408524
Mr. Ronnie Y. Lim	-	Exec. Vice President
HOUSING AND LAND USE REGULATORY BOARD (HLURB)		
	-	5th Floor, D&E Bldg. Quezon Ave. corner Roces Avenue, Q.C. Tel. 977798/985786
Ms. Elvira Toribio	-	Acting Director
Ms. Rosario M. Pascasio	-	Housing and Homesite Regulation Officer
LAGUNA LAKE DEVELOPMENT AUTHORITY (LLDA)		
	-	Rizal Provincial Capitol Compound Pasig, Metro Manila Tel. 6314157
Engr. Lourdes M. Icban		
MUNICIPALITY OF ANTIPOLO	-	Antipolo, Rizal Tel. 6500295
Hon. Lamberto S. Leyble	-	Councilor Chairman, Committee on Public Works
Hon. Edith M. Regalado, M.D.	-	Councilor Chairman, Committee on Health and Sanitation, Women, Social Services
Hon. Theodore L. Gatlabayan	-	Councilor Chairman, Committee on Education, Culture and Sports

NATIONAL MUSEUM (NM)

Archaeology Division	-	Executive House Bldg. P. Burgos St., Manila Tel. 477797
Dr. Eusebio Z. Dizon	-	Curator I
Mr. Melchor L. Aguilera	-	Researcher

NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY (NEDA)

Infrastructure Staff	-	3rd Floor, NEDA Bldg. Amber St., Pasig, M.M. Tel. 6313738
Mr. Ruben S. Reinoso, Jr.	-	Officer-in-Charge

PROGRAM FOR ESSENTIAL MUNICIPAL INFRASTRUCTURE, UTILITIES, MAINTENANCE AND ENGINEERING DEVELOPMENT (PREMIUMED)

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Mr. Apolo C. Jucaban	-	Project Director
Mr. Andres G. Marcelo	-	Chief Engineer
Mrs. Consuelo Padilla		

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

Office of the Capital Projects (OCP)	-	USAID Ramon Magsaysay Bldg. Roxas Boulevard, Manila Tel. 597576
Mr. John C. Starnes	-	Project Officer
Mr. Kenneth P. LuePhang	-	Environmental Officer
Ms. Minerva C. Dacanay	-	Program Specialist
Engr. Verly Sollano	-	Project Engineer
Engr. Renato D. Galand	-	Project Engineer
Engr. Rani Bulatao	-	Project Engineer
Engr. Rene C. Camiña	-	Project Engineer
Engr. Robert Vergara	-	Project Engineer
Engr. Alex M. Sibal	-	Field Engineer

Office of Development Resources Management (ODRM)	- Tel. 5218762
Mr. Earl W. Gast	- Project Devlopment Officer
Office of Natural Resources, Agriculture and Decentralization (ONRAD)	- Tel. 5219054
Mr. Harold L. Dickherber	- Chief, Decentralization and Local Development Division
Mr. Leonardo V. Dayao	- Development Assistance Specialist
Mr. Eduardo E. Queblatin	- Development Assistance Specialist, Natural Resources
Office of Food for Peace and Voluntary Cooperation (OFFPVC)	- Tel. 5218965
Mr. Joshua L. Fliegel	- Coordinator, Enterprise in Community Development
Ms. Monette R. Parado	- PVO Program Officer
USAID/Washington	- USAID/ASIA/DR/Tr 1629 K. Street, N.W. Suite 800, Wash. D.C. Tel. (202)296-8849
Ms. Holly P. Welles	- Environ. Protection Specialist

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Country Department I East Asia and Pacific Region, Infrastructure Operations Division

Mr. Yoshine Uchimura - Senior Economist, PREMIUMED Appraisal Mission

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Concerned Women of the Philippines (CWP) (Committee on Environmental Concern) - 19 Apo Street
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Dr. Helen N. Mendoza

Philippine Ecological Network - c/o Oposa Law Office
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Legaspi Village
Makati, Metro Manila

Atty. Antonio A. Oposa, Jr. - President

The Haribon Foundation for the Conservation of Natural Resources - Suite 901,
Richbelt Towers
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Greenhills, San Juan
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Ms. Cristi Marie C. Nozawa - Executive Director

Quezon City Park Development Foundation Ecology Center - 13 M. Viola St.,
UP Campus, Q.C.
Tel. 975231

- Quezon City Circle Park
Tel. 9220830

Mrs. Elsie B. de Veyra

APPENDIX C

REFERENCES

REFERENCES

Asian Development Bank (ADB), 1991. Environmental Evaluation of Coastal Zone Projects: Methods and Approaches. ADB Environmental Paper No. 8. Manila, Philippines.

ADB, 1991. Environmental Impact Assessment of Development Projects. Training and Development Section, Second Workshop, ADB. Manila, Philippines.

ADB, 1990. Environmental Guidelines for Selected Infrastructure Projects. Office of the Environment. Manila, Philippines.

ADB, 1988. Guidelines for Integrated Regional Economic-cum-Environmental Development Planning: A Review of Regional Environmental Development Planning Studies in Asia. ADB Environmental Paper No. 3, Volume II; Case Studies. Manila, Philippines.

Carpenter, R.A. and J.E. Maragos, 1989. How to Assess Environmental Impacts on Tropical Islands and Coastal Areas. A South Pacific Regional Environment Programme (SPREP) Training Manual. East-West Center, University of Hawaii.

Department of Environment and Natural Resources (DENR) and the World Bank, 1992. Proceedings of the Consultive Workshop on Management of Environmental Processes in Infrastructure and Industry. Manila, Philippines.

DENR, 1990. The Philippine Environment in the Eighties. Environmental Management Bureau (EMB). Manila, Philippines.

Department of Public Works and Highways (DPWH), 1992. Highlights of Proposed 1993 DPWH Infrastructure Program. Manila, Philippines.

DPWH, 1992. Draft Environmental Management Plan, Taytay - El Nido Road. Rural Infrastructure Fund Project (AID Project No. 492-0420). Report prepared by Louis Berger International, Inc. and TCGI Engineers. Manila, Philippines.

DPWH, 1991. Project Description/Initial Environmental Examination, Magat Bridge (AID Project No. 492-0420). Report prepared by Louis Berger International, Inc. and TCGI Engineers. Manila, Philippines.

DPWH, 1991. RIF Projects - Roads and Ports. Volume III; Special Provisions: Conditions of Particular Applications, Special Technical Specifications. Handbook prepared by Louis Berger International, Inc. and TCGI Engineers. Manila, Philippines. AID Project No. 492-0420.

REFERENCES

DPWH, 1990. Initial Environmental Examination of RIF Road Subprojects (AID Project No. 492-0420). Report prepared by Louis Berger International, Inc. and TCGI Engineers. Manila, Philippines.

DPWH, 1988. Standard Specifications for Public Works and Highways, Volumes I and II. Manila, Philippines.

Dizon, Eusebio Z., 1992. Status of Underwater Archaeological Researches in the Philippines, 1989-1991: Prospect for 1992. Bulletin of the Australian Institute for Maritime Archaeology, 16:41-47.

Dizon, Eusebio Z., 1991. First Status Report on the Panhutongan Archaeological Project, Placer, Surigao, del Norte. National Museum. Manila, Philippines.

Economic Support Fund Secretariat (ESFS), 1992. Monthly Progress Report (May, 1992), Surigao City Public Market Project. Report prepared by Philtech Consultants, Inc. Manila, Philippines.

ESFS, 1992. Monthly Project Status Report (April, 1992), Nueva Ecija Roads Network I. Report prepared by Urban Integrated Consultants, Inc. Manila, Philippines.

ESFS, 1992. Progress Report No. 6, Secondary School Building Projects, Tranche II. Report prepared by United Technologies, Inc. Manila, Philippines.

ESFS, 1991. Local Government Infrastructure Fund Design Report. Prepared by Louis Berger International, Inc. and TCGI Engineers. Manila, Philippines.

ESFS, 1991. Final Construction Report, Urdaneta National High School. Report prepared by Phinco Consulting Engineers. Manila, Philippines.

ESFS, 1991. Project Maintenance Manual and Plan, San Antonio Public Market. Report prepared by Angel Lazaro and Associates. Manila, Philippines.

ESFS, 1991. Maintenance Plan, Ilocos Sur National High School. Report prepared by Philippine International Consultants, Inc. Manila, Philippines.

ESFS, 1991. Project Maintenance Manual, Cabatuan National Comprehensive High School. Report prepared by Heuristics Technology and Management Consultants, Inc. Manila, Philippines.

REFERENCES

ESFS, 1991. Maintenance Plan, Ilocos Sur National High School. Report prepared by Philippine International Consultants, Inc. Manila, Philippines.

Japan International Cooperation Agency, 1992. Environmental Profile Survey on the Philippines, Final Report. Prepared by PKII Engineers. Manila, Philippines.

Kintanar, Romano L., 1984. Climate of the Philippines. PAGASA, Quezon City, Philippines.

Local Government Academy (LGA), Dept. of Interior and Local Government (DILG), 1992. Consolidated Reports on the Evaluation of Training Modules, Municipal Training Program (MTP). Reports prepared by Associated Resources for Management and Development (ARMDEV). Manila, Philippines.

Metcalf and Eddy, Inc. 1972. Wastewater Engineering. McGraw-Hill. New York.

Ministry of Education, Culture and Sports (MECS) - National Capital Region (NCR), 1986. Manual for School Health Personnel and Administrators. Manila, Philippines.

Mt. Pinatubo Emergency - Project Management Office (MPE-PMO), 1991. Invitation to Bid, Package No. OC-11 (Gordon Heights II Elementary School, Olongapo, Zambales). Manila, Philippines

National Meat Inspection Commission (NMIC), 1977. Guidelines on Meat Hygiene, Inspection and Preservation. Manila, Philippines.

National Museum, 1992. Surigao del Norte Archaeological Project, Project Report. Manila, Philippines.

Overseas Economic Cooperation Fund, 1992. Philippine Environmental Profile, Volumes I & II. Prepared by Dames & Moore International. Manila, Philippines.

The Philippine Futuristics Society, 1991. The Philippine Environment: Financing Environmental Conservation and Rehabilitation Projects and Programs. Conference Proceeding. Manila, Philippines.

Program for Essential Municipal Infrastructure Utilities, Maintenance and Engineering Development (PREMIUMED), 1992. Annual Report, 1991. Manila, Philippines.

PREMIUMED, 1992. First Quarterly Report, 1992. Manila, Philippines.

REFERENCES

Ronquillo, Wilfrido P., 1991. Philippine Archaeological Heritage: A Disappearing Cultural Resource. National Museum. Manila, Philippines.

Ronquillo, Wilfrido P., 1991. National Museum Archaeological Resource Management Manual. National Museum. Manila, Philippines.

United Nations Environmental Programme (UNEP), 1988. Environmental Impact Assessment - Basic Procedures for Developing Countries. Regional Office for Asia and the Pacific. Bangkok, Thailand.

United Nations Development Programme (UNDP), 1992. Urban Environmental Indicators Questionnaire. Urban Management Program. Washington, D.C.

U.S. Agency for International Development (USAID), 1992. Growth Plan for South Cotabato/General Santos City. Phase I Final Report, 5 Volumes. Prepared by Louis Berger International, Inc. et al.

USAID, 1992. Local Government Infrastructure Fund Project, Scoping Session Report. Prepared by Tropical Research and Development, Inc. and Dames & Moore. Manila, Philippines.

USAID, 1992. Preliminary Progress Report No. 2 on the Construction of Five Schools under the Earthquake Disaster Reconstruction Program. Report prepared by Asia Halcrows, Inc. Manila, Philippines.

USAID, 1992. Environmental Assessment, Final Report, Cagayan de Oro - Iligan Corridor Airport. Prepared by Louis Berger International, Inc. et al. Manila, Philippines.

USAID, 1992. Environmental Assessment, Final Report, Agro-Processing Facilities and Fish Port Complex, General Santos City, South Cotabato. Prepared by Dames & Moore. Manila, Philippines.

USAID, 1991. Impact Evaluation, Economic Support Fund Infrastructure Program: 1980 to 1991. Manila, Philippines.

USAID, 1991. Monthly Progress Report (Dec., 1991), Mangaldan National High School. Report prepared by EDCOP Engineering Consultants. Manila, Philippines.

USAID, 1991. Sustainable Urban and Industrial Environmental Management Review. Final Report. Prepared by Tropical Research and Development, Inc. and Dames & Moore International. Manila, Philippines.

REFERENCES

USAID, 1991. Local Government Infrastructure Fund Project - Administrative Assessment. Final Report. Report prepared by Punongbayan and Araullo/Ernst & Young International. Manila, Philippines.

USAID, 1989. A Process Evaluation of the Economic Support Fund Projects. Report prepared by Louis Berger International, Inc. and Checchi & Co. Consulting. Manila, Philippines.

US Environmental Protection Agency (USEPA), 1973. Process, Procedures, and Methods to Control Pollution Resulting From All Construction Activity. Office of Air and Water Programs, EPA Publication 430/9-73-007. Washington, D.C.

The World Bank, 1992. Staff Appraisal Report, Third Municipal Development Project, Philippines. Report No. 10042-PH, Infrastructure Division, East Asia and Pacific Regional Office, Washington, D.C.

The World Bank, 1992. Problem Identification Report: Industrial Efficiency and Pollution Control Program, and Environmental Management Strategy. Report prepared by J.M. Montgomery Consulting, Engineers, Inc., et al. Manila, Philippines.

The World Bank, 1992. Environmental Management Strategy (Philippines), Interim Report, May 1992. Report prepared by James M. Montgomery Consulting Engineers, Inc. et at. Manila, Philippines.

The World Bank, Environment Department, 1991. Environmental Assessment Sourcebook. 3 Volumes. World Bank Technical Papers, Numbers 139, 140 and 154. Washington, D.C.

The World Bank, Environment Department, 1988. Occupational Health and Safety Guidelines. Washington, D.C.

The World Bank, Environment Department, 1988. Environmental Guidelines. Washington, D.C.

The World Bank, 1982. Appropriate Sanitation Alternatives, A Planning and Design Manual. World Bank Studies in Water Supply and Sanitation 2. Washington, D.C.

APPENDIX D
USAID REFERENCE DOCUMENTS

D-1 Initial Environmental Examination
D-2 Request for Technical Proposals (RFTP), No. 492-92-014
D-3 Proposed Plan for Fulfilling Agency Environmental Procedures in the LGIF Project
D-4 Title 22 Code of Federal Regulations Part 216 (1989 edition)
D-5 Scope of Work for the Environmental Assessment of the LGIF Project
D-6 Amplified Project Description
D-7 LGIF Project Flow of Events and Common Issues

APPENDIX D-1

INITIAL ENVIRONMENTAL EXAMINATION

INITIAL ENVIRONMENTAL EXAMINATION

(A) PROJECT COUNTRY: Philippines

(B) ACTIVITY: Local Government Infrastructure Fund Project (492-0463)

(C) A.I.D. FUNDING: $100 million

(D) PERIOD OF FUNDING: FY 1991 - FY 1994

(E) STATEMENT PREPARED BY: _____
Earl W. Gast, DRM
USAID/Philippines

(F) ENVIRONMENTAL ACTION RECOMMENDED: Positive determination pursuant to Section 216.3 (a) (2) (iii), for a project-scale Environmental Assessment (EA) that will develop screening criteria for the review of potential subprojects; no monies for subproject construction contract should be committed until such time as the project office has verified that the subproject is fully in compliance with the review procedures established by the EA.

(G) ENVIRONMENTAL OFFICER CLEARANCE: _____
John C. Starnes, OCP
USAID/Philippines

(H) DECISION OF USAID/PHILIPPINES DIRECTOR:

APPROVED: _____

DISAPPROVED: _____

DATE: AUG 27 1991

(I) DECISION OF ASIA BUREAU ENVIRONMENTAL OFFICER:

APPROVED: M. Cox, ARE/DR

DISAPPROVED: _____

DATE: 8-29-91

APPENDIX D-2

REQUEST FOR TECHNICAL PROPOSALS (RFTP)
NO. 492-92-014

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Ramon Magsaysay Center
1680 Roxas Boulevard
Ermita 1000, Manila
Philippines

USAID

Fax No.: 632-521-5241
Tel. No.: 632-521-7116

Issuance Date : February 21, 1992
Closing Date : April 13, 1992

Subject : Request for Technical Proposals (RFTP) No. 492-92-014 for the provision of technical assistance to the Philippines' Department of Public Works and Highways under the USAID Local Government Infrastructure Fund Project (492-0463)

Dear Sir/Madam:

The United States Government, represented by the U.S. Agency for International Development or A.I.D., is requesting technical proposals from U.S. firms to provide technical advisory and assistance services to the Philippines' Department of Public Works and Highways (DPWH) under the USAID Local Government Infrastructure Fund Project as described in Section C of this RFTP. Contract award is expected on or before September, 1992 and the Contractor's services should begin within sixty (60) days after contract execution. Period of contract shall be for three-years with an option to extend by up to an additional 24 months.

A.I.D. will award a "level of effort," cost-plus-fixed-fee contract. The total amount of funds that A.I.D. plans to can presently commit for this contract is US$1,600,000. Additional funds will be added on an incremental basis subject to their availability and allocation to and within this Mission.

In addition to technical proposals, prospective offerors are required to file Standard Form 254 (SF254) "Architect-Engineer and Related Services Questionnaire," and Standard Form 255 (SF255) "Architect-Engineer and Related Services Questionnaire for Specific Project."

The contract will be awarded pursuant to architectural and engineering contracting procedures, consisting of two phases.

Under Phase I, technical proposals (including SF254 and SF255 forms) will be evaluated by an evaluation board and scored in accordance with the evaluation criteria in Section M of this solicitation.

D:\WP51|WPDOC\LGIF

Upon completion of the evaluation, the proposing firms will be ranked in order of evaluated capability to perform the required services. The top three or more firms will be invited to proceed under the second phase of the evaluation. All other firms no longer considered will be notified accordingly.

Under Phase Two, representatives of the top three or more firms being considered will be invited to attend joint technical discussions with the project office on Monday, May 4, 1992 at the USAID office in Manila. These technical discussions will provide further briefing for all of the firms under consideration. Afterwards, each of these firms will be given approximately 30 calendar days to revise and resubmit their technical proposals. The offerors will also be asked to include their business (price) proposals with their submission. Revised technical proposals will be evaluated using the same criteria used for Phase One except that special attention will be paid to the understanding of the project and the quality of personnel to be assigned as indicated by the revised proposal.

Upon receipt of revised technical, and business (price) proposals, the Evaluation Board will schedule, and hold separate technical discussions with at least three of the most highly qualified firms regarding concepts and the relative utility of alternative methods of furnishing the required services.

These separate, technical discussions may be held in Manila, Philippines or in the United States on a day and at a place to be established by the Board.

After these discussions, final scores will be given to the technical proposals of these firms. The results of this evaluation shall be submitted to the AID Mission Director who will approve the final ranking. Only after this approval will the business (price) proposal of the top-ranked offeror be opened and negotiations of technical, price, and other issues be conducted with that firm. Business proposals of unsuccessful offerors will not be opened and will be returned.

Offerors should submit one original and three copies of their proposals in envelopes clearly marked on the outside as follows:

Local Government Infrastructure Fund
Project Support Technical Proposal
Closing Date/Time: April 13, 1992, 1500 hrs

Proposals shall be submitted to the following address:

S. D. Heishman, Contracting Officer
Contract Services Office, USAID/Philippines
RMC Bldg., 1680 Roxas Blvd., Manila, Philippines

Absolutely no late proposal will be accepted unless USAID has changed in writing the date and time for receipt of offers.

Telegraphic and telecopied proposals or telegraphic notices of intent to propose are not authorized for this requirement and will not be accepted. In order to be accepted, proposals must be signed in ink, and received on the date and time indicated in the preceding page.

Proposals should be submitted in accordance with the instructions set forth in Section L of this solicitation. The proposal shall not make reference to pricing data, so that the evaluation thereof may be made strictly on the basis of technical merit.

A.I.D. encourages the participation, to the maximum extent possible, of U.S. entities that are small business concerns, small disadvantaged business concerns including women-owned concerns, historically black colleges and universities, colleges and universities whose student body is at least 40 percent Hispanic American, and private voluntary organizations controlled by socially and economically disadvantaged individuals including women in accordance with Part 19 of the FAR and Part 726 of the AIDAR.

Any inconsistency in this solicitation shall be resolved by giving precedence in the following order: (a) the Schedule (excluding the specifications); (b) representations and other instructions; (c) contract clauses; (d) other documents, exhibits, and attachments; and (e) the specifications.

Offerors should retain for their records a complete copy of their proposal for future reference.

Issuance of this solicitation does not constitute an award commitment on the part of the U.S. Government nor does it commit the Government to pay for any costs incurred by firms or associations relative to the collection of preliminary information, attendance to joint technical discussions, preparation and submittal of the technical proposals or any subsequent negotiations.

Further, the Government reserves the right to reject any or all proposals received if such action is considered to be in the best interest of the Government.

Sincerely,

S. D. Heishman
Contracting Officer

TECHNICAL ASSISTANCE FOR THE LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

I. THE PROJECT

A. Background

The lack of adequate physical infrastructure at the local level is one of the major impediments to dynamic private sector growth in the Philippines today. Discussion with businessmen and other representatives of the private sector often result in the identification of infrastructure constraints as a prime inhibition to new business starts or increased investment in existing businesses. Inadequate transportation infrastructure is the most often cited constraint, but lack of other support infrastructure, including schools, is also often cited.

Various studies have provided empirical evidence on the economic importance of adequate infrastructure in stimulating private sector initiative and economic growth. In addition, evidence from previous USAID infrastructure projects shows that high priority, small-scale infrastructure does have significant impact on the productivity of an area and that effect is especially significant on small farmers and businessmen. Finally, USAID has learned that efficiency gains emanating from a decentralized system of resource allocation are quite significant, equivalent to a one third increase in resources.

Accordingly, USAID has designed the Local Government Infrastructure Fund (LGIF) project to provide resources to local governments for the construction of high priority, small-scale infrastructure.

B. Project Goal and Purpose

The goal of the LGIF project is to promote private sector led growth and diversification by alleviating some of the infrastructure constraints in various provinces and chartered cities of the Philippines. The project purpose is to construct critically needed small scale infrastructure through local governments (meaning provincial or chartered city governments).

C. Project Description

The LGIF project consists of small-scale infrastructure construction by local governments (LGUs) supported by feasibility studies and training. To determine eligibility, a particular LGU must pass through a two-step screening process.

The first level screen will determine whether the LGU has unmet needs for particular types of infrastructure and whether the LGU has demonstrated its ability to capably perform certain government functions such as expanding its tax base and increasing its efficiency in tax collections.

The second level screen will determine if the LGU has the necessary contracting, engineering, and administrative capacity to undertake construction of the particular type of small-scale infrastructure needed.

Those LGUs that pass the screening process will be eligible to enter into agreements with the Local Government Infrastructure Fund-Project Management Office (LGIF-PMO) of the Department of Public Works and Highways (DPWH) to receive funds for the construction subproject. Upon signing the agreement, the LGU will receive a predetermined amount of pesos, in quarterly installments, to finance construction of small-scale infrastructure chosen from a library of standard designs maintained by the LGIF-PMO. Included in the amount are funds for the LGU to contract with a construction management and engineering services (CMES) consultant to site-adapt the standard design to a specific location and supervise the contractor hired by the LGU to undertake the construction.

To ensure that every subproject is viable, the project may finance a study demonstrating subproject technical, economic, financial, environmental, and social feasibility. These studies will be performed by, or contracted for by, the LGU, and will be cleared through normal COP procedures for inclusion of a subproject in the LGU's development plan. The feasibility study will be submitted to USAID by the LGIF-PMO, and acceptance of the study by USAID will allow the LGIF-PMO to sign the subproject agreement with the LGU.

It is expected that some LGUs will fail to pass the second level of the screening process, demonstrating a lack of capability in the necessary contracting, engineering, and/or administrative capacity required to participate in the project. Some of those LGUs will need more formal training from Government of the Philippines entities organized to provide such training, but it is believed that most of those LGUs that fail this screen will have only marginal deficiencies which can be corrected by limited and focused, hands-on training programs.

The LGIF-PMO will organize and/or coordinate training programs to enable these LGUs to overcome their deficiencies and participate in the project.

The project will also fund emergency reconstruction of small-scale infrastructure damaged as a result of natural disasters. Because of the need to reconstruct damaged or destroyed facilities as quickly as possible, contracting and implementation activities related to emergency reconstruction will be undertaken by the LGIF-PMO itself.

D. Project Study

Previous small-scale infrastructure projects funded by USAID were implemented through the ESF Secretariat. During the process of developing the LGIF project, the firm of Punongbayan & Araullo (an associate of Ernst and Young International) was contracted to conduct an administrative assessment of the Secretariat to determine its suitability to implement this project. That assessment concluded that the Secretariat could implement the project provided that certain organizational changes were made.

USAID review of the P&A final report, combined with its own experience with the Secretariat and its knowledge of the activities the Secretariat is currently involved in, led to a decision that the Secretariat not be asked to implement this project. Rather, it was decided that AID should arrange for establishment of a new organization which incorporated the organizational suggestions contained in the P&A report. The main thrust of the P&A suggestion was that the project implementing organization be staffed with as few government officials as possible, and that all of the day-to-day work of the organization be undertaken by a Contractor or contractors specifically hired to carry out those daily operations and tasks. Accordingly, this project will finance the Contractor(s) required to perform the day-to-day work of the LGIF-PMO.

E. Summary of Required Services

The technical services required shall perform all necessary administration, engineering services, implementation monitoring and reviews, and financial management required for the expeditious implementation of the project consistent with sound management and responsibility.

The Contractor shall provide the following services:

- administration/management information,
- engineering services/construction oversight,
- finance/budgeting/accounting,
- monitoring/evaluation, and
- training programs.

II. SCOPE OF WORK

A. General

It is expected that the role of the Project Implementation Organization will be to coordinate, facilitate, and monitor project implementation, but that most actual implementation will be with the LGUs. Given that orientation, the LGIF-PMO will use the Contractor under this Contract to provide for the day-to-day operations.

The Punongbayan & Araullo report recommended a small implementing organization divided into three major components -- operations, finance and administration, and management information system. The operations component would provide planning, technical reviews, engineering support, construction oversight, legal services, and training guidance. The finance and administration component would provide budgeting and accounting, funds control, personnel support, and procurement services. It is anticipated that GOP direct hire employees will number between 10 and 15.

The Contractor shall provide most of the staff required for the day-to-day operation of the LGIF-PMO.

The Contractor shall therefore will be responsible for all day-to-day activities conducted in the LGIF-PMO, including relationships and the flow of documents between the LGIF-PMO and the LGUs, for processing all documents internal to the operations of the LGIF-PMO, for processing all documents submitted by the LGUs and other entities pursuant to subproject implementation, for liaison between USAID and the LGIF-PMO and between the LGIF-PMO and other GOP organizations, and for all other activities essential for the smooth and efficient operation of the LGIF-PMO.

B. Finance and Administration

The Contractor shall:

- provide personnel to the LGIF-PMO, including professionals with various fields of expertise (engineers, accountants, etc.) and support staff (secretaries, drivers, etc.).

- purchase or rent equipment, including vehicles, computers, typewriters or word processors, telephones, facsimile machines, copy machines, and office furniture.

- maintain records and files, receive and distribute incoming mail and other documents.

- formulate personnel policies as appropriate, and monitor their compliance.

- develop a management information system, and provide reports as required.

- prepare agreements which can be signed with LGUs.

- on a selected basis, establish baselines so that progress can be measured toward attainment of the project's purpose and goal, and on a regular basis collect data to measure that progress.

- prepare budgets, maintain and monitor bank accounts.

- process vouchers and disbursement requests from LGUs.

- keep books and records.

- prepare requests for disbursements from USAID.

C. Management Information System

The Contractor shall:

- develop a management information system, and provide reports as required.

- collect and analyze baseline and impact data for project performance indicators established by AID on not less than an annual basis to assist in project evaluations by others.

- manage and maintain computer equipment and programs.

- develop and maintain a computer-based program of construction costs (including both the original contract price and variation orders), indexed both for geographic region and quarterly cost fluctuations for each type of subproject approved for inclusion in the LGIF library of standard designs (the initial base costs will be developed using similar subprojects completed under the Regional Development Fund Project and the Office of the Mount Pinatubo Emergency Component of the Rural Infrastructure Fund Project).

- develop thematic maps using a Geographic Information System (GIS) to display project baseline data and impact data.

D. Operations

The Contractor shall:

- prepare quarterly, annual, and life-of-project plans.

- provide advice, guidance, and assistance in the programming of available and anticipated project funds.

- make recommendations for modifications and revisions to the project based upon actual operational experience and project evaluations.

- develop initial criteria, including initial thresholds, for participation by local government units (LGUs) in the project and rank order the LGUs based on both need and performance.

- establish a planning budget for candidate LGUs for each round of funding based on both need and project objectives.

- prepare standard designs (including contract documents), and keep an up-to-date library of such designs and associated subproject costs.

- review and make recommendations on pre-qualification of civil works contractors, maintain an up-to-date list of pre-qualified contractors.

- review and make recommendations on pre-qualification of construction management and engineering services (CMES) consultants, maintain an up-to-date list of pre-qualified CMES firms.

- concur in hiring of construction management and engineering services (CMES) consultant by LGU
- review abstract of bids (and if necessary, the bids themselves) prepared by LGU's pre-qualification, bid, and award committee (PBAC).

- review feasibility study and site adaption of standard designs submitted by LGUs.

- review all subproject activities for compliance with the environmental management/mitigation plan developed by others in the approved Environmental Assessment for the LGIF Project.

- monitor construction progress, receive all progress reports submitted by LGUs and CMES consultants (including final certification report), and make periodic and final inspection.

- develop hands-on training programs or schedule training which takes advantage of Department of Interior and Local Government (DILG) training programs and institutions (including but not limited to the Local Government Academy and the Development Academy of the Philippines) to upgrade the capabilities of LGUs.

- disseminate information to LGUs regarding project criteria for participation, project planning budgets, required format for feasibility studies, types of subprojects contained in the library of standard designs, environmental screening criteria, master list of pre-qualified CMES consultants, master list of pre-qualified civil works contractors, standard format agreements between the LGIF-PMO and the LGU, the concept of the "mutually agreed upon subproject cost", the general requirements and mechanisms of the LGIF Project, and other pertinent information related to the LGIF Project.

- liaise with USAID, LGUs, and other GOP entities as necessary.

- review and approve LGU requests for advance of funds.

- prepare damage assessment reports for areas hit by natural disasters and reprogram existing project funds for an appropriate response to said disasters.

- assist the LGIF-PMO in contracting for the reconstruction of civil works damaged during natural disasters (using accelerated procurement procedures).

E. Other

The Contractor shall be responsible for providing such other support for day-to-day operations as are needed for smooth and efficient operations of the LGIF-PMO office.

Based on the Offeror's understanding of the project, the technical proposal should identify and quantify such other support.

F. Project Reporting

The Contractor shall be responsible for the establishment of a satisfactory project reporting system based on the management information system it establishes. Reports shall be prepared and submitted as described below, although final decisions on the nature of all reports shall be made between the consultant and the LGIF-PMO. All reports shall be in the English language.

Whenever possible, the page size of such reports shall be 8 1/2 inches by 11 inches, and shall be appropriately bound in soft covers.

1. Monthly Reports

Monthly reports are not required by AID. However, the LGUs will be submitting monthly reports together with or through the CMES contractor. These reports should be consolidated by the consultant for LGIF-PMO management.

2. Quarterly Reports

The Contractor's quarterly reports shall include, but not be limited to, the following:

- an analysis of support functions currently being provided including numbers and nature of staff provided, arrivals and departures during the quarter, and end-of-quarter levels.
- major activities and events that occurred or were achieved during the quarter.
- major problems and constraints encountered during the quarter, together with recommended solutions.
- details of progress achieved during the quarter, including feasibility studies and engineering designs received or approved, agreements signed, construction undertaken or completed, disbursements made, and other indications of progress.

- a comparison of the progress actually achieved with that which was planned, together with an explanation of any major deviations.

- details of the implementation planned for the succeeding quarter, including all targets set in terms of either quantity or quality.

- and analysis of the cash flow from the Peso Special Account, including all deposits received and all disbursements made, together with a projection of cash needs for the succeeding quarter.

- the status of emergency construction undertaken directly by the LGIF-PMO and supervised by the consultant, including a critical path method (CPM) diagram for each such construction project undertaken.

Quarterly reports shall be due within thirty (30) days after the end of the quarter reported on. The report shall be supported by photographs, graphs, drawings, and other pictorial devices to promote understanding. Five copies of the report shall be submitted to USAID, with other copies distributed as desired by the LGIF-PMO.

3. Annual Reports

The annual report shall be a narrative summary of the project history to date. It shall indicate the relationships between all agencies, organizations, and firms involved in the project and the names and titles of key personnel. It shall describe the progress of the project in meeting project purpose and goal, and identify any problems or constraints that might inhibit their attainment. The annual report shall be due within thirty (30) days of the end of the calendar (or fiscal) year reported on. Five copies of the report shall be submitted to USAID, with other copies distributed as desired by the LGIF-PMO.

4. Presentations

As work proceeds, the Contractor's team leader (or his designated representative) shall be expected to make oral presentations and briefings on the status of the project upon the request of either the LGIF-PMO or USAID.

5. Program Impact Reports

The LGIF-PMO will initially identify a limited number of key performance indicators for each major category of subproject.

The data for these indicators will be collected annually for a sample number of subprojects and indicators will reflect anticipated results of these subprojects. This data will be collected, analyzed, and compared to baseline data. This information will be reported to USAID not less than annually.

APPENDIX D-3

PROPOSED PLAN FOR FULFILLING AGENCY ENVIRONMENTAL PROCEDURES IN THE LGIF PROJECT

U.S. AGENCY FO NTERNATIONAL DEVELOP NT/PHILIPPINES

ORIGINATOR'S FAX NOS.: ☐ C& R 632 - 521 - 5241 ☐ OCP 632 - 521 - 5235 ☐ OFFPVC 632 - 521 - 5244 ☐ ONRAD 632 - 522 - 2512

TO: Mr. Molly Kux FAX NO.: (202) 663-2149

ADDRESS: APRE/PD/ENV PHONE NO.:

SENDER: Kenneth LuePhang OFFICE: OCP PHONE NO.: 521-52-49

CLEARANCES: John C. Starnes

AUTHORIZED BY: Leon Zarifopulos DATE: March 17, 1992 PAGES (INCLUDING COVER) 1

SUBJECT: Local Government Infrastructure Fund Project (492-0463)
Plan for Fulfilling Agency Environmental Procedures

The Proposed Procedures Plan outlined in your February 28, 1992 Memorandum is hereby adopted by the Mission for fulfilling the Agency Environmental Procedures for the subject project.

These procedures were developed by Jim Tarrant in his last TDY to USAID/Manila and his assistance led to the recommendations similar to these in your February 28, 1992 Memo, which were incorporated in the Scope of Work (SOW) recommended for your approval in my Action Memo of February 6, 1992.

Accordingly, we are negotiating a delivery order for the LGIF project EA, and will keep on track, the procedures as outlined in your February 28, 1992 Memo.

Please follow-up our earlier requests for your environmental clearance/approval on the following projects:

A) Environmental Assessments (EA) of agro-processing facilities and fish port complex, General Santos City, South Cotabato;

B) Initial environmental examination of five Philippine Capital Infrastructure Support (PCIS) subprojects.

3/18/92
Rec'd: 10.55 A.M
Evelyn

Philippines or International Address:
Ramon Magsaysay Center, 1680 Roxas Boulevard, Manila,Philippines 1004

From United States:
USAID/Philippines, APO AP 96440

=DRAFT=

PROPOSED PLAN FOR FULFILLING AGENCY ENVIRONMENTAL PROCEDURES IN THE LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT (492-0463)

Summary of the Project:

The Local Government Infrastructure Fund (LGIF) projects is intended to provide small scale infrastructure, outside of the national capital region, to increase economic productivity, especially in the private sector and to promote participation and decentralization of the development process. Sub-projects will be chosen in the jurisdictions of those local governments which have demonstrated a capacity for responsible financial and administrative management and infrastructural maintenance capabilities. Decision-making and financial control of the sub-projects will be transferred to such governments. This strategy ideally is aimed at rewarding sound, responsible local government.

Approximately 250 small-scale infrastructure sub-projects will be carried out in about 70 provinces and chartered cities. Sub-projects include schools, secondary or barangay roads, simple markets, water extensions, health clinics and possibly hospital extension. Some basic environmental infrastructure is also anticipated. The project is for five years and budgeted at $100 million. Structural designs will be standardized with site adaptation, where necessary, in order to control costs and efficiency.

Since the proposed project deals with the construction of infrastructure, any individual sub-project could have potentially significant environmental impacts. However, since most of the projects are relatively small and on existing sites and alignments, there is a high probability that careful design, including site adaptation and management guidelines and specific mitigation measures can be built into the project design process to address environmental concerns for most if not all sub-projects.

This environmental analysis describes how the project will fulfill the agency statutory requirements for assessment and review of potential environmental impacts in this project. It is not the environmental assessment for the LGIF Project.

Proposed Environmental Procedures for the Project

1. <u>Summary of A.I.D. Environmental Procedures</u>

A.I.D.'s environmental procedures are described in 22 CFR 216. The principal steps in the assessment process are summarized in Table 1. The purpose of these procedures is to identify <u>as early in the project's planning and design as possible</u>, potential significant

impacts on natural resources, environmental systems and important socio-economic groups and cultural resources. The Bureau Environmental Coordinator (BEC) must approve all major environmental documents, prior to authorization of funds. It is the responsibility of the Mission project officer to forward such documentation to the BEC expeditiously, leaving enough time before construction contracting to allow for adequate review and EA revision, if necessary. Each environmental document is an integral part of the project design process:

TABLE 1: Summary of Major Steps in A.I.D.'s Environmental Procedures

A.I.D. Environmental Procedure	Description of Environmental Procedure	Bureau Envt'l Coord. Apprv'l.
(1) Screening of projects into Categorical Exclusions, Indeterminates		
(1) Initial Envt'l. Examination (IEE)	screening of projects to determine the possibility of significant environmental impacts; if positive, then (2):	Yes
(2) Scoping Process	determination of major and minor issues through expert consultations and public hearings; scoping report should include (3).	Yes
(3) EA TOR and Scope of Work	Specifies format and scope of EA; types of analyses and disciplines required for EA.	In scoping report
(4) Preparation of EA or EIS[a)]	Description of project alternatives and setting; analysis of impacts; recommended alternative; mitigation and monitoring plan ("Environmental Plan of Action").	Yes
(5) Preparation of Sub-Project EA/EIS	Same as above where sub-project site, construction information not available at start of project; EA must be approved before sub-project funds authorization.	Normally, Yes
(6) Monitoring	Environmental monitoring is an integral part of project implementation to at least the same extent as other aspects of the project	Part of the EA
(7) Revisions	In the event of major changes in scope or nature of project, during its implementation, a threshold determination shall be made again and, if positive, above procedures carried out again.	Yes

a) Environmental Impact Statements (EIS) are required if a proposed activity will have significant impact(s) on a) the United States; b) the global commons c) more than one country. The EIS procedures are similar to those in domestic U.S. law.

IEE (PID/PAIP), scoping process, EA and Environmental Plan of Action (PP/PAAD). The calculation of the project budget should allow for any monitoring and mitigation measures, identified in the "Environmental Plan of Action".

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As Table 1 indicates, all sub-projects with potential significant environmental impacts would need to go through the EA process. However, the environmental review process is intended to improve project and sub-project design and implementation, not to delay unnecessarily projects from being implemented. This can be accomplished by undertaking what is essentially a programmatic environmental assessment for the LGIF. Such assessments are described in 22 CFR 216.6 (d).

> "Other programmatic evaluations of classes of sections may be conducted in an effort to establish additional categorical exclusions or design standards or criteria for such classes that will eliminate or minimize adverse affects of such actions, enhance the environmental effort of such action or reduce the amount of paperwork or time involved in these procedures." (Italics added)

Hence, these recommended environmental procedures are aimed at reducing the level of environmental risk and uncertainty of a sub-project to acceptable levels and doing so with the least amount of paperwork.

2. Proposed LGIF Project Environmental Procedures

As the project description indicates, the LGIF project contains a wide variation in the relative environmental risk of any given sub-project. Hence, a replacement or school-building on an existing campus, designed with the appropriate utilities, may pose considerably fewer environmental risks than building a large, urban market, located on a new and busy site, for example. However, there are several characteristics to the LGIF project design which reduce its overall relative environmental risk. Proposed sub-project types usually are:

a) additions to existing structures or upgrades of existing alignments;

b) small-scale structures, on sites specifically designated for such facilities;

c) structures designed on the basis of standardized, easy to maintain/repair models which are site-adapted and built in good construction standards.

Still, there are likely to be some significant environmental impacts for some sub-projects. In order to focus on those sub-projects which pose greater risks than others, the environmental assessment required for this project will first screen and categorize projects by type, scale and **ability to build in**

mitigation in sub-project design (as opposed to site identification on operational consensus). A second screening and category stage will classify sites and operation/maintenance needs by the likelihood of significant environmental impact potential. Design, construction and administrative mitigation measures will be proposed for those projects which might have environmental problems that can be addressed without a full EA, followed by **periodic monitoring and inspection**. This will reduce the number and types of sub-projects requiring EAs to a more manageable number, in so doing, improving the likelihood that these assessments will be completed well and in a timely fashion. In sum, the proposed environmental assessment process for the LGIF would follow the sequence described in Table 2, below.

As this table indicates, only the subset or relatively high risk sub-project types will require EAs while a likely larger subset would be addressed in the design stage, as intended in the agency's environmental review process. This will require the project design committee (or LGUs/LGU-PMOs) to work closely with the USAID/MANILA-OCP in the review of the proposed standard designs, formulation of sub-project typologies and proposed screening, mitigation and monitoring measures. This appears to be a feasible undertaking for USAID/Manila.

TABLE 2: Summary of Major Steps in the Programmatic Environmental Review Process of the LGIF Project

Environmental Analysis. Description of the project. Justification for Carrying Out Programmatic EA and Methodology of the Study and Screening, Implementation Process. Section and Annex of Project Paper	MEO and BEC
Programmatic Environmental Assessment of Project. Purpose is to screen 250 infrastructure projects to determine relative environmental risk; formulate mitigation, design modification, management and supervision measures for low risk sub-projects; identify higher risk sub-projects requiring EAs. Determine sub-project alternatives if necessary; formulate monitoring plan and project environmental guidance to local government contractors where necessary.	MEO and BEC
Content and Format of Program Assessment	
Format similar to that of a project EA. Content and scope are different. Where programmatic EAs will concern multiple activities of a generally similar king (e.g., physical infrastructure) in one region (e.g. on or two provinces or part of a region) then the EA should address cumulative and irreversible impacts and how these can be avoided/mitigated through design, siting changes or reductions in numbers. Particular emphasis should be paid to cumulative impacts on natural resources (queries, timber extraction) and population dislocation. Other types of cumulative impacts include energy demands, supply of public services and traffic. Other types of impacts at the programmatic level include supportive or contradictory policies; institutional constraints, including management capability and cross-sectoral impacts (e.g. transportation impacting agriculture, forestry, etc.). The other distinctive aspect of the programmatic assessment is the necessity for detailed recommendations on design, administrative, policy and other changes which can be made prior to the project to reduce still further the numbers of individual projects requiring project-level assessments. The Mission should have the programmatic EA reviewed by DENR's EMB.	MEO and BEC

Sub-Projects Requiring Individual EAs	Review and Approval	Sub-Projects Directly to Construction	Review and Approval
1. Scoping Process - Hearings, consultations - EA scope of work - workplan schedule	MEO and BEC	1. Design and Site Adaptation - site inspection/consultation with local gov't. - ore. of site adaptation plan	Project Officer/MEO
2. Held work and Draft EA with alternatives, mitigation and monitoring plan	MEO and Project Officer	2. Construction Supervision, specifically including environmental parameters	local engineering firm, Project Officer
3. Review and Revisions (if necessary)	BEC & MEO	3. Post-construction Monitoring/maintenance	Project Officer/MEO
4. Proceed to Construction with Mitigations (if necessary)	local and firm/govt./Proj. Off.	4. Impact evaluation of overall project with an environmental component	Project Officer/MEO
5. Project monitoring and impact evaluation	local govt., Project Officer/MEO		

APPENDIX D-4

TITLE 22 CODE OF FEDERAL REGULATIONS
PART 216 (1989 EDITION)

APPENDIX A—AGENCY FOR INTERNATIONAL DEVELOPMENT, APPROVED AND DESIGNATIONS OF OFFICE HEADS PURSUANT TO THE REGULATIONS AND NOTICES—Continued

	Mailing address	Location
Thailand	USAID, c/o American Embassy, Bangkok, Thailand	95 Wireless Road, Bangkok, Thailand
Togo	Area Development Officer, c/o American Embassy, Lomé, Togo	Rue Pierre Civeyrac and rue Vauban, Lomé, Togo
Tunisia	USAID to Tunisia, c/o American Embassy, Tunis, Tunisia	144 Avenue de la Liberté, Tunis, Tunisia
Turkey	USAID, PK 30, Çankaya, Ankara, Turkey	Çankaya Çankaya, No. 10, Ankara, Turkey
Upper Volta	AID Country Development Officer, c/o American Embassy, Ouagadougou, Upper Volta	Boite Postale 35, Ouagadougou, Upper Volta
Uruguay	Office of AID Representative/Montevideo, c/o American Embassy, Montevideo, Uruguay	Lauro Muller 1776, Montevideo, Uruguay
Yemen	Office of AID Affairs, c/o American Embassy, Sana, Yemen	American Embassy, Sana, Yemen Arab Republic
Zaire	USAID to Republic of Zaire, c/o American Embassy, Kinshasa, Republic of Zaire	310 Ave. des Aviateurs, Kinshasa, Zaire

[40 FR 45679, Oct. 2, 1975, as amended at 45 FR 20790, Mar. 31, 1980]

PART 216—ENVIRONMENTAL PROCEDURES

Sec.
216.1 Introduction.
216.2 Applicability of procedures.
216.3 Procedures.
216.4 Private applicants.
216.5 Endangered species.
216.6 Environmental assessments.
216.7 Environmental impact statements.
216.8 Public hearings.
216.9 Bilateral and multi-lateral studies and concise reviews of environmental issues.
216.10 Records and reports.

AUTHORITY: 42 U.S.C.4332; 22 U.S.C. 2381.

SOURCE: 41 FR 26913, June 30, 1976, unless otherwise noted.

§ 216.1 Introduction.

(a) *Purpose.* In accordance with sections 118(b) and 621 of the Foreign Assistance Act of 1961, as amended, (the FAA) the following general procedures shall be used by A.I.D. to ensure that environmental factors and values are integrated into the A.I.D. decision making process. These procedures also assign responsibility within the Agency for assessing the environmental effects of A.I.D.'s actions. These procedures are consistent with Executive Order 12114, issued January 4, 1979, entitled Environmental Effects Abroad of Major Federal Actions, and the purposes of the National Environmental Policy Act of 1970, as amended (42 U.S.C. 4371 et seq.) (NEPA). They are intended to implement the requirements of NEPA as they effect the A.I.D. program.

(b) *Environmental Policy.* In the conduct of its mandate to help upgrade the quality of life of the poor in developing countries, A.I.D. conducts a broad range of activities. These activities address such basic problems as hunger, malnutrition, overpopulation, disease, disaster, deterioration of the environment and the natural resource base, illiteracy as well as the lack of adequate housing and transportation. Pursuant to the FAA, A.I.D. provides development assistance in the form of technical advisory services, research, training, construction and commodity support. In addition, A.I.D. conducts programs under the Agricultural Trade Development and Assistance Act of 1954 (Pub. L. 480) that are designed to combat hunger, malnutrition and to facilitate economic development. Assistance programs are carried out under the foreign policy guidance of the Secretary of State and in cooperation with the governments of sovereign states. Within this framework, it is A.I.D. policy to:

(1) Ensure that the environmental consequences of A.I.D.-financed activities are identified and considered by A.I.D. and the host country prior to a final decision to proceed and that appropriate environmental safeguards are adopted;

(2) Assist developing countries to strengthen their capabilities to appraise and effectively evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental programs;

(3) Identify impacts resulting from A.I.D.'s actions upon the environment, including those aspects of the biosphere which are the common and cultural heritage of all mankind; and

(4) Define environmental limiting factors that constrain development and identify and carry out activities that assist in restoring the renewable resource base on which sustained development depends.

(c) *Definitions*—(1) *CEQ Regulations.* Regulations promulgated by the President's Council on Environmental Quality (CEQ) (FEDERAL REGISTER, Volume 43, Number 230, November 29, 1978) under the authority of NEPA and Executive Order 11514, entitled Protection and Enhancement of Environmental Quality (March 5, 1970) as amended by Executive Order 11991 (May 24, 1977).

(2) *Initial Environmental Examination.* An Initial Environmental Examination is the first review of the reasonably foreseeable effects of a proposed action on the environment. Its function is to provide a brief statement of the factual basis for a Threshold Decision as to whether an Environmental Assessment or an Environmental Impact Statement will be required.

(3) *Threshold Decision.* A formal Agency decision which determines, based on an Initial Environmental Examination, whether a proposed Agency action is a major action significantly affecting the environment.

(4) *Environmental Assessment.* A detailed study of the reasonably foreseeable significant effects, both beneficial and adverse, of a proposed action on the environment of a foreign country or countries.

(5) *Environmental Impact Statement.* A detailed study of the reasonably foreseeable environmental impacts, both positive and negative, of a proposed A.I.D. action and its reasonable alternatives on the United States, the global environment or areas outside the jurisdiction of any nation as described in § 216.7 of these procedures. It is a specific document having a definite format and content, as provided in NEPA and the CEQ Regulations. The required form and content of an Environmental Impact Statement is further described in § 216.7 infra.

(6) *Project Identification Document (PID).* An internal A.I.D. document which initially identifies and describes a proposed project.

(7) *Program Assistance Initial Proposal (PAIP).* An internal A.I.D. document used to initiate and identify proposed non-project assistance, including commodity import programs. It is analogous to the PID.

(8) *Project Paper (PP).* An internal A.I.D. document which provides a definitive description and appraisal of the project and particularly the plan or implementation.

(9) *Program Assistance Approval Document (PAAD).* An internal A.I.D. document approving non-project assistance. It is analogous to the PP.

(10) *Environment.* The term environment, as used in these procedures with respect to effects occurring outside the United States, means the natural and physical environment. With respect to effects occurring within the United States see § 216.7(b).

(11) *Significant Effect.* With respect to effects on the environment outside the United States, a proposed action has a significant effect on the environment if it does significant harm to the environment.

(12) *Minor Donor.* For purposes of these procedures, A.I.D. is a minor donor to a multidonor project when A.I.D. does not control the planning or design of the multidonor project and either (i) A.I.D.'s total contribution to the project is both less than $1,000,000 and less than 25 percent of the estimated project cost, or (ii) A.I.D.'s total contribution is more than $1,000,000 but less than 25 percent of the estimated project cost and the environmental procedures of the donor in control of the planning of design of the project are followed, but only if the

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A.I.D. Environmental Coordination Statement that such procedures are adequate.

[45 FR 70214 Oct. 23, 1980]

§ 216.2 Applicability of procedures.

(a) *Scope.* Except as provided in § 216.2(b), these procedures apply to all new projects, programs or activities authorized or approved by A.I.D. and to substantive amendments or extensions of ongoing projects, programs, or activities.

(b) *Exemptions.* (1) Projects, programs or activities involving the following are exempt from these procedures:

(i) International disaster assistance;

(ii) Other emergency circumstances; and

(iii) Circumstances involving exceptional foreign policy sensitivities.

(2) A formal written determination, including a statement of the justification therefore, is required for each project, program or activity for which an exemption is made under paragraphs (b)(1) (ii) and (iii) of this section, but is not required for projects, programs or activities under paragraph (b)(1)(i) of this section. The determination shall be made either by the Assistant Administrator having responsibility for the program, project or activity, or by the Administrator, where authority to approve financing has been reserved by the Administrator. The determination shall be made after consultation with CEQ regarding the environmental consequences of the proposed program, project or activity.

(c) *Categorical Exclusions.* (1) The following criteria have been applied in determining the classes of actions including in § 216.2(c)(2) for which an Initial Environmental Examination, Environmental Assessment and Environmental Impact Statement generally are not required:

(i) The action does not have an effect on the natural or physical environment;

(ii) A.I.D. does not have knowledge of or control over, and the objective of A.I.D. in furnishing assistance does not require, either prior to approval of financing or prior to implementation of specific activities, knowledge of or control over the detail of the specific activities that have an effect on the physical and natural environment for which financing is provided by A.I.D.;

(iii) Research activities which may have an effect on the physical and natural environment but will not have a significant effect as a result of limited scope, carefully controlled nature and effective monitoring.

(2) The following classes of actions are not subject to the procedures set forth in § 216.3, except to the extent provided herein:

(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);

(ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored;

(iii) Analyses, studies, academic or research workshops and meetings;

(iv) Projects in which A.I.D. is a minor donor to a multidonor project and there is no potential significant effects upon the environment of the United States, areas outside any nation's jurisdiction or endangered or threatened species or their critical habitat;

(v) Document and information transfers;

(vi) Contributions to international, regional or national organizations by the United States which are not for the purpose of carrying out a specifically identifiable project or projects;

(vii) Institution building grants to research and educational institutions in the United States such as those provided for under section 122(d) and Title XII of Chapter 2 of Part I of the FAA (22 USCA 2151 p. (b) 2220a. (1979));

(viii) Programs involving nutrition, health care or population and family planning services except to the extent designed to include activities directly affecting the environment (such as construction of facilities, water supply systems, waste water treatment, etc.)

(ix) Assistance provided under a Commodity Import Program when, prior to approval, A.I.D. does not have knowledge of the specific commodities to be financed and when the objective in furnishing such assistance requires, either knowledge, at the time the assistance is authorized, nor control, during implementation, of the commodities or their use in the host country.

(x) Support for intermediate credit institutions when the objective is to assist in the capitalization of the institution or part thereof and when such support does not involve reservation of the right to review and approve individual loans made by the institution;

(xi) Programs of maternal or child feeding conducted under Title II of Pub. L. 480;

(xii) Food for development programs conducted by food recipient countries under Title III of Pub. L. 480, when achieving A.I.D.'s objectives in such programs does not require knowledge of or control over the details of the specific activities conducted by the foreign country under such program;

(xiii) Matching, general support and institutional support grants provided to private voluntary organizations (PVOs) to assist in financing programs where A.I.D.'s objective in providing such financing does not require knowledge of or control over the details of the specific activities conducted by the PVO;

(xiv) Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent designed to result in activities directly affecting the environment (such as construction of facilities, etc.); and

(xv) Activities which involve the application of design criteria or standards developed and approved by A.I.D.

(3) The originator of a project, program or activity shall determine the extent to which it is within the classes of actions described in paragraph (c)(2) of this section. This determination shall be made in writing and be submitted with the PID, PAIP or comparable document. This determination, which must include a brief statement supporting application of the exclusion shall be reviewed by the Bureau Environmental Officer in the same manner as a Threshold Decision under § 216.3(a)(2) of these procedures. If the determination of the originator of the project, program or activity is that it is within the classes of actions listed in paragraph (c)(2) of this section, the procedures set forth in § 216.3 shall apply to any project, program or activity included in the classes of actions listed in paragraph (c)(2) of this section, or any aspect or component thereof, if at any time in the design, review or approval of the activity it is determined that the project, program or activity, or aspect or component thereof, is subject to the control of A.I.D. and may have a significant effect on the environment.

(d) *Classes of Actions Normally Having a Significant Effect on the Environment.* (1) The following classes of actions have been determined generally to have a significant effect on the environment and an Environmental Assessment or Environmental Impact Statement, as appropriate, will be required:

(i) Programs of river basin development;

(ii) Irrigation or water management projects, including dams and impoundments;

(iii) Agricultural land leveling;

(iv) Drainage projects;

(v) Large scale agricultural mechanization;

(vi) New lands development;

(vii) Resettlement projects;

(viii) Penetration road building or road improvement projects;

(ix) Powerplants;

(x) Industrial plants;

(xi) Potable water and sewerage projects other than those that are small-scale.

(2) An Initial Environmental Examination normally will not be necessary for activities within the classes described in § 216.2(d), except when the originator of the project believes that the project will not have a significant effect on the environment. In such cases, the activity may be subjected to the procedures set forth in § 216.3.

(e) *Pesticides.* The exemptions of paragraph (b)(1) of this section and the categorical exclusions of paragraph (c)(2) of this section are not applicable to assistance for the procurement or use of pesticides.

[45 FR 70214, Oct. 23, 1980]

§ 216.3 Procedures.

(a) *General procedures.* (1) *Preparation of the Initial Environmental Examination.* Except as otherwise provided, an Initial Environmental Examination is not required for activities identified in § 216.2(b)(1), (c) (2), and (d). For all other A.I.D. activities described in § 216.2(a) an Initial Environmental Examination will be prepared by the originator of an action. Except as indicated in this section, it should be prepared with the PID or PAIP. For projects including the procurement or use of pesticides, the procedures set forth in paragraph (b) of this section will be followed, in addition to the procedures in this paragraph. Activities which cannot be identified in sufficient detail to permit the completion of an Initial Environmental Examination with the PID or PAIP, shall be described by including with the PID or PAIP: (i) An explanation indicating why the Initial Environmental Examination cannot be completed; (ii) an estimate of the amount of time required to complete the Initial Environmental Examination; and (iii) a recommendation that a Threshold Decision be deferred until the Initial Environmental Examination is completed. The responsible Assistant Administrator will act on the request for deferral concurrently with action on the PID or PAIP and will designate a time for completion of the Initial Environmental Examination. In all instances, except as provided in paragraph (a)(7) of this section, this completion date will be in sufficient time to allow for the completion of an Environmental Assessment or Environmental Impact Statement, if required, before a final decision is made to provide A.I.D. funding for the action.

(2) *Threshold decision.* (i) The Initial Environmental Examination will include a Threshold Decision made by the officer in the originating office who signs the PID or PAIP. If the Initial Environmental Examination is completed prior to or at the same time as the PID or PAIP, the Threshold Decision will be reviewed by the Bureau Environmental Officer concurrently with approval of the PID or PAIP. The Bureau Environmental Officer will either concur in the Threshold Decision or request reconsideration by the officer who made the Threshold Decision stating the reasons for the request. Differences of opinion between these officers shall be submitted for resolution to the Assistant Administrator at the same time that the PID is submitted for approval.

(ii) An Initial Environmental Examination, completed subsequent to approval of the PID or PAIP, will be forwarded immediately together with the Threshold Determination to the Bureau Environmental Officer for action as described in this section.

(iii) A Positive Threshold Decision shall result from a finding that the proposed action will have a significant effect on the environment. An Environmental Impact Statement shall be prepared if required pursuant to § 216.7. If an impact statement is not required, an Environmental Assessment will be prepared in accordance with § 216.6. The cognizant Bureau or Office will record a Negative Determination if the proposed action will not have a significant effect on the environment.

(3) *Negative Declaration.* The Assistant Administrator, or the Administrator in actions for which the approval of the Administrator is required for the authorization of financing, may make a Negative Declaration, in writing, that the Agency will not develop an Environmental Assessment or an Environmental Impact Statement regarding an action found to have a significant effect on the environment when (i) a substantial number of Environmental Assessments or Environmental Impact Statements relating to similar activities have been prepared in the past, if relevant to the proposed action, (ii) the Agency has previously prepared a programmatic Statement or Assessment covering the activity in question which has been considered in the development of such activity, or (iii) the Agency has developed design criteria for such an action which, if applied in the design of the action, will avoid a significant effect on the environment.

(4) *Scope of Environmental Assessment or Impact Statement.* (i) *Procedure and Content.* After a Positive Threshold Decision has been made, or a determination is made under the pesticide procedures set forth in paragraph (b) of this section that an Environmental Assessment or Environmental Impact Statement is required, the originator of the action shall commence the process of identifying the significant issues relating to the proposed action and of determining the scope of the issues to be addressed in the Environmental Assessment or Environmental Impact Statement. The originator of an action within the classes of actions described in § 216.2(d) shall commence this scoping process as soon as practicable. Persons having expertise relevant to the environmental aspects of the proposed action shall also participate in this scoping process. (Participants may include but are not limited to representatives of host governments, public and private institutions, the A.I.D. Mission staff and contractors.) This process shall result in a written statement which shall include the following matters:

(*a*) A determination of the scope and significance of issues to be analyzed in the Environmental Assessment or Impact Statement, including direct and indirect effects of the project on the environment.

(*b*) Identification and elimination from detailed study of the issues that are not significant or have been covered by earlier environmental review, or approved design considerations, narrowing the discussion of these issues to a brief presentation of why they will not have a significant effect on the environment.

(*c*) A description of (*1*) the timing of the preparation of environmental analyses, including phasing if appropriate, (*2*) variations required in the format of the Environmental Assessment, and (*3*) the tentative planning and decision making schedule; and

(*d*) A description of how the analysis will be conducted and the disciplines that will participate in the analysis.

(ii) These written statements shall be reviewed and approved by the Bureau Environmental Officer.

(iii) *Circulation of Scoping Statement.* To assist in the preparation of an Environmental Assessment, the Bureau Environmental Officer may circulate copies of the written statement, together with a request for written comments, within thirty days, to selected federal agencies if that Officer believes comments by such federal agencies will be useful in the preparation of an Environmental Assessment. Comments received from reviewing federal agencies will be considered in the preparation of the Environmental Assessment and in the formulation of the design and implementation of the project, and will, together with the scoping statement, will be included in the project file.

(iv) *Change in Threshold Decision.* If it becomes evident that the action will not have a significant effect on the environment (i.e., will not cause significant harm to the environment), the Positive Threshold Decision may be withdrawn with the concurrence of the Bureau Environmental Officer. In the case of an action included in § 216.2(d)(2), the request for withdrawal shall be made to the Bureau Environmental Officer.

(5) *Preparation of Environmental Assessments and Environmental Impact Statement.* If the PID or PAIP is approved, and the Threshold Decision is positive, or the action is included in § 216.2(d), the originator of the action will be responsible for the preparation of an Environmental Assessment or Environmental Impact Statement as required. Draft Environmental Impact Statements will be circulated for review and comment as part of the review of Project Papers and as outlined further in § 216.7 of those procedures. Except as provided in paragraph (a)(7) of this section, final approval of the PP or PAAD and the method of implementation will include consideration of the Environmental Assessment of final Environmental Impact Statement.

(6) *Processing and Review Within A.I.D.* (i) Initial Environmental Examinations, Environmental Assessments and final Environmental Impact Statements will be processed pursuant to standard A.I.D. procedures for project approval documents. Except as provided in paragraph (a)(7) of this section, Environmental Assessments and final

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environmental Impact Statement, will be reviewed as an integral part of the Project Paper or equivalent document. In addition to these procedures, Environmental Assessments will be reviewed and cleared by the Bureau Environmental Officer. They may also be reviewed by the Agency's Environmental Coordinator who will monitor the Environmental Assessment process.

(ii) When project approval authority is delegated to field posts, Environmental Assessments shall be reviewed and cleared by the Bureau Environmental Officer prior to the approval of such actions.

(iii) Draft and final Environmental Impact Statements will be reviewed and cleared by the Environmental Coordinator and the Office of the General Counsel.

(7) *Environmental Review After Authorization of Financing.* (i) Environmental review may be performed after authorization of a project, program or activity only with respect to subprojects or significant aspects of the project, program or activity that are unidentified at the time of authorization. Environmental review shall be completed prior to authorization for all subprojects and aspects of a project, program or activity that are identified.

(ii) Environmental review should occur at the earliest time in design or implementation at which a meaningful review can be undertaken, but in no event later than when previously unidentified subprojects or aspects of projects, programs or activities are identified and planned. To the extent possible, adequate information to undertake deferred environmental review should be obtained before funds are obligated for unidentified subprojects or aspects of projects, programs or activities. (Funds ma, be obligated for the other aspects for which environmental review has been completed.) To avoid an irreversible commitment of resources prior to the conclusion of environmental review, the obligation of funds can be made incrementally as subprojects or aspects of projects, programs or activities are identified; or if necessary while planning continues, including environmental review, the agreement or other document obligating funds may contain appropriate covenants or conditions precedent to disbursement for unidentified subprojects or aspects of projects, programs or activities.

(iii) When environmental review must be deferred beyond the time some of the funds are to be disbursed (e.g. long lead times for the delivery of goods or services), the project agreement or other document obligating funds shall contain a covenant or covenants requiring environmental review, including an Environmental Assessment or Environmental Impact Statement, when appropriate, to be completed and taken into account prior to implementation of those subprojects or aspects of the project, program or activity for which environmental review is deferred. Such covenants shall ensure that implementation plans will be modified in accordance with environmental review if the parties decide that modifications are necessary.

(iv) When environmental review will not be completed for an entire project, program or activity prior to authorization, the Initial Environmental Examination and Threshold Decision required under paragraphs (a)(1) and (2) of this section shall identify those aspects of the project, program or activity for which environmental review will be completed prior to the time financing is authorized. It shall also include those subprojects or aspects for which environmental review will be deferred, stating the reasons for deferral and the time when environmental review will be completed. Further, it shall state how an irreversible commitment of funds will be avoided until environmental review is completed. The A.I.D. officer responsible for making environmental decisions for such projects, programs or activities shall also be identified (the same officer who has decision making authority for the other aspects of implementation). This deferral shall be reviewed and approved by the officer making the Threshold Decision and the officer who authorizes the project, program or activity. Such approval may be made only after consultation with the Office of General Counsel for the purpose of establishing the manner in which conditions precedent to disbursement or covenants in project and other agreements will avoid an irreversible commitment of resources before environmental review is completed.

(8) *Monitoring.* To the extent feasible and relevant, projects and programs for which Environmental Impact Statements or Environmental Assessments have been prepared should be designed to include measurement of any changes in environmental quality, positive or negative, during their implementation. This will require recording of baseline data at the start. To the extent that available data permit, originating offices of A.I.D. will formulate systems in collaboration with recipient nations, to monitor such impacts during the life of A.I.D.'s involvement. Monitoring implementation of projects, programs and activities shall take into account environmental impacts to the same extent as other aspects of such projects, programs and activities. If during implementation of any project, program or activity, whether or not an Environmental Assessment or Environmental Impact Statement was originally required, it appears to the Mission Director, or officer responsible for the project, program or activity, that it is having or will have a significant effect on the environment that was not previously studied in an Environmental Assessment or Environmental Impact Statement, the procedures contained in this part shall be followed including, as appropriate, a Threshold Decision, Scoping and an Environmental Assessment or Environmental Impact Statement.

(9) *Revisions.* If, after a Threshold Decision is made resulting in a Negative Determination, a project is revised or new information becomes available which indicates that a proposed action might be "major" and its effects "significant", the Negative Determination will be reviewed and revised by the cognizant Bureau and an Environmental Assessment or Environmental Impact Statement will be prepared, if appropriate. Environmental Assessments and Environmental Impact Statements will be amended and processed appropriately if there are major changes in the project or program, or if significant new information becomes available which relates to the impact of the project, program or activity on the environment that was not considered at the time the Environmental Assessment or Environmental Impact Statement was approved. When ongoing programs are revised to incorporate a change in scope or nature, a determination will be made as to whether such change may have an environmental impact not previously assessed. If so, the procedures outlined in this part will be followed.

(10) *Other Approval Documents.* These procedures refer to certain A.I.D. documents such as PIDs, PAIPs, PPs and PAADs as the A.I.D. internal instruments for approval of projects, programs or activities. From time to time, certain special procedures, such as those in § 216.4, may not require the use of the aforementioned documents. In these situations, these environmental procedures shall apply to those special approval procedures, unless otherwise exempt, at approval times and levels comparable to projects, programs and activities in which the aforementioned documents are used.

(b) *Pesticide Procedures*—(1) *Project Assistance.* Except as provided in paragraph (b)(2) of this section, all proposed projects involving assistance for the procurement or use, or both, of pesticides shall be subject to the procedures prescribed in paragraphs (b)(1) (i) through (v) of this section. These procedures shall also apply, to the extent permitted by agreements entered into by A.I.D. before the effective date of these pesticide procedures, to such projects that have been authorized but for which pesticides have not been procured as of the effective date of these pesticide procedures.

(i) When a project includes assistance for procurement or use, or both, of pesticides registered for the same or similar uses by USEPA without restriction, the Initial Environmental Examination for the project shall include a separate section evaluating the economic, social and environmental risks and benefits of the planned pesticide use to determine whether the use may result in significant environmental impact. Factors to be considered in

with an evaluation shall include, but not be limited to the following:

(a) The USEPA registration status of the requested pesticide;

(b) The basis for selection of the requested pesticide;

(c) The extent to which the proposed pesticide use is part of an integrated pest management program;

(d) The proposed method or methods of application, including availability of appropriate application and safety equipment;

(e) Any acute and long term toxicological hazards, either human or environmental, associated with the proposed use and measures available to minimize such hazards;

(f) The effectiveness of the requested pesticide for the proposed use;

(g) Compatibility of the proposed pesticide with target and nontarget ecosystems;

(h) The conditions under which the pesticide is to be used, including climate, flora, fauna, geography, hydrology, and soils;

(i) The availability and effectiveness of other pesticides or nonchemical control methods;

(j) The requesting country's ability to regulate or control the distribution, storage, use and disposal of the requested pesticide;

(k) The provisions made for training of users and applicators; and

(l) The provisions made for monitoring the use and effectiveness of the pesticide.

In those cases where the evaluation of the proposed pesticide use in the Initial Environmental Examination indicates that the use will significantly effect the human environment, the Threshold Decision will include a recommendation for the preparation of an Environmental Assessment or Environmental Impact Statement, as appropriate. In the event a decision is made to approve the planned pesticide use, the Project Paper shall include to the extent practicable, provisions designed to mitigate potential adverse effects of the pesticide. When the pesticide evaluation section of the Initial Environmental Examination does not indicate a potentially unreasonable risk arising from the pesticide use, an Environmental Assessment or Environmental Impact Statement shall nevertheless be prepared if the environmental effects of the project otherwise require further assessment.

(ii) When a project includes assistance for the procurement or use, or both, of any pesticide registered for the same or similar uses in the United States but the proposed use is restricted by the USEPA on the basis of user hazard, the procedures set forth in paragraph (b)(1)(i) of this section will be followed. In addition, the Initial Environmental Examination will include an evaluation of the user hazards associated with the proposed USEPA restricted uses to ensure that the implementation plan which is contained in the Project Paper incorporates provisions for making the recipient government aware of these risks and providing, if necessary, such technical assistance as may be required to mitigate these risks. If the proposed pesticide use is also restricted on a basis other than user hazard, the procedures in paragraph (b)(1)(iii) of this section shall be followed in lieu of the procedures in this section.

(iii) If the project includes assistance for the procurement or use, or both of:

(a) Any pesticide other than one registered for the same or similar uses by USEPA without restriction or for restricted use on the basis of user hazard; or

(b) Any pesticide for which a notice of rebuttable presumption against reregistration, notice of intent to cancel, or notice of intent to suspend has been issued by USEPA.

The Threshold Decision will provide for the preparation of an Environmental Assessment or Environmental Impact Statement, as appropriate (§ 216.6(a)). The EA or EIS shall include, but not be limited to, an analysis of the factors identified in paragraph (b)(1)(i) of this section.

(iv) Notwithstanding the provisions of paragraphs (b)(1) (i) through (iii) of this section, if the project includes assistance for the procurement or use, or both, of a pesticide against which USEPA has initiated a regulatory action for cause, or for which it has issued a notice of rebuttable presumption against reregistration, the nature of the action or notice, including the relevant technical and scientific factors will be discussed with the requesting government and considered in the IEE and, if prepared, in the EA or EIS. If USEPA initiates any of the regulatory actions above against a pesticide subsequent to its evaluation in an IEE, EA or EIS, the nature of the action will be discussed with the recipient government and considered in an amended IEE or amended EA or EIS, as appropriate.

(v) If the project includes assistance for the procurement or use, or both of pesticides but the specific pesticides to be procured or used cannot be identified at the time the IEE is prepared, the procedures outlined in paragraphs (b) (i) through (iv) of this section will be followed when the specific pesticides are identified and before procurement or use is authorized. Where identification of the pesticides to be procured or used does not occur until after Project Paper approval, neither the procurement nor the use of the pesticides shall be undertaken unless approved, in writing, by the Assistant Administrator (or in the case of projects authorized at the Mission level, the Mission Director) who approved the Project Paper.

(2) *Exceptions to Pesticide Procedures.* The procedures set forth in paragraph (b)(1) of this section shall not apply to the following projects including assistance for the procurement or use, or both, of pesticides.

(i) Projects under emergency conditions.

Emergency conditions shall be deemed to exist when it is determined by the Administrator, A.I.D., in writing that:

(a) A pest outbreak has occurred or is imminent; and

(b) Significant health problems (either human or animal) or significant economic problems will occur without the prompt use of the proposed pesticide; and

(c) Insufficient time is available before the pesticide must be used to evaluate the proposed use in accordance with the provisions of this regulation.

(ii) Projects where A.I.D. is a minor donor, as defined in § 216.1(c)(12) of this part, to a multi-donor project.

(iii) Projects including assistance for procurement or use, or both, of pesticides for research or limited field evaluation purposes by or under the supervision of project personnel. In such instances, however, A.I.D. will ensure that the manufacturers of the pesticides provide toxicological and environmental data necessary to safeguard the health or research personnel and the quality of the local environment in which the pesticides will be used. Furthermore, treated crops will not be used for human or animal consumption unless appropriate tolerances have been established by EPA or recommended by FAO/WHO, and the rates and frequency of application, together with the prescribed preharvest intervals, do not result in residues exceeding such tolerances. This prohibition does not apply to the feeding of such crops to animals for research purposes.

(3) *Non-Project Assistance.* In a very few limited number of circumstances A.I.D. may provide non-project assistance for the procurement and use of pesticides. Assistance in such cases shall be provided if the A.I.D. Administrator determines in writing that (i) emergency conditions, as defined in paragraph (b)(2)(i) of this section exists; or (ii) that compelling circumstances exist such that failure to provide the proposed assistance would seriously impede the attainment of U.S. foreign policy objectives or the objectives of the foreign assistance program. In the latter case, a decision to provide the assistance will be based to the maximum extent practicable, upon a consideration of the factors set forth in paragraph (b)(1)(i) of this section and, to the extent available, the history of efficacy and safety covering the past use of the pesticide the in recipient country.

[43 FR 20491, May 12, 1978, as amended at 45 FR 70215, Oct. 23, 1980]

§ 216.1 Private applicants.

Programs, projects or activities for which financing from A.I.D. is sought by private applicants, such as PVOs and educational and research institutions, are subject to these procedures. Except as provided in § 216.2 (b), (c) or (d), preliminary proposals for financing submitted by private applicants shall be accompanied by an Initial Environmental Examination or adequate information to permit preparation of an Initial Environmental Examination. The Threshold Decision shall be made by the Mission Director for the country to which the proposal relates.

if the preliminary proposal is submitted to the A.I.D. Mission, or shall be made by the officer in A.I.D. who approves the preliminary proposal. In either case, the concurrence of the Bureau Environmental Officer is required in the same manner as in § 216.3(a)(2), except for PVO projects approved in A.I.D. Missions with total life of project costs less than $500,000. Thereafter, the same procedures set forth in § 216.3 including as appropriate scoping and Environmental Assessments or Environmental Impact Statements, shall be applicable to programs, projects or activities submitted by private applicants. The final proposal submitted for financing shall be treated, for purposes of these procedures, as a Project Paper. The Bureau Environmental Officer shall advise private applicants of studies or other information foreseeably required for action by A.I.D.

[45 FR 70247, Oct. 23, 1980]

§ 216.5 Endangered species.

It is A.I.D. policy to conduct its assistance programs in a manner that is sensitive to the protection of endangered or threatened species and their critical habitats. The Initial Environmental Examination for each project, program or activity having an effect on the environment shall specifically determine whether the project, program or activity will have an effect on an endangered or threatened species, or critical habitat. If the proposed project, program or activity will have the effect of jeopardizing an endangered or threatened species or of adversely modifying its critical habitat, the Threshold Decision shall be a Positive Determination and an Environmental Assessment or Environmental Impact Statement completed as appropriate, which shall discuss alternatives or modifications to avoid or mitigate such impact on the species or its habitat.

[45 FR 70247, Oct. 23, 1980]

§ 216.6 Environmental assessments.

(a) *General purpose.* The purpose of the Environmental Assessment is to provide Agency and host country decision makers with a full discussion of significant environmental effects of a proposed action. It includes alternatives which would avoid or minimize adverse effects or enhance the quality of the environment so that the expected benefits of development objectives can be weighed against any adverse impacts upon the human environment or any irreversible or irretrievable commitment of resources.

(b) *Collaboration with Affected Nation on Preparation.* Collaboration in obtaining data, conducting analyses and considering alternatives will help build an awareness of development associated environmental problems in less developed countries as well as assist in building an indigenous institutional capability to deal nationally with such problems. Missions, Bureaus and Offices will collaborate with affected countries to the maximum extent possible, in the development of any Environmental Assessments and consideration of environmental consequences as set forth therein.

(c) *Content and Form.* The Environmental Assessment shall be based upon the scoping statement and shall address the following elements, as appropriate:

(1) *Summary.* The summary shall stress the major conclusions, areas of controversy, if any, and the issues to be resolved.

(2) *Purpose.* The Environmental Assessment shall briefly specify the underlying purpose and need to which the Agency is responding in proposing the alternatives including the proposed action.

(3) *Alternatives including the proposed action.* This section should present the environmental impacts of the proposal and its alternatives in comparative form, thereby sharpening the issues and providing a clear basis for choice among options by the decision maker. This section should explore and evaluate reasonable alternatives and briefly discuss the reasons for eliminating those alternatives which were not included in the detailed study; devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits; include the alternative of no action; identify the Agency's preferred alternative or alternatives, if one or more exists, include appropriate mitigation measures not already included in the proposed action or alternatives.

(4) *Affected environment.* The Environmental Assessment shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in the Environmental Assessment shall be commensurate with the significance of the impact with less important material summarized, consolidated or simply referenced.

(5) *Environmental consequences.* This section forms the analytic basis for the comparisons under paragraph (c)(3) of this section. It will include the environmental impacts of the alternatives including the proposed action; any adverse effects that cannot be avoided should the proposed action be implemented; the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity; and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. It should not duplicate discussions in paragraph (c)(3) of this section. This section of the Environmental Assessment should include discussions of direct effects and their significance; indirect effects and their significance; possible conflicts between the proposed action and land use plans, policies and controls for the areas concerned; energy requirements and conservation potential of various alternatives and mitigation measures; natural or depletable resource requirements and conservation potential of various requirements and mitigation measures, urban quality; historic and cultural resources and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures; and means to mitigate adverse environmental impacts.

(6) *List of preparers.* The Environmental Assessment shall list the names and qualifications (expertise, experience, professional disciplines) of the persons primarily responsible for preparing the Environmental Assessment or significant background papers.

(7) *Appendix.* An appendix may be prepared.

(d) *Program assessment.* Program Assessments may be appropriate in order to assess the environmental effects of a number of individual actions and their cumulative environmental impact in a given country or geographic area, or the environmental impacts that are generic or common to a class of agency actions, or other activities which are not country-specific. In these cases, a single, programmatic assessment will be prepared in A.I.D. Washington and circulated to appropriate overseas Missions, host governments, and to interested parties within the United States. To the extent practicable, the form and content of the programmatic Environmental Assessment will be the same as for project Assessments. Subsequent Environmental Assessments on major individual actions will only be necessary where such follow-on or subsequent activities may have significant environmental impacts on specific countries where such impacts have not been adequately evaluated in the programmatic Environmental Assessment. Other programmatic evaluations of classes of actions may be conducted in an effort to establish additional categorical exclusions or design standards or criteria for such classes that will eliminate or minimize adverse effects of such actions, enhance the environmental effect of such action or reduce the amount of paperwork or time involved in these procedures. Programmatic evaluations conducted for the purpose of establishing additional categorical exclusions under § 216.2(c) or design considerations that will eliminate significant effects for classes of actions shall be made available for public comment before the categorical exclusions or design standards or criteria are adopted by A.I.D. Notice of the availability of such document shall be published in the FEDERAL REGISTER. Additional categorical exclusions shall be adopted by A.I.D. upon the approval of the Administrator, and design con-

sideration in accordance with usual agency procedures.

(e) *Consultation and review.* (1) When Environmental Assessments are prepared on activities carried out within or focused on specific developing countries, consultation will be held between A.I.D. staff and the host government both in the early stages of preparation and on the results and significance of the completed Assessment before the project is authorized.

(2) Missions will encourage the host government to make the Environmental Assessment available to the general public of the recipient country. If Environmental Assessments are prepared on activities which are not country-specific, the Assessment will be circulated by the Environmental Coordinator to A.I.D.'s Overseas Missions and interested governments for information, guidance and comment and will be made available in the U.S. to interested parties.

(f) *Effect in other countries.* In a situation where an analysis indicates that potential effects may extend beyond the national boundaries of a recipient country and adjacent foreign nations may be affected, A.I.D. will urge the recipient country to consult with such countries in advance of project approval and to negotiate mutually acceptable accommodations.

(g) *Classified material.* Environmental Assessments will not normally include classified or administratively controlled material. However, there may be situations where environmental aspects cannot be adequately discussed without the inclusion of such material. The handling and disclosure of classified or administratively controlled material shall be governed by 22 CFR Part 9. Those portions of an Environmental Assessment which are not classified or administratively controlled will be made available to persons outside the Agency as provided for in 22 CFR Part 212.

[45 FR 70247, Oct. 23, 1980]

§ 216.7 Environmental impact statements.

(a) *Applicability.* An Environmental Impact Statement shall be prepared when agency actions significantly affect:

(1) The global environment or areas outside the jurisdiction of any nation (e.g., the oceans);

(2) The environment of the United States; or

(3) Other aspects of the environment at the discretion of the Administrator.

(b) *Effects on the United States: Content and Form.* An Environmental Impact Statement relating to paragraph (a)(2) of this section shall comply with the CEQ Regulations. With respect to effects on the United States, the terms environment and significant effect wherever used in these procedures have the same meaning as in the CEQ Regulations rather than as defined in § 216.1(c) (12) and (13) of these procedures.

(c) *Other effects: Content and form.* An Environmental Impact Statement relating to paragraphs (a)(1) and (a)(3) of this section will generally follow the CEQ Regulations, but will take into account the special considerations and concerns of A.I.D. Circulation of such Environmental Impact Statements in draft form will precede approval of a Project Paper or equivalent and comments from such circulation will be considered before final project authorization as outlined in § 216.3 of these procedures. The draft Environmental Impact Statement will also be circulated by the Missions to affected foreign governments for information and comment. Draft Environmental Impact Statements generally will be made available for comment to Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved, and to public and private organizations and individuals for not less than forty-five (45) days. Notice of availability of the draft Environmental Impact Statements will be published in the FEDERAL REGISTER. Cognizant Bureaus and Offices will submit these drafts for circulation through the Environmental Coordinator who will have the responsibility for coordinating all such communications with persons outside A.I.D. Any comments received by the Environmental Coordinator will be forwarded to the originating Bureau or Office for consideration in final policy decisions and the preparation of a final Environmental Impact Statement. All such comments will be attached to the final Statement, and those relevant comments not adequately discussed in the draft Environmental Impact Statement will be appropriately dealt with in the final Environmental Impact Statement. Copies of the final Environmental Impact Statement, with comments attached, will be sent by the Environmental Coordinator to CEQ and to all other Federal, state, and local agencies and private organizations that made substantive comments on the draft, including affected foreign governments. Where emergency circumstances or considerations of foreign policy make it necessary to take an action without observing the provisions of § 1506.10 of the CEQ Regulations, or when there are overriding considerations of expense to the United States or foreign governments, the originating Office will advise the Environmental Coordinator who will consult with Department of State and CEQ concerning appropriate modification of review procedures.

[45 FR 70249, Oct. 23, 1980]

§ 216.8 Public hearings.

(a) In most instances AID will be able to gain the benefit of public participation in the impact statement process through circulation of draft statements and notice of public availability in CEQ publications. However, in some cases the Administrator may wish to hold public hearings on draft Environmental Impact Statements. In deciding whether or not a public hearing is appropriate, Bureaus in conjunction with the Environmental Coordinator should consider:

(1) The magnitude of the proposal in terms of economic costs, the geographic area involved, and the uniqueness or size of commitment of the resources involved;

(2) The degree of interest in the proposal as evidenced by requests from the public and from Federal, state and local authorities, and private organizations and individuals, that a hearing be held;

(3) The complexity of the issue and likelihood that information will be presented at the hearing which will be of assistance to the Agency; and

(4) The extent to which public involvement already has been achieved through other means, such as earlier public hearings, meetings with citizen representatives, and/or written comments on the proposed action.

(b) If public hearings are held, draft Environmental Impact Statements to be discussed should be made available to the public at least fifteen (15) days prior to the time of the public hearings, and a notice will be placed in the FEDERAL REGISTER giving the subject, time and place of the proposed hearings.

[41 FR 26913, June 30, 1976. Redesignated at 45 FR 70249, Oct. 23, 1980]

§ 216.9 Bilateral and multilateral studies and concise reviews of environmental issues.

Notwithstanding anything to the contrary in these procedures, the Administrator may approve the use of either of the following documents as a substitute for an Environmental Assessment (but not a substitute for an Environmental Impact Statement) required under these procedures:

(a) Bilateral or multilateral environmental studies, relevant or related to the proposed action, prepared by the United States and one or more foreign countries or by an international body or organization in which the United States is a member or participant; or

(b) Concise reviews of the environmental issues involved including summary environmental analyses or other appropriate documents.

[45 FR 70249, Oct. 23, 1980]

§ 216.10 Records and reports.

Each Agency Bureau will maintain a current list of activities for which Environmental Assessments and Environmental Impact Statements are being prepared and for which Negative Determinations and Declarations have been made. Copies of final Initial Environmental Examinations, scoping statements, Assessments and Impact Statements will be available to interested Federal agencies upon request. The cognizant Bureau will maintain a permanent file (which may be part of

(c) Internal project Identified Environmental Impact Statements, Environmental Assessments, Initial Initial Environmental Examinations, scoping statements, Determinations and Declarations which will be available to the public under the Freedom of Information Act. Interested persons can obtain information or status reports regarding Environmental Assessments and Environmental Impact Statements through the A.I.D. Environmental Coordinator.

[45 FR 70219, Oct. 23, 1980]

PART 217—NONDISCRIMINATION ON THE BASIS OF HANDICAP IN PROGRAMS AND ACTIVITIES RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE

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APPENDIX A—FEDERAL FINANCIAL ASSISTANCE TO WHICH THESE REGULATIONS APPLY

AUTHORITY: Sec. 504, Rehabilitation Act of 1973 (Pub. L. 93-112, 87 Stat. 394 (29 U.S.C. 794)), as *amended* by the Rehabilitation, Comprehensive Services and Developmental Disabilities Amendments of 1979, Pub. L. 95-602.

SOURCE: 45 FR 66415, Oct. 6, 1980, unless otherwise noted.

Subpart A—General Provisions

§ 217.1 Purpose.

The purpose of this part is to effectuate section 504 of the Rehabilitation Act of 1973, which is designed to eliminate discrimination on the basis of handicap in any program or activity within the United States receiving Federal financial assistance.

§ 217.2 Application.

This part applies to all programs carried on within the United States by recipients of Federal financial assistance pursuant to any authority held or delegated by the Administrator of the Agency for International Development, including the federally-assisted programs and activities listed in Appendix A of this part. (Appendix A may be revised from time to time by notice in the FEDERAL REGISTER). It applies to money paid, property transferred, or other Federal financial assistance extended under any such program after the effective date of this regulation, even if the application for such assistance is approved prior to such effective date. This part does not apply to (a) any Federal financial assistance by way of insurance or guaranty contracts, (b) money paid, property transferred or other assistance extended under any such program before the effective date of this part, (c) any assistance to any individual who is the ultimate beneficiary under any such program, and (d) any procurement of goods or services, including the procurement of training. This part does not bar selection and treatment reasonably related to the foreign assistance objective or such other authorized purpose as the Federal assistance may have. It does not bar selections which are limited to particular groups where the purpose of the program calls for such a limitation nor does it bar special treatment including special courses of training, orientation or counseling consistent with such purpose.

§ 217.3 Definitions.

As used in this part, the term:

(a) "The Act" means the Rehabilitation Act of 1973, Pub. L. 93-112, as amended by the Rehabilitation Comprehensive Services and Developmental Disabilities Amendments of 1979, Pub. L. 95-602.

(b) "Section 504" means section 504 of the Act.

(c) "Agency" means the Agency for International Development.

(d) The term "Administrator" means the Administrator of the Agency for International Development or any person specifically designated by him to perform any function provided for under this part.

(e) "Recipient" means any state or its political subdivision, any instrumentality of a state or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance and any sovereign foreign government.

(f) "Applicant for assistance" means one who submits an application, request, or plan required to be approved by an Agency official or by a recipient as a condition to becoming a recipient.

(g) "Federal financial assistance" means any grant, loan, contract (other than a procurement contract or a contract of insurance or guaranty), or any other arrangement by which the Agency provides or otherwise makes available assistance in the form of:

(1) Funds;

(2) Services of Federal personnel;

(3) Real and personal property or any interest in or use of such property, including:

(i) Transfers or leases of such property for less than the fair market value or for reduced consideration; and

(ii) Proceeds from a subsequent transfer or lease of such property if the Federal share of its fair market value is not returned to the Federal Government.

(h) "Facility" means all or any portion of buildings, structures, equipment, roads, walks, parking lots, or other real or personal property or interest in such property.

(i) "Handicapped person." (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.

(2) As used in paragraph (i)(1) of this section the phrase:

(i) "Physical or mental impairment" includes but is not limited to such diseases and conditions as orthopedic, visual, speech and hearing impairments, cerebral palsy, epilepsy, muscular dystrophy, multiple sclerosis, cancer, heart disease, diabetes, mental retardation, emotional illness, and drug addiction and alcoholism. Such term does not include alcoholism or drug abuse, where by reason of such condition the individual is prevented from performing the duties of the job in question or whose employment, by reason of such current alcohol or drug abuse, would constitute a direct threat to property or the safety of others.

(ii) "Major life activities" means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

(iii) "Has a record of such an impairment" means has a history of, or has been misclassified as having, a mental or physical impairment that substantially limits one or more major life activities.

(iv) "Is regarded as having an impairment" means (A) has a physical or

APPENDIX D-5

SCOPE OF WORK FOR THE ENVIRONMENTAL ASSESSMENT OF THE LGIF PROJECT

REPUBLIC OF THE PHILIPPINES

ENVIRONMENTAL ASSESSMENT FOR THE LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

SCOPE OF WORK

UNITED STATES
AGENCY FOR INTERNATIONAL DEVELOPMENT
MANILA, PHILIPPINES
2 January 1992

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ENVIRONMENTAL ASSESSMENT
FOR THE
LOCAL GOVERNMENT INFRASTRUCTURE FUND PROJECT

SUMMARY

The United States Agency for International Development (USAID), Manila, Philippines, is proposing a project-scale Environmental Assessment that will develop environmental screening criteria for the review of several hundred potential subprojects under the Local Government Infrastructure Fund (LGIF) Project (A.I.D. Project Number 492-0463).

I. THE PROJECT

A. Background

The lack of adequate physical infrastructure at the local level is one of the major impediments to dynamic private sector growth in the Philippines today. Discussion with businessmen and other representatives of the private sector often result in the identification of infrastructure constraints as a prime inhibition to new business starts or increased investment in existing businesses. Inadequate transportation infrastructure is the most often cited constraint, but lack of other support infrastructure, including schools, is also often cited.

Various studies have provided empirical evidence on the economic importance of adequate infrastructure in stimulating private sector initiative and economic growth. In addition, evidence from previous USAID infrastructure projects shows that high priority, small-scale infrastructure does have significant impact on the productivity of an area and that effect is especially significant on small farmers and businessmen. Finally, USAID has learned that efficiency gains emanating from a decentralized system of resource allocation are quite significant, equivalent to a one third increase in resources.

Accordingly, USAID has designed the Local Government Infrastructure Fund (LGIF) project to provide resources to local governments for the construction of high priority, small-scale infrastructure.

B. Project Goal and Purpose

The goal of the LGIF project is to promote private sector led growth and diversification by alleviating some of the infrastructure constraints in various provinces and chartered cities of the Philippines. The project purpose is to construct critically needed small-scale infrastructure through local governments (meaning provincial or chartered city governments).

C. Project Description

The LGIF project consists of small-scale infrastructure construction by local governments (LGUs) supported by feasibility studies and training. Those LGUs meeting project eligibility criteria may enter into agreements with the **Local Government Infrastructure Fund-Project Management Office (LGIF-PMO)** of the Department of Public Works and Highways (DPWH) to receive funds for the construction subproject. Upon signing the agreement, the LGU will receive a predetermined amount of pesos, in quarterly installments, to finance construction of small-scale infrastructure chosen from a library of standard designs maintained by the LGIF-PMO. Included in the amount are funds for the LGU to contract with a construction management and engineering services (CMES) consultant to site-adapt the standard design to a specific location and supervise the contractor hired by the LGU to undertake the construction.

To ensure that every subproject is viable, the project may finance a study demonstrating subproject technical, economic, financial, *environmental*, and social feasibility. These studies will be performed by, or contracted for by, the LGU, and will be cleared through normal GOP procedures for inclusion of a subproject in the LGU's development plan. The feasibility study will be submitted to USAID by the LGIF-PMO, and acceptance of the study by USAID will allow the LGIF-PMO to sign the subproject agreement with the LGU.

The project will also fund emergency reconstruction of small-scale infrastructure damaged as a result of natural disasters. Because of the need to reconstruct damaged or destroyed facilities as quickly as possible, contracting and implementation activities related to emergency reconstruction will be undertaken by the LGIF-PMO itself.

D. Environmental Analysis of the Project

A positive determination has been found, which requires an Environmental Assessment (EA) for the LGIF Project. Since the LGIF Project deals with the construction of infrastructure, any single subproject could have potentially significant environmental impacts. However, there are several characteristics to the LGIF Project which reduce its overall relative environmental risk:

- all subprojects will utilize easily replicated, *standard designs* which will be site-adapted as required
- all subprojects are *small-scale* public infrastructure with an anticipated average value in the range of $200,000 to $400,000 per subproject
- virtually all subprojects will be expansions or upgrades of existing facilities within *established sites or rights-of-way*

The first objective of the EA will be the development of screening criteria which will enable the LGIF-PMO to concentrate its environmental focus on those subprojects which pose the greatest risks. A second objective will be to propose standard mitigation measures, in lieu

of a subproject EA, for design, construction, and administration activities required for the implementation of those subprojects which might have greater relative environmental risk. A third objective will be to develop guidelines and simplified procedures for use by LGUs in the preparation of EAs for those relatively high risk subproject types which cannot be adequately covered by standard mitigation measures.

II. SCOPE OF WORK

A. Purpose

The purpose of this scope of work is to identify environmental impacts associated with the construction of the small-scale infrastructure subprojects proposed under the Local Government Infrastructure Fund (LGIF) Project (A.I.D. Project Number 492-0463) and to assess mitigation measures which could be adopted to eliminate or lessen potentially negative environmental impacts. Identification of potential significant impacts on natural resources, environmental systems, important socio-economic groups and cultural resources should occur as early in the planning and design cycle as possible. Accordingly, it is proposed that a project-scale Environmental Assessment of the LGIF Project be conducted prior to the implementation of any subprojects in order to assess general, overall impacts of the various categories of subprojects and to develop an environmental review process which can be applied to each of the individual subprojects.

Three major objectives have been established in order to achieve the purpose of this Scope of Work. The first objective of the EA will be the development of screening criteria which will enable the LGIF-PMO to concentrate its environmental focus on those subprojects which pose the greatest risks. A second objective will be to propose standard mitigation measures, in lieu of a subproject EA, for design, construction, and administration activities required for the implementation of those subprojects which might have greater relative environmental risk. A third objective will be to develop guidelines and simplified procedures for use by LGUs in the preparation of EAs for those relatively high risk subproject types which cannot be adequately covered by standard mitigation measures.

B. Background

1. General

USAID/Manila has a long history of small-scale public infrastructure activities in the Philippines. The Regional Development Fund (RDF) Project has funded schools, roads, public markets, slaughterhouses, health centers, and other infrastructure for LGUs for almost 10 years. The bulk of the monies ($172 million) of the RDF Project are being administered by the Economic Support Fund Secretariat under the Office of the President. The Office of the Mount

Pinatubo Emergency under the Department of Public Works and Highways is administering a $10 million program using RDF monies to replace infrastructure damaged as a result of the July 1991 volcanic eruption of Mount Pinatubo.

2. Subprojects

The LGIF Project will fund small-scale public infrastructure subprojects with an anticipated average value in the range of $200,000 to $400,000. All subprojects will be from a library of standard design subprojects. The selection of subproject types for inclusion in the LGIF Project were based not only on activities which could support private sector growth, but also on ease of implementation by LGUs. These subproject types should have positive impact on the environment. The proposed library of subprojects will include, but not necessarily be limited to, the following types of subprojects:

a. *Medium-Size Public Market Module (Type I)* - 415-square meter Wet and Dry Market with 4 carinderias, 8 dry goods stalls, 12 fruit and vegetable stalls, and 8 fish stalls, and 8 meat stalls.

b. *Medium-Size Public Market Module (Type II)* - 415-square meter Dry Market with 32 dry goods stalls.

c. *Medium-Size Public Market Module (Type III)* - 415-square meter Wet Market with 32 fish stalls and 32 meat stalls.

d. *Small-Size Public Market* - 242-square meter Open Market.

e. *Slaughterhouse* - 246-square meter single-story building for cattle and hogs.

f. *Provincial Road (concrete)* - 6-meter wide concrete road pavement with open side ditches.

g. *Provincial Road (gravel)* - 6-meter wide gravel surface road with open side ditches.

h. *Barangay Road (concrete)* - 5-meter wide concrete road pavement with open side ditches.

i. *Barangay Road (gravel)* - 5-meter wide gravel surface road with open side ditches.

j. *City Street (concrete)* - 6-meter wide concrete road pavement with curb and gutter and storm sewer.

k. *City Street (bituminous)* - 6-meter wide bituminous concrete pavement with curb and gutter and storm sewer.

l. *Bridge* - 7-meter wide reinforced concrete deck and girder bridge with sidewalks.

m. *3-Classroom School Building* - 144-square meter, single-story building with detached comfort room.

n. *High School Science Building (2-story)* - 780-square meter building with 4 classrooms, 1 laboratory, 1 library, 1 faculty lounge, and comfort rooms.

o. *High School Science Building (3-story)* - 1710-square meter building with 12 classrooms, 3 laboratories, 1 library, 1 faculty lounge, and 2 sets of comfort rooms.

p. *10-Classroom School Building* - 1071-square meter, two-story building with faculty room and comfort rooms.

q. *12-Classroom School Building* - 1250-square meter, two-story building with faculty room and comfort rooms.

r. *14-Classroom School Building* - 1428-square meter, two-story building with faculty room and comfort rooms.

s. *16-Classroom School Building* - 1912-square meter, two-story building with faculty room, home economics room, and comfort rooms.

t. *18-Classroom School Building* - 2091-square meter, two-story building with faculty room, home economics room, and comfort rooms.

u. *Health Center* - 474-square meter, single story building with male and female infirmaries, assembly, laboratory, utility, dark, x-ray, waiting, office, consultation and treatment, nurses station, administration, clerical, toilet, and locker rooms.

3. Issues Identified to Date

Among those potentially significant environmental issues identified to date are the following:

a. *Treatment and Disposal of Liquid Wastes from Slaughterhouses*

b. *Utilization and Disposal of Solid Wastes from Slaughterhouses*

c. *Treatment and Disposal of Liquid Wastes from Wet Markets*

d. *Utilization and Disposal of Solid Wastes from Wet Markets*

e. *Treatment and Disposal of Comfort Room Wastes from Schools and Markets*

f. *Adequacy of Potable Water Supply for Schools and Markets*

g. *Public Health Standards for Food Handling at Wet Markets*

h. *Public Health Standards for Meat Handling at Slaughterhouses*

i. *Displacement of Informal Vendors and Squatters at Public Market Sites*

j. *Adequacy of Vehicle Parking and Standing Facilities at Public Markets*

k. *Dispersement and Disposal of Stormwater Runoff at Public Markets*

l. *Increased Congestion in the Vicinity of Downtown Market Sites*

m. *Displacement of Businesses and Residents Along Road Rights-of-Way*

C. Methodology

1. General

The Contractor shall establish a temporary presence in Manila in order to establish contact with all involved agencies and to conduct all necessary site investigations for the preparation of an Environmental Assessment fulfilling the requirements of USAID as specified in 22 CFR Part 216. It is envisage that the

draft document will be prepared in the Philippines with modest home office support. The document may be finalized in the United States.

2. Project Familiarization (Task 1)

a. Literature Review/Preliminary Contacts

In order to develop a basic understanding of the proposed project activities, the Contractor shall conduct a literature review and establish preliminary contacts with involved parties. Sources of project related literature include the LGIF Project Paper, the LGIF Design Report (Louis Berger International, Inc.), the LGIF Administrative Assessment (Punongbayan & Araullo), Impact Evaluation - Economic Support Fund Infrastructure Program: 1980 to 1991, and Process Evaluation of the Economic Support Fund Projects. The Contractor shall contact the Economic Support Fund Secretariat, the Office of the Mount Pinatubo Emergency (Department of Public Works and Highways), the Department of Environment and Natural Resources, and representative local government units to determine the extent and availability of data regarding related USAID infrastructure projects.

b. Review of Standard Design Documents for Subprojects

An integral component of this Scope of Work is the review of standard design documents for various subprojects being implemented under other AID-funded projects. The Contractor shall assess the adequacy of the designs with regard to environmental concerns with particular emphasis on water supply and wastewater disposal. The Contractor shall also assess the adequacy of contract provisions to protect the environment during the period of construction.

c. Site Reconnaissance

The Contractor shall visit public market subprojects, roads subprojects, and schools subprojects funded by USAID under other projects or funded by other donors in the various LGUs. This activity shall be initiated at least in part prior to the holding of the Scoping Session.

3. Scoping Process (Task 2)

In accordance with AID regulations, a scoping session will be held to inform interested parties as to the proposed scope of the Environmental

Assessment and to solicit their assistance in identifying the significant issues relating to the proposed action.

a. Project Description

The Contractor shall prepare a project description based on the LGIF Project Paper, the LGIF Project Grant Agreement, and other available documents.

b. Potential Environmental Issues

The Contractor shall develop a list of potential environmental issues which incorporate all findings from an initial review of available literature, preliminary contacts with involved parties, review of standard design documents, and initial site visits.

c. Proposed Investigations/Studies

Based on the list of potential environmental issues identified to date, the Contractor shall propose the nature and scale of investigations and studies that will address these potential issues.

d. Scoping Session Handout

The Contractor shall incorporate the results of the previous task and subtasks into a Scoping Session Handout which can be presented to the various involved groups identified as part of the subsequent subtask to inform them of the proposed activities and the proposed work plan to address potential environmental issues. Within the handout, the Contractor shall include discussion of the purpose of the Environmental Assessment and the role of the Scoping Session in the development of the Environmental Assessment.

e. Group Session with Concerned Parties

Once the Contractor has gained a basic familiarity with the existing situation and the proposed activities, a list of all major groups involved in the project shall be developed. The Contractor will, subject to USAID concurrence, invite representatives from each of these groups to a Scoping Session. At the Scoping Session, the Contractor shall discuss the proposed project activities, any findings to date, and a proposed work plan for addressing issues identified. The Contractor shall solicit comments with regard to the presentation and request assistance in identifying other

potential environmental issues. It is envisaged that the Scoping Session will be held in Manila under the auspices of the LGIF-PMO. The Contractor shall be responsible for making all logistical arrangements required for the meeting.

f Scoping Report

The Contractor shall prepare a Scoping Report which shall summarize preliminary findings and present issues and concerns raised at the Scoping Session. The Scoping Report shall include the Contractor's proposed work plan complete with schedule. The work plan shall discuss the nature and magnitude of studies and investigations which are proposed to address each of the major issues or concerns identified to date.

4. Environmental Assessment (Task 3)

The Contractor shall prepare an Environmental Assessment that conforms to the requirements of 22 CFR Part 216. The Environmental Assessment will address the major, substantive environmental issues identified and agreed upon during the scoping process.

a. Baseline Surveys and Data Collection

The Contractor shall conduct baseline surveys and collect data sufficient to categorize the existing environment relative to the issues and concerns identified in the Scoping Report. Among the major topics to be covered in this task are the following:

1) Climate and Meteorology

To be obtained from existing published sources.

2) Terrestrial Ecology

To be obtained from existing published sources.

3) Land Use

To be obtained from existing published sources.

4) Air Quality

To be obtained from existing published sources.

5) Noise

To be obtained from existing published sources.

6) Energy Supply

To be obtained from existing published sources and site visits to subprojects funded under previous AID projects.

7) Potable Water Supply

To be obtained from existing published sources and site visits to subprojects funded under previous AID projects.

8) Wastewater Collection Facilities

To be obtained from existing published sources and site visits to subprojects funded under previous AID projects.

9) Solid Waste Collection

To be obtained from existing published sources and site visits to subprojects funded under previous AID projects.

10) Archaeological and Historical Resources

To be obtained from existing published sources and site visits to subprojects funded under previous AID projects.

11) Socio-economic Conditions

To be obtained from existing published sources.

b. Identification and Analysis of Possible Alternative Actions

The Contractor shall identify and analyze possible alternatives to the proposed project. The analysis shall include an evaluation of capital cost, recurrent costs, training requirements, regulatory requirements, implementing agency capability, and operating agency capability. These

alternatives shall include, but not may not necessarily be limited to, the following:

1) No Action

Though each subproject in itself might be relatively insignificant with regard to its overall impact on a single LGU, it is important to note that a typical LGU will probably construct three or more subprojects under the LGIF. It is anticipated that the typical LGU will be offered a maximum planning budget of $1,250,000 which would be sufficient to finance the construction of all of the following:

- 3 medium-size public market modules
- 1 slaughterhouse
- 4 small-size public markets
- 1 high school science building (2-story)
- 3 3-classroom school buildings
- 2 kilometers of road

2) Alternative Types of Subprojects

The types of subprojects presently proposed for inclusion in the LGIF Project were selected for their ease of implementation by the LGUs based on experience with the Regional Development Fund Project which financed assorted small-scale infrastructure. The Contractor shall consider alternative types or categories of subprojects for inclusion in the LGIF Project and address the appropriateness of the selected types or categories.

3) Modifications to the Standard Designs and Contract Documents for Subprojects

Most of the standard designs and contract documents proposed for the LGIF Project have been field tested over a period of time and revised to suit the present construction environment. The Contractor will analyze these designs to determine whether or not they adequately protect the environment and the Contractor will propose, if appropriate, modifications and/or revisions to the standard designs and contract documents.

4) Additive or Supplemental Facilities for Subprojects

Certain supplemental facilities are available via design options for the various categories of subprojects. These supplemental facilities include detached comfort rooms for the 3-classroom school buildings, elevated water storage tanks for markets and schools, and wells for schools and markets. The Contractor shall review the adequacy of these design options and propose additional design options for consideration.

5) Alternative Implementing Arrangements

Certain program screens have been established for the LGIF Project which are designed to target those needy LGUs with the capability and capacity to implement subprojects effectively and efficiently. The Contractor shall consider the establishment of additional or supplemental program screens which would ensure that the candidate LGUs are capable of implementing subprojects in an environmentally sound manner. Alternatively or additionally, consideration shall be given to training requirements for candidate LGUs to educate them with regard to environmental concerns.

c. Assessment of Environmental Impacts

Based on the baseline environmental characteristics of the project area and on the proposed and alternative actions, the Contractor shall assess the primary and secondary environmental impacts associated with the overall project and the various categories of subprojects. This assessment shall also take into account potential impacts attributable to improper construction and improper operation and maintenance which may occur as a result of institutional weaknesses within the various LGUs.

d. Identification of Mitigation Measures

The Contractor shall identify and evaluate mitigative measures which might be adopted to eliminate or lessen potential negative

environmental impacts associated with the proposed and alternative actions.

1) Environmental Screening Criteria

Perhaps the most important element of the EA will be the establishment of environmental screening criteria for subprojects. It is envisaged that the vast majority of the subprojects constructed under the LGIF Project will not have potentially significant negative impact on the environment and, thus, will not require individual Environmental Assessments. Accordingly, the LGIF EA will include two screens which will eliminate those subprojects from the EA process which have relatively low environmental risk and target for further environmental review those subprojects which are likely to have significant adverse environmental impacts. The first screen will categorize subprojects by type and scale. The second screen will classify sites and the associated environment.

2) Standard Mitigation Measures for Various Categories of Subprojects

The Contractor shall recommend modifications and revisions to standard designs for the various types of subprojects in order to reduce the likelihood of negative environmental impacts. Likewise, the Contractor shall propose standard design additive or supplemental facilities to address common potential negative environmental impacts associated with the various categories of subprojects. Further, the Contractor shall review contract documents and, if appropriate, propose revisions to reduce any potential negative environmental impacts associated with the construction of infrastructure subprojects.

3) Simplified Guidelines for EA Process

For those subprojects which cannot be adequately covered by the above screening criteria and standard mitigation measures, the Contractor shall propose simplified guidelines for an Environmental Assessment Process which can be implemented by the LGUs with the assistance of the LGIF-PMO.

4) Environmental Plan of Action

An Environmental Plan of Action shall be developed to implement mitigation measures and monitoring requirements. The Environmental Plan of Action will define the responsible authority for each action.

e. Preparation of Draft Environmental Assessment

The Contractor shall prepare a draft Environmental Assessment to present to USAID and the LGIF-PMO the findings of the surveys and the results of analyses conducted as part of this Scope of Work.

f. Presentation of Findings

Prior to departure from the Philippines, the Contractor shall conduct a final briefing in Manila to present the findings of the Environmental Assessment to USAID, the LGIF-PMO, and the Department of the Environment and Natural Resources. This presentation shall include a recommended environmental plan of action to be followed by USAID, the LGIF-PMO, and the LGUs in the implementation of the various subprojects. The plan of action should prioritize actions to be taken, discuss how such actions can be conducted, and identify the time frame of the recommended actions.

g. Finalization of Environmental Assessment

After receipt from USAID of review comments and approval of the draft Environmental Assessment, the Contractor shall prepare a final version of the Environmental Assessment for distribution by USAID.

D. Required Submissions

1. Scoping Session Handout

a. Format

Unless otherwise approved by the USAID Project Officer, the Scoping Session Handout shall conform to the following format:

1) Purpose of Environmental Assessment and Role of Scoping Session

2) Description of the LGIF Project

3) Present Status of Project Activities

4) Potential Environmental Issues Identified to Date

5) Proposed Scope of Environmental Assessment

b. Schedule

The Scoping Session Handout shall be distributed to each of the attendees at the opening of the Scoping Session.

c. Quantity and Distribution

The Contractor shall have available for distribution at the Scoping Session sufficient copies of the Handout for the number of invited guests. In addition, the Contractor shall submit six (6) copies of the Handout to USAID/Manila for its records.

2. Scoping Report

a. Format

Unless otherwise approved by the USAID Project Officer, the Scoping Report shall conform to the following format:

1) Description of the LGIF Project

2) Preliminary Findings from Literature, Contacts, Site Reconnaissance, and Review of Standard Designs

3) Results of Scoping Session

4) Issues Identified to Date

5) Proposed Work Plan including Schedule

6) Appendices

- Minutes of Meeting (abbreviated)
- List of Invitees/Attendees

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b. Schedule

The Scoping Report shall be submitted to USAID/Manila within 14 calendar days of the date of the Scoping Session.

c. Quantity and Distribution

The Contractor shall submit ten (10) copies of the Scoping Report to USAID/Manila for review and approval.

3. Environmental Assessment

a. Format

Unless otherwise approved by the USAID Project Officer, both the draft and final versions of the Environmental Assessment shall conform to the following format:

1) Executive Summary

2) Description of the Proposed Action and Alternatives

3) Description of the Existing Environment

4) Assessment of Environmental Impacts

5) Recommended Mitigative Measures

6) Annexes

b. Schedule

The draft Environmental Assessment shall be presented within 60 calendar days of the mobilization date for the work order and the final Environmental Assessment within 21 calendar days of receipt from USAID of comments on the draft document.

c. Quantity and Distribution

The Contractor shall submit ten (10) copies of the draft EA and thirty (30) copies of the final EA to USAID/Manila for review and approval.

E. Approvals

In addition to approvals to be obtained form USAID/Manila (Scoping Session Handout, Scoping Report, draft Environmental Assessment, and final Environmental Assessment), the Contractor will be required to obtain approvals from:

1. Environmental Coordinator for the Bureau for Asia

The Contractor will be required to submit the Scoping Report and the draft Environmental Assessment to the Bureau Environmental Coordinator for the Bureau for Asia in AID/Washington for review and approval. Accordingly, the Work Plan contained in the Scoping Report will be modified, if necessary, to comply with the requirements of the Bureau Environmental Coordinator.

2. The Department of Environment and Natural Resources

The Contractor will be required to determine the requirements of the Government of the Philippines for issuance of an "Environmental Compliance Certificate" for the various categories of subprojects and ensure that the Environmental Assessment adequately addresses the procedures for same. The Contractor will obtain DENR's approval of the proposed guidelines and simplified procedures to be used by the LGUs for obtaining environmental clearances for the subprojects.

F. Composition of Team

This Scope of Work shall be performed by a team composed of citizens of the United States supported by a local staff of citizens of the Philippines. All categories of professional personnel shall have not less than ten (10) years of experience in their respective skill areas. The key members of the team will be as follows:

1. Team Leader

The Team Leader shall have demonstrated experience of a comprehensive nature in the preparation of environmental assessments for infrastructure projects. It is desirable that the Team Leader have previous experience with AID-financed capital projects. The Team Leader shall have primary responsibility for drafting the Environmental Assessment.

2. Sanitary Engineer

The Sanitary Engineer shall have demonstrated experience with both water and wastewater facilities. The Sanitary Engineer shall have primary responsibility

for the review of standard design documents and the identification and analysis of alternative types of subprojects, modifications to the standard designs, and additive or supplemental facilities.

G. Schedule

The Contractor should be mobilized and be performing work in-country by not later than 16 March 1992. All activities under this Scope of Work should be completed by 15 June 1992.

H. Projected Levels of Effort

The projected level of effort required for the performance of this Scope of Work is 100 person-days of professional level skills plus 125 person-days of local support services.

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APPENDIX D-6

AMPLIFIED PROJECT DESCRIPTION

LOCAL GOVERNMENT INFRASTRUCTURE FUND
Amplified Project Description
August 31, 1991
Update 7

In response to a tighter national budget and the need to construct or rebuild infrastructure for a growing population, the GOP has shifted to a strategy of devolving authority and financial resources to local governments. The proposed Local Government Code, currently under review by the Philippine legislature, targets increasing the LGUs' share of national internal revenue taxes from its present level of 11 percent to 40 percent by 1994.

The LGIF project concurs with the GOP's belief that LGUs are more efficient than a central authority in determining the types of projects and in implementing them, and are more responsive to the needs and desires of its citizens. As more revenues come under the control of LGUs, however, their administrative and technical capacities will need strengthening. The LGIF project will support that effort.

I. PROJECT GOAL AND PURPOSE

The goal of the Local Government Infrastructure Fund (LGIF) project is to promote private sector led growth and diversification by alleviating infrastructure constraints in various provinces and chartered cities of the Philippines. The project purpose is to construct critically needed small scale infrastructure by local governments, specifically provincial and charter city governments.

By the end of the project, it is anticipated that at least seventy local governments will be fully competent to plan and design small scale infrastructure projects, and to control the processes and administer the funds necessary to implement them. At least 90 small infrastructure projects should be planned, designed, and constructed by local governments which will facilitate growth in the private sector.

II. PROJECT DESCRIPTION

The LGIF Project will consist of subproject construction supported by feasibility studies and training. To determine eligibility, a particular LGU will need to pass through a two-step screening phase. The first level will screen an LGU to determine whether a need is unmet for a particular type of subproject. Also at this stage, the LGU must demonstrate success in general government performance in areas such as tax collection rates, etc. A second-level screen will determine whether the prospective LGU has the necessary contracting, engineering, and administrative capacity to complete infrastructure subprojects of a limited scale. Those LGUs deemed eligible will enter into agreements with a streamlined implementing organization (IO). The agreements will

specify infrastructure subprojects chosen from a list of selected and standard subprojects included in the respective LGU's development plans.

COMPONENT A--SUBPROJECTS

This component will fund the construction of approximately 150 subprojects. It is expected that most of the infrastructure will be undertaken directly by LGUs, though a portion -- to be determined during project implementation -- may be carried out directly by the implementing organization in response to any necessary disaster reconstruction. Of those done by LGUs, selected local governments will receive an amount of pesos to fund specific projects from a menu of standard subprojects. Standard subprojects eligible for funding include infrastructure such as school houses, roads, and public markets.

LGUs independently will contract the services of an a construction management and engineering services (CMES) contractor, approved by the implementing organization, to site-adapt the standard design to a specified location. LGUs will also contract a construction firm to undertake actual subproject construction from an approved list maintained and validated by the IO. The amount of funding LGUs receive will be based on an established fixed amount determined by USAID and the IO. This amount will be based on the estimated cost to construct a standard design, but may be adjusted throughout the project to take into account the most current cost experience. The IO will then enter into a formal agreement with the LGU, which will include specific conditions of repayment for nonperformance or substandard performance.

The subproject component will also fund emergency reconstruction of infrastructure damaged as a result of natural disasters. Because of the need to reconstruct facilities as quickly as possible, and because some of the prospective sites may be in areas where LGUs do not have the capability to implement the subproject, contracting and implementation activities related to emergency reconstruction will be undertaken by the technical assistance contractor to the Implementing Organization. These activities will follow accelerated procedures to insure that repair and reconstruction are accomplished as soon as possible. Design and construction disaster work will be accomplished through accelerated procedures, such as pre-qualifying construction firms and selecting construction supervision firms by lottery from the list of pre-qualified construction supervisors.

Starting with the second year's obligation of funds into the LGIF Project, the IO will set aside and commit up to $10 million for emergency reconstruction if warranted. At the end of the year any left over or uncommitted funds will be carried over into the following year. The following year's obligation will set aside

funds so that the total remains at $10 million. At no time will there be more than $10 million in the disaster "pipeline" under this arrangement, but considerably more could be spent for disaster relief over the life of the project if necessary.

COMPONENT B--SUPPORTING FEASIBILITY STUDIES

To insure that the most viable projects are selected, the project will make assistance and funding available for feasibility studies to reach objective investment decisions and determine the feasibility of a subproject. It is expected that the feasibility component will improve the integrity of analysis of subproject selection. The studies will be conducted by the Technical Services contractor attached to the Implementing Organization.

Each LGU participating in the project will select its infrastructure projects based on an amount of funds reserved by the IO for feasibility studies and actual subprojects. It is anticipated, therefore, that more feasibility studies will be done than actual follow-on subprojects.

III. PROJECT IMPLEMENTATION

A. THE ROLE OF THE IMPLEMENTING ORGANIZATION

A streamlined implementing organization (IO), reporting directly to the Office of the President, will implement the project. With the shift to an emphasis of local government control and implementation, the role of the IO will be to coordinate, facilitate, and monitor project implementation.

With that orientation, the project will use a direct contract with an engineering consultant team to conduct day-to-day operations. As recommended in a management assessment conducted for this project, the IO will function as managers rather than implementors. Staffing should therefore be limited to the minimal number of government employees needed to monitor the project.

B. PROJECT ORGANIZATION

1. Implementing Organization.

One possible organizational configuration is detailed below:

The IO will be headed by an Executive Director, and organized into two divisions: Technical Services, which encompasses all operational functions, and Finance and Administration. Each of the two divisions will be directed by a Deputy Executive Director, and will be further subdivided into

sections, the specific duties and responsibilities of which are outlined below. (The attached proposed organizational chart presents a possible organizational scheme.)

The Technical Services division will be composed of a technical services section and a construction oversight section. The technical services section will be responsible for:

- -- producing and revising standard designs;
- -- reviewing and approving detailed engineering of the proposed subprojects;
- -- collecting and analyzing subproject impact data;
- -- coordinating with LGUs and other GOP agencies;
- -- preparing IO plans;
- -- providing legal services to the IO and assistance to LGUs;
- -- preparing and updating lists of eligible CMES and construction contractors;
- -- reviewing LGU disbursement reports; and
- -- initial and annual verification of LGUs

A construction oversight office organized within this division will be responsible for:

- -- reviewing abstracts of bids prepared by LGUs;
- -- monitoring the performance of the CMES;
- -- quarterly spot checks of the performance of construction contractors; and
- -- final inspection of all subprojects.

It is anticipated that the Technical Services Division will be staffed by approximately three GOP employees (including one of the two Deputy Directors) who will oversee an engineering consultant firm (of about 24 persons) actually carrying out the responsibilities listed above.

The Finance and Administration Division will also be divided into two sections. The finance section will be responsible for all financial, budgeting, and accounting functions. They will process and pay all vouchers for contractors and consultants, forward money to local governments to implement infrastructure agreements, and monitor through a contractor the use of these funds by the LGUs. It will make disbursements from a peso account and report drawdowns of that account to the Administration Section, which directs the management information system section, so that the quarterly reports to USAID will result in timely and appropriately sized semi-annual dollar disbursements.

The administration section will maintain the management information system, the technical library, and provide support staff. It will produce quarterly implementation reports and impact analysis for the Implementation Review Committee based on the data generated by the Technical Services Division. The administrative section will also be responsible for personnel actions concerning

the IO staff, and any other administrative support required by the consultants. The Finance and Administration Division will be staffed eight GOP employees and a contractor providing accounting and administrative services (approximately 27 persons).

2. Local Government Units/IO Relationships

The LGUs and the IO will enter into a series of agreements that will:

1) approve IO funding for the infrastructure subproject,
2) accept the feasibility study for the subproject (either funded through or outside this project),
3) specify the standards of design
4) identify an approved construction management and engineering services (CMES) firm,
5) specify the contracting procedures and schedules (including the timing of planned disbursements by the IO) to be followed in implementation,
6) establish progress and other reporting requirements,
7) describe any refund procedures, including refunds, in cases of poor or nonperformance, and any other conditions deemed necessary or appropriate.

Agreements between the IO and LGUs will be based on proposals from the local government's development plan. Specific proposals will demonstrate economic, financial, social, and environmental feasibility based on earlier feasibility studies. Construction plans for subprojects will be selected from a library of standard designs. It is expected that the library will be restricted to primary, secondary, and vocational schools, roads connecting farms to markets, towns to towns, or linking existing transportation infrastructure, and small, medium, or large standardized market buildings.

Since the goal of the project is to promote private sector led growth, subproject selection should be geared to subprojects likely to result in private sector growth and participation. It is expected that local governments will make a real effort to involve the private sector in the subprojects through co-financing, leasing facilities, etc. LGUs that develop innovative approaches for private sector participation, for example, schools or markets leased to the private sector on financially sound terms for operation, will receive special attention. Likewise, feasibility studies for roads should demonstrate positive impact on private sector investment or business expansion.

C. LOCAL GOVERNMENT PARTICIPATION

Local governments will participate in this project based on their need for small scale construction projects and their

managerial capacity to take advantage of decentralization policies. Need will be determined by a list of mutually-agreed socioeconomic factors, such as unemployment, average family incomes, road-to-land ratios, population-to-road ratios, pupils per classroom, hospital beds per population, etc.

Managerial capacity will be determined by a mutually-agreed formula such as an LGU's ability to generate new local revenues and improve tax collection efficiency as well as the capacity to implement small-scale construction projects. Assessments of potential LGUs will be carried out through an existing direct contract. These assessments will be conducted annually and local governments will be added over the life of the project based on their ability to meet the criteria.

Local governments that have high need for small scale infrastructure subprojects but are only marginally capable of implementing them will be assisted by a training consultant hired to improve this ability. The nature of the training given to local governments will be determined by the capability testing. At the other end of the spectrum, those participating LGUs that demonstrate improvement in the variables used to define eligibility, will graduate out of the program. In either instance, those LGUs below or above the thresholds will have their eligibility revalidated annually.

Once the agreement between the IO and the LGU is in place, the local government will undertake the subproject. The LGU will bid and award construction and other required contracts, establish subproject monitoring systems, and issue notices to proceed. It will monitor construction progress, and ensure compliance with the standards and procedures contained or approved in the agreement.

D. IMPLEMENTATION REVIEW COMMITTEE

A senior-level Implementation Review Committee (IRC) will be established to monitor overall implementation and achievement of decentralization objectives. This committee will meet quarterly to assess implementation progress of the Implementing Organization and LGUs and formulate corrective action where necessary. The IRC will be chaired by an Undersecretary from the Office of the President and include as members senior representatives from three or four departments such as the Department of Budget and Management (DBM), the IO, DPWH, DILG, and USAID. A related responsibility of the IRC will be to approve additions to the list of local governments eligible to participate in the project based on established criteria.

E. PROCUREMENT

To accelerate procurement of technical and scientific equipment for schools, a special procurement agent will be

contracted to undertake all commodity procurement. The GOP undertakes to allow all items procured to enter the country duty free and to clear customs expeditiously. The IO will be the key government agency to facilitate the clearance of commodities through customs.

F. CONTRACTING

The following functions will be performed under AID-Direct contracts. Whenever possible these categories will be combined in one (or more) contract(s) to eliminate excessive contracting.

- administration/management information,
- engineering/construction oversight,
- finance/budgeting/accounting,
- monitoring/evaluation,
- training,
- construction management and engineering (CMES), and
- procurement (PSA).
- process and impact evaluations

IV. DISBURSEMENTS

Objective: Project dollars will be disbursed semi-annually to the Government of the Philippines (GOP) based on actual IO performance in implementing the project. Those dollars will be used by the GOP to repay official U.S. debt as mutually agreed upon. During each quarter, the IO will forward a report to USAID detailing planned performance for the quarter and actual performance during the last quarter. The USAID disbursement will be based on two consecutive such reports, and the size of the disbursement will be determined by planned performance adjusted by actual performance. In this manner, USAID disbursements should correspond to performance on the part of the IO.

Dollar Disbursement: The disbursed dollars will be deposited in an account in the Philippine National Bank, New York City, which will inform the Central Bank of the Philippines that the deposit has been received. The separate dollar account mentioned above and maintained with Philippine National Bank in New York will constitute the LGIF Dollar Special Account (herein referred to as the Special Account). Funds deposited into this account will not be commingled with other funds. The account will be credited for any interest earned as well as any GOP refunds for unacceptable disbursements from the Special Account.

Disposition of Dollars: The funds held in the Special Account will be used for payment of prospective official U.S. non-military debt obligations in accordance with mutually agreed upon plans or for other purposes as A.I.D. may agree to in writing. The GOP will disburse dollars from the Special Account in accordance with the debt service obligation schedule identified in these plans. All

dollar disbursements will be drawn directly from the Special Account and paid directly to the payees listed in the implementation plan for the amounts specified on the given due dates.

Disposition of Pesos: The Central Bank will immediately make a corresponding deposit of pesos in an account in Manila. Those pesos will then be promptly released via normal GOP budget processes to the IO for use in the project. The quarterly report from the IO will detail the actual performance of the IO in disbursing the pesos in payment for the subprojects. The USAID and IRC will use the report to verify project progress.

V. MONITORING AND EVALUATION

A. MONITORING

LGIF will be monitored at four levels:

1) At the technical level of monitoring, the contractor attached to the IO will monitor CMES consultants hired by the LGUs and the subproject construction firm.

2) The same contractor will also monitor subproject implementation to identify administrative impediments, at the levels of the LGU and the IO.

3) On a third level, a contracted accounting firm will undertake financial monitoring of disbursement documents that release funds from the IO to the LGUs. It will compare LGU expenditure documents to verify liquidation of advances and whether, in fact, the participating LGU requires any additional advances.

4) The project will start data collection early that will be used to measure impact at the purpose level.

The IO will have primary responsibility for monitoring and reporting on the performance of the local governments, and the local governments will have primary responsibility for monitoring and reporting on construction progress. The IO will be supported by the technical monitoring and evaluation consultant In addition, the IO will spot-check performance of both construction and CMES contractors, and USAID will spot-check construction as well as the performance of the IO and local governments.

The local governments will prepare monthly reports to the IO detailing progress. The monitoring and evaluation contractor will also reports on local government performance, subproject impact measured against baseline data, and construction status. The Implementing Organization will issue a quarterly progress reports covering IO operations, program operations, local government performance, and construction progress. These quarterly reports will form the primary basis for dollar disbursements by USAID.

At the end of the second year of the project, a process evaluation will review the performance of the IO, the local governments, and the contractors involved project and make recommendations for the improvement of processes or performance. Based on the findings, USAID will make a decision regarding levels and timing of future year funding for the project. In the final year of the project an evaluation will examine the impact of the project on decentralization, local government performance, the local economy and private sector growth. This will be based on

baseline date gathered during and after subproject implementation. A limited number of key performance indicators of economic and social impact will be identified to reflect anticipated results of these subprojects. For schools, performance indicators include:

- -Total Enrollment by class/cohort grade
- -Average number of students in class (class size)
- -Ratio of students to teachers
- -Average annual drop-out rate
- -Maintenance expenditures by classroom building

For markets, performance indicators include:

- -Total number and percentage of stalls currently occupied
- -Total revenues to the LGU on a semi-annual basis
- -Total expenditures
- -Maintenance expenditures
- -Number of stall operators' terminating business in the markets
- -Number of new businesses starting business in the market or on its periphery

For roads key indicators are:

- -Number of jeepneys and motorized tricycles providing transportation along the improved road section
- -Average fare charged by jeepney and tricycle operators for travel from the beginning to the end of the improved road section
- -Number of new businesses established along or near the road
- -For larger roads, an annual traffic count

In keeping with the Project's decentralization objectives the Mission will also track increased performance and capabilities through key performance indicators of increased tax collection rates and increased maintenance budgets.

B. EVALUATION

At the end of the second year of implementation, the project will fund a process and an initial impact evaluation based on the data collection mechanism described above. In terms of process, an outside contractor (perhaps a Gray Amendment firm) will review the processes established for: 1) preparing, clearing, submitting, and reviewing subproject proposals; 2) negotiating, signing, and implementing subproject agreements; and 3) monitoring and reporting implementation progress. The evaluation team will review the performance of USAID, the staff of the Implementing Organization, local governments, and contractors involved in implementation.

To assess impact, the evaluation team will review the

data generated on the key performance indicators (mentioned in the preceding section), and determine whether small-scale infrastructure has a multiplier effect in terms of economic development at both the local and national levels.

At the conclusion of the project in year five, an impact evaluation will again be carried out to measure the total impact of the project. More specifically data generated throughout the life of the project will be analyzed to measure the extent to which the project met the project's goal, that is, to promote private sector led growth through the construction of critically needed infrastructure.

VI. ILLUSTRATIVE BUDGET

LGIF PROJECT BUDGET
($000)

1.	Subprojects	86,000
2.	Feasibility Studies	2,000
3.	Commodities	1,934
4.	TA	8,516
5.	Training	1,000
6.	Monitor and Evaluation	550
	TOTAL	100,000

VII. CONDITIONS AND COVENANTS

A. CONDITIONS PRECEDENT TO DISBURSEMENTS

1. Initial Disbursement

Except as A.I.D. may otherwise agree in writing, prior to any disbursement or the issuance of any documentation pursuant to which disbursement will be made, the Cooperating Country shall furnish, in form and substance satisfactory to A.I.D.:

a. receipt of counsel acceptable to A.I.D. that this Agreement has been duly authorized or ratified by, and executed on behalf of, the Grantee and that it constitutes a valid and legally binding obligation of the Grantee in accordance with its terms;

b. a statement describing the organizational structure of the IO and designating the individuals acceptable to USAID who will occupy key positions. The statement should also list the project's counterparts in DOF and the Office of the President;

c. a statement of the names of persons and their respective titles whom the GOP has designated as members of an Implementation Review Committee, with its representatives coming from agencies such as Office of the President, DPWH, and DILG, to monitor the performance of the IO.

Prior to disbursement of funding for other than technical assistance:

a standard IO/LGU subproject agreement approved by the government satisfactory in form and substance to USAID, which includes the authority of the IO to attach DBM funds designated for particular LGUs that have received funds under this project but have willingly or unwillingly not complied with the terms of the agreements signed between the IO and them;

COVENANT Disbursement from the Special Account

Prior to each dollar disbursement from the Special Account, the GOP will, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D., evidence that:

a. a schedule of payments, identifying payees, amounts and due dates proposed to be made by the GOP using dollars and any interest earned on funds held in the Special Account;

b. a statement of the name, branch, and U.S. Federal Reserve Bank Branch number of each bank with which the dollars are

to be disbursed; and

c. evidence that payments in connection with any prior disbursement for U.S. dollars have been made from the Special Account.

APPENDIX D-7

LGIF PROJECT FLOW OF EVENTS AND COMMON ISSUES

LOCAL GOVERNMENT INFRASTRUCTURE FUND
Flow of Events

1. LGIF-PMO Establishes Selection Criteria

LGUs for purposes of the Project are defined as chartered cities and provinces. The selection process will target those LGUs with the most pressing need and with demonstrated performance with regard to implementing small-scale infrastructure projects.

2. USAID Approves Selection Criteria

3. LGIF-PMO Informs Potential Candidates of LGIF Project and Seeks Expressions of Interest

4. LGU Selection Process

A two-stage screening process will be used to select candidate LGUs. The first stage of the screening process will rank LGUs based upon combined need and performance. Need will be assessed using easily obtainable data such as unemployment rates, average family income, number of students per classroom, and number of persons per hospital bed. Performance will be assessed based upon tax collection efficiency. Initial thresholds will be established for need and performance – those LGUs with average annual family incomes greater than the established threshold and with real property tax collection efficiency less than the established threshold will be excluded from the first round of funding. The second stage of the screening process will consist of an assessment of the capabilities of those LGUs passing the first screen. This assessment will be conducted by a local CPA firm and will examine 1) the ability to account properly for funds, 2) past performance with donor funded and/or centrally funded infrastructure projects, 3) contracting capability, 4) project management capability, and 5) technical depth of personnel.

5. USAID Approves List of Selected LGUs

Based on projected funding levels, it is anticipated that not more than 20 LGUs will be approved for participation in the first round of funding.

6. Planning Budget Established for Each of the Selected LGUs

It is anticipated that the maximum initial planning budget offered to any single LGU in the first round of funding will be on the order of magnitude of P30 million. The budget would be sufficient to fund a mix of subprojects which would include public markets, school buildings, and roads. All candidate LGUs would be offered that portion of the budget covering public markets, but only those LGUs with demonstrated need would be offered that portion of the budget covering roads and markets. However, each LGU would be afforded the opportunity to program the offered budget as it sees fit, e.g., an LGU could program its entire budget for roads even though the offered budget did not include an allowance for roads.

7. USAID Approves Budgets for Each LGU

8. Each LGU Submits Its List of Candidate Subprojects

Each LGU will be encouraged to submit candidate subprojects with a total estimated value in excess of the proposed budget. Feasibility studies will be used to assist the LGU in rank ordering the candidate subprojects. Only those types of subprojects included the library of standard designs approved by USAID will be eligible for funding under the LGIF. It is anticipated that this library will initially include the following types of subprojects:

Medium-Size Public Market Module (Wet/Dry)
Medium-Size Public Market Module (Dry)
Medium-Size Public Market Module (Wet)
Small-Size Public Market
Slaughterhouse
Provincial Road (Concrete)
Provincial Road (Gravel)
Barangay Road (Concrete)
Barangay Road (Gravel)
City Street (Concrete)
City Street (Bituminous)
Bridge (Concrete)
3-Classroom School Building
High School Science Building (2-Story)
High School Science Building (3-Story)
10-Classroom School Building
12-Classroom School Building
14-Classroom School Building
16-Classroom School Building
18-Classroom School Building
Health Center - *only eligible under disaster component of LGIF*

9. LGIF-PMO Conducts Environmental Review of Candidate Subprojects

USAID is proceeding with a project-scale Environmental Assessment that will develop environmental screening criteria for use in the review of subprojects. The LGIF-PMO will be responsible for ensuring that an environmental review is conducted for each subproject in accordance with the criteria contained in the approved LGIF Environmental Assessment.

10. USAID Concurs with Environmental Reviews and List of Candidate Subprojects

11. LGIF-PMO Develops List of Prequalified A-E Firms

The LGIF-PMO will maintain a list of prequalified A-E firms. LGUs using project funds for feasibility studies, site adaption of standard designs, and/or construction inspection will be required to contract with an A-E firm from the master list of prequalified A-E firms.

12. USAID Concurs with List of Prequalified A-E Firms

13. LGIF-PMO Authorizes Funding for Feasibility Studies

For those candidate subprojects for which the LGU does not already have a feasibility study completed in a form acceptable to the LGIF-PMO, project funds may be authorized for the development of a new study or to update or upgrade a previous study.

14. LGUs Contract for Feasibility Studies

In most cases, it is anticipated that the LGUs will take primary responsibility for the development of feasibility studies. However, the LGIF-PMO may contract directly for certain feasibility studies when there is considerable redundancy and packaging of a number of small activities is required for efficiency in the procurement of A-E services.

15. LGIF-PMO and USAID Review Completed Feasibility Studies

Feasibility studies must demonstrate that a subproject is financially viable, economically justified, and technically sound if it is to be funded under the LGIF.

16. LGIF-PMO Develops List of Prequalified Construction Contractors

The LGIF-PMO will maintain a list of prequalified construction contractors for civil works to be funded under the LGIF. LGUs using project funds for civil works will be required to permit any firm from the prequalified list to participate in the bid process.

17. USAID Approves List of Prequalified Construction Contractors

18. LGUs Make Final Selection of Subprojects and Submit Same to LGIF-PMO

19. LGIF-PMO Develops "Mutually Agreed Upon Subproject Costs"

The LGIF-PMO will maintain a computer-based program of construction costs for each type of subproject approved for inclusion in the LGIF library of standard designs. This cost program will include not only the original contract cost, but also variation orders encountered (including price escalations). Cost data will be indexed geographically (by region) to the extent practicable. In addition, general price indices, tied to the calendar quarter of contract execution, will be maintained for small-scale infrastructure as a whole and updated not less than semi-annually. This data base will be used to establish the "mutually agreed upon subproject cost" for each subproject financed under the LGIF. This "mutually agreed upon subproject cost" will be sufficient to cover typical variation orders encountered in a subproject of similar design, will be adjusted geographically, and will be indexed to the proposed date of contract execution.

20. USAID Approves "Mutually Agreed Upon Subproject Costs"

21. LGUs Select A-E Firm for Site Adaption and CMES

The LGUs will select A-E firms from the approved master list of prequalified firms maintained by the LGIF-PMO. The contract shall be subject to the approval of the LGIF-PMO (i.e., the LGIF-PMO enters into a subproject agreement with the LGU) and the availability of funds (i.e., USAID approves the subproject agreement).

22. LGIF-PMO and LGUs Enter Into Subproject Agreements

The LGIF-PMO will enter into a subproject agreement with each LGU which will specify the fixed amount of funding that will be provided for each subproject. In addition, the agreement will specifiy the standards of design and construction, identify the approved CMES firm that will oversee construction, specify contracting procedures, establish schedules for construction and fund disbursement, establish reporting requirements, and describe in detail refund procedures in cases of poor or nonperformance.

23. USAID Approves Subproject Agreements

24. Quarterly Advances Issued to LGUs

25. A-E Firms Site Adapt Standard Designs

26. LGUs Contract for Civil Works

27. LGIF-PMO Approves Executed Contracts for Civil Works

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LOCAL GOVERNMENT INFRASTRUCTURE FUND
Maximum Initial Planning Budget
(example)

3 Medium-Size Public Market Modules	$300,000
1 Slaughterhouse	$120,000
4 Small-Size Public Markets	$100,000
1 High School Science Building	$220,000
3 3-Classroom School Buildings	$100,000
2 Kilometers of Road	$410,000
TOTAL	**$1,250,000**

Note: That portion of the planning budget in support of school buildings will not be offered to those LGUs with an average student-to-classroom ratio of less than 40:1. Likewise, that portion of the budget in support of roads will not be offered to those LGUs with more than 1 kilometer of road per square kilometer of land area. However, each LGU will be afforded the opportunity to program the offered budget as it sees fit, e.g., an LGU could program its entire budget for roads even though the offered budget did not include an allowance for roads.

LOCAL GOVERNMENT INFRASTRUCTURE FUND
Common Issues

1. Funding Levels

Under the present Project Grant Agreement, USAID will make available up to $12 million for the LGIF. It is anticipated that this amount will be increased to $30.5 million during this fiscal year. Presently, the Life of Project funding amount is $50 million (reduced from the original $100 million).

2. Number of LGUs

For the purposes of LGIF, local government units (LGUs) are defined as the provincial and chartered city governments. Municipalities and barangays will not participate directly in LGIF, but may participate through their provincial and city governments. LGIF will select LGUs from the 73 provinces and 60 cities. Not all LGUs will participate in LGIF. Funding constraints will probably limit the number of participating LGUs to betweem roughly 20 to 30 for the first round of funding. It is unlikely that more than 60 LGUs will participate in LGIF over the life of the project.

3. Number of Subprojects

The number of subprojects will be contingent on the actual funding levels and on the actual types of subprojects selected by the participating LGUs. It is anticipated that most subprojects will have a construction cost between $30,000 and $1,000,000. It is envisaged that the average subproject cost will be in the range of $200,000 to $500,000. USAID presently proposes to release about $22.5 million for the first round of funding -- this should cover the construction of roughly 40 to 100 subprojects. It is estimated that between 80 and 200 subprojects will be constructed over the life of the project.

4. Performance-Based Disbursing Method

A performance-based disbursing method is being used in lieu of the traditional cost reimbursement method. Peso releases to LGUs will be based on subproject performance rather than reimbursement of payments to contractors.

5. Contractor's Relationship with the GOP Project Director

Though the Contractor will be contractually obligated to USAID and will receive "Technical Directions" from the USAID Project Officer, it should be fully understood that the primary function of the Contractor is to perform the day-to-day work of the LGIF-PMO and that to accomplish this function in a satisfactory manner the Contractor must coordinate all activities with the Government of the Philippines officers of the LGIF-PMO. Accordingly, the contractor will report administratively to the Project Director (Government of the Philippines official) of the LGIF-PMO. The Project Director and his officers represent the executive level management of the LGIF-PMO and should not be considered to be subservient to the Contractor.

6. Support to GOP Staff

It is envisaged that the Contractor will provide complete support to the GOP staff. This support will include provision of office space and furnishings, secretarial support, office supplies, office equipment, and the like for approximately 15 GOP employees.

7. Not a Training Project

Training activities under the LGIF will be minimal and will be directly linked to project implementation. It is anticipated that many of the LGUs not qualifying for participation in LGIF will lack skills that can easily be upgraded through short-term, in-country training in specific areas. The Contractor will arrange for such training.

8. Existence of Master Lists of Prequalified Constractors

Though the Contractor may be able to obtain listings of CMES firms and construction firms presently engaged in small-scale infrastructure activities within the Philippines, the Contractor should anticipate that a complete evaluation of the capacity and capability of each firm will be required.

9. No "Turn-Over" of RDF Subprojects by the ESF Secretariat

The LGIF Project is a distinct project and is completely separate from the RDF Project. The LGIF-PMO will not take-over any subprojects started by the ESF Secretariat under the RDF Project. Incidentally, the RDF Project expires on 30 August 1992.

10. Role of the Implementation Review Committee (IRC)

An Implementation Review Committee (IRC) will be established to monitor the progress of the implementation of the components of the LGIF Project and achievement of project objectives. This committee will meet quarterly to assess implementation progress of the LGIF-PMO and the LGUs and to formulate appropriate action where necessary. The IRC will be chaired by an Undersecretary from DPWH and include as members USAID and senior representatives from three or four departments such as DBM, NEDA, DOF, Office of the President, and DILG. The IRC will approve the list of LGUs based on established criteria. As a guiding principle, the IRC will ensure through its review process the equitable balance of subprojects among the eligible LGUs to prevent any particular LGU from capturing a preponderant share of project funding, and to achieve broad distribution on a nationwide basis in accordance with Project objectives.

11. LGUs Will Not Be "Computerized"

It is <u>not</u> anticipated that computers will be procured for LGUs under the LGIF Project.

12. LGIF's Priorities

The goal of the LGIF Project is to promote private sector led growth and diversification. Accordingly, priority will be given to public markets (including slaughterhouses) and roads.

13. Subproject Types

Presently, the GOP has a number of standard design drawings for markets, roads, and schools which have been used for past USAID-funded subprojects. It is anticipated that these standard designs can be readily adapted to the LGIF Project with some modest revisions. Additionally, it is anticipated that new standard design drawings can be developed for slaughterhouses and small-size public markets using existing design concepts. Other categories of small-scale infrastructure subprojects could be included in the LGIF Project if such subprojects support private sector led growth. Standard design documents are favored in order to simplify the implementation process for the LGUs.

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APPENDIX E
DENR REFERENCE DOCUMENTS

E-1 Presidential Decree 1586
E-2 Presidential Proclamation 2146
E-3 DENR Administrative Order No. 21, Series of 1992
E-4 List of Exemptible Projects to EIA Requirements
E-5 Draft Memorandum of Agreement
E-6 Draft Manual on Environmental Impact Assessment
E-7 DENR Administrative Order No. 35 Series of 1990
E-8 DENR Administrative Order No. 2 Series of 1991

APPENDIX E-1

PRESIDENTIAL DECREE 1586

MALACAÑANG
Manila

PRESIDENTIAL DECREE NO. 1586

ESTABLISHING AN ENVIRONMENTAL IMPACT STATEMENT SYSTEM INCLUDING OTHER ENVIRONMENTAL MANAGEMENT RELATED MEASURES AND FOR OTHER PURPOSES.

WHEREAS, the pursuit of a comprehensive and integrated environmental protection program necessitates the establishment and institutionalization of a system whereby the exigencies of socio-economic undertakings can be reconciled with the requirements of environmental quality;

WHEREAS, the regulatory requirements of Environmental Impact Statement and Assessments instituted in pursuit of this national environmental protection program have to work into their full regulatory and procedural details in a manner consistent with the goals of the program.

NOW, THEREFORE, I, FERDINAND E. MARCOS, President of the Philippines, by virtue of the powers vested in me by the Constitution do hereby order and declare.

SECTION 1. *Policy.* — It is hereby declared the policy of the State to attain and maintain a rational and orderly balance between socio-economic growth and environmental protection.

SEC. 2. *Environmental Impact Statement System.* — There is hereby established on *Environmental Impact Statement System* founded and based on the environmental impact statement required, under Section 4 of Presidential Decree No. 1151, of all agencies and instrumentalities of the national government, including government-owned or controlled corporations, as well as private corporations, firms and entities for every proposed project and undertaking which significantly affect the quality of the environment.

SEC. 3. *Determination of Lead Agency.* — The Minister of Human Settlements of his designated representative is hereby authorized to name the Lead Agencies referred to in Section 4 of Presidential Decree No. 1151, which shall have jurisdiction to undertake the preparation of the necessary environmental impact statements on declared environmentally critical projects and areas. All Environmental Impact Statements shall be submitted to the National Environmental Protection Council for review and evolution.

SEC. 4. *Presidential Proclamation of Environmentally Critical Areas and Projects.* — The President of the Philippines may, on his own initiative or upon recommendation of the National Environmental Protection Council, by proclamation declare certain projects, undertakings or areas in the country as environmentally critical. No person, partnership or corporation shall undertake or operate any such declared environmentally critical project or area without first securing an Environmental Compliance Certificate issued by the President or his duly authorized representative. For the proper management of said critical project or area, the President may be his proclamation reorganized such government offices, agencies, institutions, corporations or instrumentalities including the re-alignment of government personnel, and their specific functions

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and responsibilities.

For the same purpose as above, the Ministry of Human Settlements shall: (a) prepare the proper land or water use pattern for said critical project(s) or area(s); (b) establish ambient environmental quality standards; (c) develop a program of environmental enhancement or protective measures against calamitous factors such as earthquake, floods, water erosion and others, and (d) perform such other functions as may be diected by the President from time to time.

SEC. 5. *Environmentally Non-Critical Projects.* — All other projects, undertakings and areas not declared by the Presidents as environmentally critical shall be considered as non-critical and shall not be required to submit an environmental impact statement. The National Environmental Protection Council, thru the Ministry of Human Settlements may however require non-critical projects and undertakings to provide additional environmental safeguards as it may deem necessary.

SEC. 6. *Secretariat.* — The National Environmental Profection Council is hereby authorized to constitute the necessary secretariat which will administer the Environmental Impact Statement System and undertake the processing and evaluation of environmental impact statement.

SEC. 7. *Management and Financial Assistance.* — The Ministry of Human Settlements is hereby authorized to provide management and financial support to government offices and instrumentalities placed under it's supervision pursuant to this Decree financed from its existing appropriation or from budgetary augmentation as the Minister of Human Settlements may deem necessary.

SEC. 8. *Rules and Regulations.* — The National Environmental Protection Council shall issue the necessary rules and regulations to implement this Decree. For this purpose, the National Pollution Control Commission may be availed of as one of its implementing arms, consistent with the powers and responsibilities of the National Pollution Control Commission as provided in P.D. No. 984.

SEC. 9. *Penalty for Violation.* — Any person, corporation or partnership found violating Section 4, of this Decree, or the terms and conditions in the issuance of the Environmental Compliance Certificate, or of the standards, rules and regulations issued by the National Environmental Protection Council pursuant to this Decree shall be punished by the suspension or cancellation of his/its certificate and/or a fine in an amount not to exceed fifty thousand pesos (50,000.00) for every violation thereof, at the discration of the National Environmental Protection Council.

SEC. 10. *Environmental Revolving Fund.* — Proceeds from the penalties prescribed in the preceeding Section 9 and other penalties imposed by the National Pollution Control Commission as authorized in P.D. 984 shall be automatically appropriated into an Environment Revolving Fund hereby created as an exemption to P.D. 711 and P.D. 1234. The fund shall be used exclusively for the operations of the National Environmental Protection Council and the National Pollution Control Commission in the implementation of this Decree. The rules and regulations for the utilization of this fund shall be formulated by the Ministry of Human Settlements and submitted to the President for approval.

SEC. 11. *Repealing Clause.* — The inter-gency Advisory Council of the National Pollution Control Commission created under Section 4 of P.D. 984 is hereby abolished and its powers and responsibilities are forthwith delegates and transferred to the Council of the National Environmental Protection Council.

All laws, decrees, executive orders, rules and regulations, inconsistent herewith are hereby repealed amended or modified accordingly.

SEC. 12. *Effectivity Clause.* — This Decree shall take effect immediately.

DONE in the City of Manila, this 11th day of June in the year of Our Lord Nineteen Hundred and Seventy-Eight.

(SGD.) FERDINAND E. MARCOS
President of the Philippines

BY THE PRESIDENT

(SGD.) JACOB C. CLAVE
Presidential Executive Assistant

Certified Copy.

(SGD.) MELQUIDES T. DELA CRUZ
Presidential Staff, Director
Malacanang Records Office

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RULES AND REGULATIONS IMPLEMENTING THE INTENT AND PROVISIONS OF PRESIDENTIAL DECREE NO. 1586 ESTABLISHING THE ENVIRONMENTAL IMPACT STATEMENT SYSTEM IN RELATION TO PRESIDENTIAL DECREE NO. 1151 PROMULGATING THE PHILIPPINE ENVIRONMENTAL POLICY

Pursuant to Section 8 of Presidential Decree No. 1586, in relation to Sec. 4 of P.D. No. 1151, the National Environmental Protection Council (NEPC) hereby adopts the following rules and regulations.

ARTICLE I
SCOPE, DEFINITION OF TERMS FUNCTIONS, AND RESPONSIBILITIES

SECTION 1. *Scope.* — These revised rules and regulations shall apply to project planned by any government agency or instrumentality including government-owned or controlled corporations, private corporations, firms, individuals or other entities, which fall within the definition of an Environmentally Critical Project, or which will be located within an Environmentally Critical Area. The proponents/planners of such projects shall obtain an Environmental Compliance Certificate as herein provided.

SEC. 2. *Definition of Terms.* — For purposes of these revised rules and regulations.

a) "Environment" means all facets of man's surroundings: physical, ecological, aesthetic, cultural, economic, historic, institutional and social;

b) "Project" means activities including actions, programs, or undertakings, regardless of magnitude, which may have significant impact on the environment;

c) "Project Proponent" refers to persons, owners/agents, organizations, or other entities planning or proposing to undertake a project;

d) "Lead Agency" refers to government agency or agencies which have the expertise and direct responsibility concerning particular types of projects or undertakings as listed in Appendix A hereof;

e) "Environmental Compliance Certificate" refers to the document issued by the President of the Philippines or his duly authorized representative certifying that the project under consideration will not bring about an unacceptable environmental impact and that the proponent has complied with the requirements of the Environmental Impact Statement System;

f) "Project Description" refers to the document submitted by the project proponent substantially describing the proposed project particularly those aspects of the project which will likely cause adverse environmental impact. Such project description shall substantially conform with the outline set forth in Appendix B hereof;

g) "Environmental Impact Statement" (EIS) refers to the documentation of the studies of the environmental impact of a project including a discussion of the direct and indirect consequences upon human welfare and ecological and environmental integrity. The EIS may vary from project to project but shall in every case contain all relevant environmental informations and details about the project to enable the NEPC to make a judicious decision.

SEC. 3. *Functions of Lead Agencies.* — The lead agencies shall.

a) In the preparation of the EIS and the detemination of environmentally critical projects:

1. Assist the project proponents in determining whether the project is environmentally critical or will be located within an environmentally critical area;

2. Assist project proponents in complying with the requirements of the EIS System as provided herein. The assistance to be provided shall be limited to the rendering explanations of the EIS System and Environmental Assessment, methodologies for preparing an EIS and collecting data, and to the making of suggestions as to where the proponent may get further information or assistance. The lead agency is not obliged to provide manpower in collecting data or to prepare an EIS for the project proponent;

b) Store information on environment parameters which are pertinent to projects for which they are responsible and to make the same available to project proponent.

SEC. 4. *Functions of the NEPC Secretariat.* — The NEPC Secretariat shall.

a) Serve as the administrative body which shall carry out the procedural processes of the EIS System;

b) Assist lead agencies in the discharge of their functions;

c) Evaluate EIS documents to serve as basis for recommending the issuance of an Environmental Compliance Certificate;

d) Prescribe the appropriate outline for specific projects;

e) Coordinate with the NPCC in the monitoring of project granted an Environmental Compliance Certificate;

f) Perform such other functions, as may be assigned to it from time to time by the NEPC.

If a project falling within the scope of the EIS System is also subject to regulatory or licensing procedures of agencies other than NEPC, the environmental information requirements of such agencies shall be integrated into the prescribed outline for the EIS.

SEC. 5. *EIS Review Committee.* — There shall be an EIS Review Committee to be created by the NEPC within the NEPC Secretariat which shall be composed of experts from various fields whose main task is to assist the NEPC in evaluating EIS and other documents pursuant to these rules and regulations: provided, that a representative of the NEPC shall sit with the committee for the purpose.

The EIS Review Committee shall, among others, include the following as members. ecologist, limnologist, physicist, environmental chemist, wildlife biologist, botanist, hydrologist, sociologist, environmental economist, marine ecologist, soil scientist, health expert, geologist, environmental engineer, historian, archeologist, and environmental lawyer.

SEC. 6. *Rights and Obligations of Interested Parties.* — Interested parties may:

a) Suggest to NEPC the inclusion of certain projects or areas which in their opinion are environmentally critical;

b) Appear and adduce evidence in public hearings;

c) Submit written comments on the environmental law, rules, and regulations;

d) Report to NEPC violations of environmental law, rules, and regulations.

SEC. 7. *Duties and Responsibilities of a Project Proponent.* — Project proponents shall prior to project implementations:

a) Identify the lead agency with which to coordinate;

b) Prepare and submit pertinent documents required by the agencies and/or the NEPC;

c) Gather all informations necessary for the preparation of an EIS if required, provided that the cost of data gathering, plan preparation, documentation, publication, and other expenses in connection therewith shall be borne by project proponents.

SEC. 8. *Programmatic Compliance.* — Any project proponent intending to implement a program consisting of a series of similar projects, or a project subdivided into several phases and/or stages may file for an EIS to cover its intended program or project, respectively. The EIS Review Committee shall determine at this stage whether or not programmatic compliance with the EIS System is feasible in each case, and advise the project proponent as to whether the EIS may be prepared in programmatic form.

ARTICLE II
DECLARATION OF ENVIRONMENTALLY CRITICAL PROJECTS OR AREAS

SECTION 1. *Declaration of Environmentally Critical Projects or Areas.* — The declaration of certain projects or areas a environmentally critical shall be by Presidential Proclamation in accordance with Sec. 4 of P.D. No. 1586. Such environmentally critical projects or areas so declared shall fall within the scope of the EIS System.

SEC. 2. *Compliance with the EIS System.* — No project which falls within the scope of the EIS System shall be implemented without first securing an Environmental Compliance Certificate, provided that the President or his duly authorized representative may, *motu proprio* or upon recommendation of the NEPC, for reasons of national interest or in compliance with international commitment, exempt a project from the requirement of submitting EIS. Such exemption, however, shall not preclude the NEPC or appropriate lead agency from requiring the project proponent to institute necessary remedial measures to protect the environment.

SEC. 3. *Criteria.* — The NEPC shall, after exhaustive studies and extensive research and consultations, formulate and adopt the criteria to be used as bases for determining the projects or areas that shall be declared an environmentally critical by the President.

ARTICLE III

PROCEDURES

SECTION 1. *Environmental Compliance Certificate.* — The following procedures shall be observed in obtaining an Environmental Compliance Certificate:

a) The project proponent initially determines whether or not a project falls within the EIS System. In case of uncertainty, the project proponent shall request the assistance of the lead agency to make such determination;

In case of a negative determination the project proponent may proceed with the project;

In case of a positive determination, the project proponent shall be required to file a Project Description with the NEPC in the form prescribed for this purpose;

b) The EIS Review Committee of NEPC studies the Project Description. If the proposed project is to be located within an Environmentally Critical Area, but does not fall under any of the categories of Environmentally Critical Projects, and should it be determined by the Committee that said proposed project will have no or negligible effects upon the Environmentally Critical Area, the Committee may immediately recommend to the President or his duly authorized representative, the issuance of an Environmental Compliance Certificate for the project;

If the Committee determines that the proposed project is not within the scope of the EIS System, the NEPC shall immediately inform the project proponent to proceed with the project but may require the latter to adopt appropriate environmental safeguards as it may deem necessary;

The required action under this sub-section shall be completed within fifteen (15) working days from receipt of a duly accomplished project description;

c) The project proponent shall prepare an Environmental Impact Assessment reported in the form of a draft EIS to be submitted to the lead agency including all the data required by the NEPC. The NEPC prescribed outline shall be followed in preparing the EIS for the project;

d) The lead agency shall review the draft EIS and cause the preparation of the final EIS to be submitted to the NEPC. Expenses for the preparation of the EIS shall be on the account of the project proponent;

The Committee shall decide within fifteen (15) working days whether the EIS conforms with the prescribed EIS outline. If not, the project proponent is required to complete and resubmit the same to the Committee which shall act on it within the same period;

Once the EIS is completed, the NEPC Secretariat shall publish a brief description of the project covered and elicit coments from pertinent government agencies or interested parties. All comments must be submitted in writing to NEPC within thirty (30) calendar days from receipt of NEPC request. The NEPC may require the project proponent to reply to any such comments. If the expected environmental impact of the project is of substantial magnitude in terms of the number of people affected, the area affected, the cost involved, inter-alia, the NEPC may call a public hearing, in which case, the provision of Article IV shall apply;

e) The project proponent shall furnish sufficient copies of the EIS documents to the NEPC and to the lead agency. These documents shall be made available for perusal and reproduction to interested parties during the usual business hours;

f) The EIS Review Committee shall deliberate upon the EIS, and evaluate all comments submitted by interested parties and commenting agencies. Within fifteen (15) working days after receipt of the report of the hearing officer, the Committee shall.

1. recommend to the President the issuance of an Environmental Compliance Certificate; or

2. advise the project proponent that his projects as planned will bring about unacceptable environmental impacts unless modified, in which case, the project proponent may modify the plan and submit a revised EIS in accordance with the procedure determined by the Committee; or

3. advise the project proponent that the project is totally unacceptable stating the reasons therefor.

SEC. 2. *Flow Chart.*—The procedures set forth in Sec. 1 of this Article is presented in a flow chart attached hereto as Appendix D which shall form part of these revised rules and regulations.

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ARTICLE IV

PUBLIC HEARING

SECTION 1. *Notice.* — Whenever a public hearing is to be conducted under these revised rules and regulations, notice thereof shall be published once a week for two (2) consecutive weeks in any newspaper of general circulation at least twenty (20) calendar days prior to public hearing. Notice shall likewise be posted in a conspicuous place in the municipality or barangay where the project is to be located. All the expenses of the notices shall be for the account of the project proponent. The NEPC Secretariat shall solicit in writing comments from other government agencies with expertise or regulatory power over the proposed project, as well as the designated lead agency.

SEC. 2. *Designation of Hearing Officers.* — The NEPC may appoint/designate any qualified person as a Hearing Officer, to conduct the public hearing.

SEC. 3. *Power and Duties of Hearing Officers.* — Hearing Officers shall have the power and authority to conduct proceedings in the name of the NEPC with the aim of further eliciting more pertinent facts and information. He may adopt such procedures as maybe necessary for the speedy disposition of the application involved.

SEC. 4. *Parties.*—The parties to the public hearing may include the project proponent, the lead agencies concerned, the commenting agencies, and other interested parties.

SEC. 5. *Nature of Proceedings* — The proceedings in the public hearing shall be summary in character and may not strictly adhere to the technical rules of evidence and procedures. The proceedings shall be duly recorded.

SEC. 6. *Report.* — The hearing officer shall render a report of his findings to the EIS Review Committee within fifteen (15) working days from the termination of the hearing.

ARTICLE V
GENERAL PROVISIONS

SECTION 1. *Penalties.* — Any person, natural or juridical, found violating the provisions of these revised rules and regulations or the directives and order issued thereunder by the NEPC or its duly authorized representatives or agencies, shall be punished by the suspension or cancellation of his/its Environmental Compliance Certificate and/or a fine not to exceed Fifty Thousand Pesos (P50,000.00) for every violation thereof at the discretion of the NEPC.

SEC. 2. *Transitory Provision.* — All projects where an EIS is required under Presidential Decree No. 1151, and its implementing rules and regulations and guidelines, the proponents of which have not prepared the necessary EIS and/or obtained approval thereof from the NEPC at the time of the effectivity of these rules and regulations, shall be now governed by the provisions hereof.

SEC. 3. *Repealing Clause.* — All provisions of the Rules and Regulations and the Guidelines, including all revisions or amendments therof, issued by the NEPC pursuant to Section 4 of Presidential Decree No. 1151, are hereby repealed, amended and/or modified accordingly.

SEC. 4. *Effectivity.* — These revised rules and regulations shall take effect thirty (30) days after publication thereof in the Official Gazette.

APPROVED:

IMELDA ROMUALDEZ MARCOS
Chairman
NATIONAL ENVIRONMENTAL
PROTECTION COUNCIL
Ministry of Human Settlements

RECOMMENDING APPROVAL:

CELSO R. ROQUE
Executive Director
National Environmental
Protection Council

. . . EIS Implementing Rules and Regulations . . .

Pursuant to the provisions of Presidential Decree No. 1121, and in furtherance of the national policy to effectuate a responsive environmental protection program, these rules and regulations implementing the Environmental Impact Statement System is deemed hereby

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approved with the concurrence of the Members of this Council.

Done in the City of Manila this 23rd day of November in the year of Our Lord Nineteen Hundred and Seventy Nine.

WE CONCUR:

JOSE J. LEIDO, JR.
Minister of Natural Resources

JUAN PONCE ENRILE
Minister of National Defense

JOSE ROÑO
Minister of Local Governments
and Community Development

JOSE DANS
Minister of Transportation
and Communications

GERONIMO VELASCO
Minister of Energy

RONALDO ZAMORA
Chairman, Executive Committee
Environmental Center of
the Philippines

RUBEN B. ANCHETA
Presidential Assistant for
Development

ROBERTO ONGPIN,
Minister of Industry

VICENTE PATERNO
Minister of Public Highways

ALFREDO JUINIO
Minister of Public Works

JAIME C. LAYA
Minister of the Budget

MELECIO MAGNO
Chairman, National Science
Development Board

GUILLERMO PECACHE
Commissioner, National Pollution
Control Commission

JOSE C. BENITEZ
Deputy Chairman, Human
Settlements Regulatory
Commission

CELSO R. ROQUE
Secretary

Adopted by the Chairman and Members of the Council on 23 November, 1979.

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APPENDIX E-2

PRESIDENTIAL PROCLAMATION 2146

MALACAÑANG
Manila

BY THE PRESIDENT OF THE PHILIPPINES

PROCLAMATION NO. 2146

PROCLAIMING CERTAIN AREAS AND TYPES OF PROJECTS AS ENVIRONMENTALLY CRITICAL AND WITHIN THE SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT SYSTEM ESTABLISH UNDER PRESIDENTIAL DECREE NO. 1586

WHEREAS, it is the national policy to attain and maintain a rational and orderly balance between socio-economic growth and environmental conservation and protection;

WHEREAS, there is an urgent need to bring about an intensive, integrated program of environmental protection through a requirement of environmental impact assessments and statements;

WHEREAS, the environmental impact statement system established under Presidential Decree No. 1586 calls for the proper management of environmentally critical area;

WHEREAS, the pursuit of a comprehensive and integrated environmental protection program necessitates the establishment and institutionalization of a system whereby the exigencies of socio-economic undertakings can be reconciled with the requirements of environmental protection and conservation;

WHEREAS, the national leadership mandates the establishment of such a system to regulate and minimize the environmental impacts of projects and undertakings which may significantly affect the quality of the environment in Presidential Decree No. 1586, and

WHEREAS, in the effective implementation of such system, there arises the need to identify and declare certain projects determined to be environmentally critical.

NOW, THEREFORE, I, FERDINAND E. MARCOS, President of the Philippines, by virtue of the powers vested in me by law, hereby proclaim the following areas and types of projects as environmentally critical and within the scope of the Environmental Impact Statement System:

A. Environmentally Critical Projects

I. Heavy Industries

a. Non-ferrous metal industries
b. Iron and steel mills
c. Petroleum and petro-chemical industries including oil and gas
d. Smelting plants

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II. Resource Extractive Industries

a. Major mining and quarrying projects
b. Forestry projects

1. Logging
2. Major wood processing projects
3. Introduction of fauna (exotic-animals) in public/private forests
4. Forest occupancy
5. Extraction of mangrove products
6. Grazing

c. Fishery Projects

1. Dikes for/and fishpond development projects

III. Infrastructure Projects

a. Major dams
b. Major power plants (fossil-fueled, nuclear fueled, hydroelectric or geothermal)
c. Major reclamation projects
d. Major roads and bridges

B. Environmentally Critical Areas

1. All areas declared by law as national parks, watershed reserves, wildlife preserves and sanctuaries;

2. Areas set aside as aesthetic potential tourist spots;

3. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine Wildlife (flora and fauna);

4. Areas of unique historic, archaeological, or scientific interests;

5. Areas which are traditionally occupied by cultural communities or tribes;

6. Areas frequently visited and/or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic activity, etc.);

7. Areas with critical slopes;

8. Areas classified as prime agricultural lands;

9. Recharged areas of aquifers;

10. Water bodies characterized by one or any combination or the following conditions;

a. tapped for domestic purposes;

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b. within the controlled and/or protected areas declared by appropriate authorities;

c. which support wildlife and fishery activities.

11. Mangrove areas characterized by one or any combination of the following conditions:

a. with primary pristine and dense young growth;

b. adjoining mouth of major river systems;

c. near or adjacent to traditional productive fry or fishing grounds;

d. which act as natural buffers against shore erosion, strong winds and storm floods;

e. on which people are dependent for their livelihood.

12. Coral reefs characterized by one or any combination of the following conditions:

a. With 50% and above live coralline cover;

b. Spawning and nursery grounds for fish;

c. Which act as natural breakwater of coastlines.

This Proclamation shall take effect immediately.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the Republic of the Philippines to be affixed.

Done in the City of Manila, this 14th day of December, in the year or Our Lord, nineteen hundred and eighty-one.

(SGD.) FERDINAND E. MARCOS
President of the Philippine

APPENDIX E-3

DENR ADMINISTRATIVE ORDER
NO. 21, SERIES OF 1992

DEPARTMENT OF
ENVIRONMENT AND
NATURAL RESOURCES

DENR ADMINISTRATIVE ORDER
No. 21
Series of 1992

SUBJECT: AMENDING THE REVISED RULES AND REGULATIONS IMPLEMENTING P.D. 1586 (ENVIRONMENTAL IMPACT STATEMENT SYSTEM)

ARTICLE I - POLICY OBJECTIVES AND DEFINITION OF TERMS

Section 1: BASIC POLICY

1.1 Consistent with the basic policy of the state to assure the availability and sustainability of the country's natural resources through its judicious use in order to achieve immediate economic gains and in pursuance to Presidential Decree 1586 and Proclamation 2146, the following amendments to the revised rules and regulations implementing the Environmental Impact Statement System are hereby promulgated.

Section 2: POLICY OBJECTIVES

1.2.1 To identify environmental constraints and opportunities of natural systems in order to guide the planning and development of project activities from the selection of appropriate site to the design, implementation and termination so that environmental considerations are incorporated in the early stages of project development.

1.2.2 To identify, predict and describe in appropriate terms the costs and benefits of development projects and assess the likely primary and secondary changes therein and systematically present the results for review and decision-making.

1.2.3 To ensure the success of development projects through finding ways to reduce unacceptable impacts and prescribe the most appropriate and cost- effective mitigating measures.

1.2.4 To involve as much as possible a wide spectrum of concerned sectors and the adjacent communities who will be affected by the project development in the exchange of views, information and concerns in order to effect projects that are beneficial to the majority and acceptable to the community.

1.2.5 To provide the basis for assessing the actual impacts of implemented and completed projects and identify other significant impacts in order to effect corrective actions and to improve future projects of similar type and magnitude.

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Section 3: DEFINITION OF TERMS

1.3.1 For the purpose of these rules and regulations and whenever any of the following words and terms are used therein shall have the meaning ascribed in this section.

a. DENR - refers to the Department of Environment and Natural Resources.

b. EMB - refers to the Environmental Management Bureau.

c. Environmental Impact Statement (EIS) System - refers to the entire process of organization, administration and procedure institutionalized for the purpose of assessing the significance of the effects of physical developments on the quality of the environment.

d. Environmental Impact Assessment (EIA) - refers to the process of predicting the likely environmental consequences of implementing project activities.

e. Environmental Impact Statement/Study (EIS) - refers to the document(s) of studies on the environmental impacts of a project including the discussions on direct and indirect consequences upon human welfare and ecological and environmental integrity. The EIS may vary from project to project but shall contain in every case all the relevant information and details about the project to enable the DENR and other concerned parties to make judicious decisions. Such EIS shall substantially conform with the outline set forth in Annex A.

f. Environmental Compliance Certificate (ECC) - refers to the document issued by the Secretary of the Department of Environment and Natural Resources or his duly authorized representative certifying that the proposed project under consideration will not bring about an unacceptable environmental impact and that the proponent has complied with the requirements of the Environmental Impact Statement (EIS) System.

g. Environmental Impact Statement Monitoring and Evaluation - refers to the process of comparing the predicted impacts on the environment as stipulated in the EIS with those which actually occurred after the implementation and operation of the project.

h. Environmental Impact/Statement Review Committee - refers to the body of experts from various fields created by DENR whose main task is to assist the DENRein evaluating EIS and other documents.

i. Compliance Monitoring - refers to the activity designed to gauge the level of compliance with the conditions stipulated in the ECC issued and in the EIS or PD submitted.

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j. Environmentally Critical Projects (ECP) - refer to those projects which have high potential for negative environmental impacts and are listed in Presidential Proclamation 2146 dated Dec. 14, 1981.

k. Environmental Critical Areas (ECA) - refer to those areas which are environmentally sensitive and are listed in Presidential Proclamation 2146 dated Dec 14, 1981.

l. Project - refers to activities including actions, programs or undertaking regardless of scale or magnitude, which may have significant impact on the environment.

m. Project Proponent (PP) -refers to any entity, private and government organizations, persons, owners/agents, planning or intending to undertake a project.

n. Project Description (PD) - refers to the document submitted by the project proponent substantially describing the proposed project particularly those aspects of the project which will likely cause environmental impact. Such project description shall substantially conform with the outline set forth in Annex B hereof.

o. Public Hearing - refers to the activity undertaken by DENR to gather facts and thresh out all issues, concerns and apprehensions and at the same time provide the project proponent with the opportunity to present the project to the people/ community who would be affected by such.

p. RED - refers to the Regional Executive Director of DENR.

q. RTD - refers to the Regional Technical Director for Environmental Management and Protected Areas Services of the DENR regional offices.

r. PENRO - refers to the Provincial Environment and Natural Resources Officer of the DENR.

s. CENRO - refers to the Community Environment and Natural Resources Officer of the DENR.

ARTICLE II - PROCEDURES FOR PROCESSING OF ECC APPLICATIONS

Section 1. SCREENING OF PROJECTS

2.1.1 The proponent shall submit a duly accomplished ENFORM I which shall serve as the basis for determining whether the project is within the purview of the EIS System. The said form appears as Annex C.

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2.1.2 Projects that fall within the purview of the EIS System are as follows:

a) Environmentally Critical Projects (ECP) wherein the project proponent shall submit an Environmental Impact Statement (EIS) to EMB.

b) Projects that fall within Environmentally Critical Areas (ECA) wherein project proponents shall be required to submit PDs to DENR Regional Offices. However, they may be required later to submit an EIS if deemed necessary.

2.1.3 Projects Not Covered by the EIS System

a) Environmentally Critical Projects which have been operational prior to 1982 are not be covered by the scope of the EIS System except in cases where their operations are expanded in terms of daily production capacity or the coverage of its original area in which case such project will be covered by the EIS System.

b) Exempted projects

Any proposed activity or operation that does not fall within the category stated in Article II, Section I of this order and which are characterized by all of the following conditions:

- discharges minimal amount of wastes and the management of such wastes are relatively easy,
- has a capitalization of not more than P 500,000
- employs not more than 20 persons,

An exemption certificate however, shall still have to be issued by the DENR for those projects in which the above criteria apply.

Likewise, pursuant to Article II Section II of P.D. 1586 some projects may be exempted by the President or his duly authorized representative for reasons of national interest or in compliance with international commitments. Such exemptions, however, does not preclude the DENR to require the proponent from instituting the necessary remedial measures to protect the environment.

2.1.4 The proponent shall pay the necessary fees in accordance with the schedule of fees.

Further, for exempted projects that are within ECA, comments and/or recommendations shall be solicited from appropriate units or agencies which have jurisdiction over these ECA prior to the issuance of the exemption certificate by DENR.

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Section 2.0. PROCESSING OF EIS and PD

The EMB shall be responsible for processing EIS documents of Environmentally Critical Projects (ECP). The DENR Regional Offices shall be responsible for those projects that fall within the scope of Environmentally Critical Areas (ECA) and exempted projects. The flow charts showing the processing steps enumerated below appear as Annex D-1 and D-2.

A. Steps in the review and evaluation of Environmental Impact Statements (EIS)

2.2.1 Upon determination by DENR that the project shall be subject to an EIS, a copy of the scoping guidelines shall be given to the project proponent for his guidance. On the basis of the above and on the outline given, the proponent has the option to commission the undertaking of the EIS to a competent professional group or by the proponent's technical staff.

2.2.2 Upon completion of the EIS the proponent shall submit at least fifteen (15) legible copies of the document to the DENR for review.

2.2.3 Upon receipt of the EIS, the DENR shall forward the document to the concerned EIS unit which shall initially evaluate the submitted document as to its content and completeness of the supporting documents.Within thirty (30) days, the EIS Unit shall decide whether or not the information contained in the EIS is sufficient for a thorough evaluation of the project's environmental impacts. The EIS Unit shall then inform the proponent of any additional information that may be needed for further evaluation of the EIS. After the evaluation, the EIS Unit may:

a. recommend issuance of the Environmental Compliance Certificate (ECC);

b. recommend conduct of an ocular inspection of the proposed project site to check the veracity of the information contained in the submitted EIS; or

c. recommend further review by the EIS Review Committee to thoroughly assess the submitted EIS with respect to accuracy of the data presented, the applicability of the mitigating measures and the adequacy of the monitoring program.

2.2.4 For projects referred to the Review Committee, the EIS Unit shall convene the committee whose members shall be selected from the pool of experts/area subject specialists.

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The Review Committee can require the holding of a public hearing to be conducted by the DENR/EMB or the Regional Office, subject to the process stipulated in Article II Section 3 or may likewise require the project proponent to submit additional information if necessary.

2.2.5 After a through evaluation of all inputs the Review Committee shall recommend for the approval or denial of the ECC by the Secretary of the DENR or his duly designated representative.

B. Steps in the review and evaluation of Project Descriptions

2.2.6 Projects requiring Project Descriptions shall follow same process as required in the review of EIS, except for the conduct of public hearing which is not necessary at this stage .

2.2.7 Upon submission of the PD, the regional EIS unit shall review and evaluate the documents and determine the accuracy of data and assessments presented, the applicability of mitigating measures ,the adequacy of the monitoring programs and public acceptability of the projects. The RTDs can always request for additional information if necessary. Part of the evaluation process is the ocular inspection of the project site which may be conducted by the EIS Unit with the assistance of the PENRO/CENRO.

2.2.8 Once all pertinent information have been validated,the RTD can recommend for the granting or denial of the ECC to the Regional Executive Director(RED). The Regional Office shall decide not more than two (2) months from receipt of the PDs whether it shall issue or deny the ECC to the concerned proponent.

2.2.9 In cases wherein the EIA unit considers the project requires an EIS, the RTD shall inform the proponent of the requirements and said application shall follow the process stipulated in Article II Section 2.A

Section 3. CONDUCT OF PUBLIC HEARING

Public Hearing may be initiated by the DENR when the magnitude of the project is such that a great number of people are affected or when there is mounting public opposition against the proposed project.

2.3.1. Notice

A notice of public hearing shall be published once a week for two (2) consecutive weeks in any newspaper of general circulation at least twenty (20) calendar days prior to the scheduled hearing. Notice shall likewise be posted in a conspicuous place in the municipality or barangay where the project is to be located. All expenses incurred for the notices shall be charged to the project proponent.

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2.3.2. Designation of Hearing Officers

The Secretary or his duly designated representative shall appoint hearing officers in the conduct of public hearings.

2.3.3 Powers and Duties of Hearing Officers

Hearing Officers shall have the power and authority to conduct proceedings with the aim of further eliciting information and more pertinent facts.

They will ensure that all participating parties are given the opportunity to air their positions /concerns regarding the project and that same are adequately discussed.

The Hearing Officers shall submit a report of their findings to the EIS Review Committee within fifteen (15) workings days after the hearing.

Copies of the report shall be considered as public documents and shall be made available to all concerned parties and other interested entities.

2.3.4 Nature of Proceedings

The conduct of public hearings shall be summary in nature and does not strictly adhere to the technical rules of evidence.

Section 4. GRANTING OF ECC

2.4.1 An Environmental Compliance Certificate (ECC) is issued by the DENR Secretary or his duly designated representative to a project proponent after having satisfied the process described in Article II of this Order

Section 5. EIA MONITORING

2.5.1 All ECPs will be subjected to periodic compliance monitoring by the EMB and all other projects by the DENR Regional Offices.

2.5.2 The EMB can call on the assistance of the regional office in the conduct of compliance monitoring activities while the latter can call on the EMB when the monitoring of the project requires institutional and technical expertise that can be provided by the Bureau.

The EMB shall initiate the formation of a Multipartite Monitoring Team in coordination with the regional office as may be required by the conditions of the ECC.

ARTICLE III - DUTIES AND RESPONSIBILITIES OF ACTORS IN THE EIS REVIEW PROCESS

Section 1. PROJECT PROPONENTS

a. conduct an Environmental Impact Assessment (EIA) of the proposed project and submit its findings to DENR in accordance with the prescribed guidelines

b. provide a true, complete and accurate EIS or PD

c. publish the notice of public hearing

d. provide resource persons to make presentations and answer questions during public meetings and hearings

e. ensure that appropriate post-assessment monitoring and reporting are carried out as required

g. initiate, in certain cases, the establishment of the Environmental Guarantee Fund (EGF) as stipulated in the ECC which shall make available reserve funds for monitoring activities and the immediate rehabilitation and/or compensation of affected parties should negative impacts occur in relation to the project

h. submit the required reports to the DENR

Section 2. DENR

3.2.1 OFFICE OF THE SECRETARY

a. formulate EIA policies , plans and programs and advise the EMB and Regional Offices from time to time in the efficient implementation of projects and programs

b. advise the President and Congress on the enactment and modification of laws relative to the EIS System

c. Approve or deny the issuance of an Environmental Compliance Certificate for EIS documents related to ECP

3.2.2 EMB

a. coordinate the implementation of the necessary policies and guidelines relative to the EIS System

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b. conduct assessments and evaluation of the EIS to serve as basis for recommending the issuance /denial of the ECC and/or advise the project proponent that his project as planned needs modifications and corrections

c. serve as the administrative body which shall carry out the procedural processes of the EIS System

d. develop procedural assessment guidelines and prescribe the appropriate scoping guidelines for specific project types

e. chair the EIS Review Committee

f. solicit in writing comments from other government agencies and persons with expertise or regulatory powers over the proposed projects

g. coordinate with the DENR field offices, local government units (LGUs), non-government organizations (NGOs), people's organizations (POs),project proponents and other government agencies in the conduct of actual compliance and multipartite monitoring of projects granted ECC

h. initiate the conduct of public hearings for environmentally critical projects

j. provide technical assistance to the Regional Office in the review, inspection,monitoring and the conduct of public hearings

3.2.3 REGIONAL OFFICES

a. implement laws, policies, plans, programs, projects, rules and regulations of the DENR relative to the EIS System

b. assess and evaluate PD/EIS for ECA

c. conduct on-site inspection for PD/EIS for ECA

d. investigate EIS-related complaints

e. assist EMB in the conduct of on-site inspection for Environmental Impact Statement(EIS) of ECP and make the necessary recommendations

f. conduct actual compliance monitoring of projects granted ECC and prepare the necessary reports

g. coordinate with other government agencies, non- government organizations, local government units, private offices and project proponents in the region in the implementation and enforcement of EIS System rules and regulations and public information campaign

h. initiate the conduct of public hearing whenever necessary

i. initiate the conduct of training for PENRO/CENRO on the EIS System

j. chair the Regional EIS Review Committee

k. approve or deny the ECC for EIS and PD that are in ECAs

l. issue exemption certificates for exempted projects.

3.2.4. PENRO AND CENRO

a. coordinate with local government units, barangay officials, NGOs, POs and local residents relative to EIS System

b. conduct public information campaign regarding the EIS System

c. assist the Regional Office in the conduct of on-site inspections and monitoring

3.2.5 EIS REVIEW COMMITTEE

a. assist the EIA unit in the evaluation and review of EIS documents

b. make recommendations regarding the issuance or non-issuance of Environmental Compliance Certificate of proposed projects under review

ARTICLE IV - PENALTIES, GROUND FOR CANCELLATION OF ECC AND ADMINISTRATIVE SANCTION

The Secretary of the Department of Environment and Natural Resources or his duly authorized representative shall impose penalties upon person(s) found violating provisions of PD 1586 or its implementing rules and regulations.

Section 1. SCOPE OF VIOLATIONS

4.1.1 Critical Projects found operating without ECC.

4.1.2 Projects within ECA but fund operating without ECC', and

4.1.3 Projects found violating ECC conditions.

Section 2. IMPOSITION OF PENALTIES

4.2.1. A Report which will serve as the basis for the imposition of fine will be prepared by the EIA Unit. The report among others should include the following information:

a. Brief background of the project including previous violation, if any.

b. Nature of the violation and/or the ECC conditions violated.

c. Results and discussion on any measurement, sampling or monitoring activities conducted either by EMB, Regional Environmental Management Protected Areas (EMPAS) or DENR accredited research institutions, academic and or technical organizations.

d. Discussion on the results obtained and the corresponding adverse impacts caused by the violations.

e. Recommended amount of fine to be imposed in accordance with this Order.

4.2.2 The Report shall be submitted to the Director of EMB or the Regional Executive Director (RED) as the case maybe for appropriate action.

4.2.3 The EMB Director or RED shall issue an order for the imposition of penalties.

4.2.4 Nature of Violations and Corresponding Fines

The violation of ECC requirements is categorized as follows:

A. Projects which are established and/or operating without an ECC

Any project which has been classified as environmentally critical and/or located in environmentally critical area and established and/or operating without an ECC shall be liable to penalty.

Any Project Proponent operating without an ECC shall be informed by DENR about the nature of the violation and the corresponding amount of fine imposed therein in accordance with schedule presented below.

The DENR shall evaluate the merits of the explanation submitted by the Proponent and decide whether or not a fine and the requiring of the submission of EIS/PD shall be imposed.

The amount of fine shall not exceed P 50,000 at the discretion of the DENR.

The Proponent should settle all requirements within thirty (30) days upon notification. Failure to comply with these requirements shall be a ground for issuance of an order for the cessation of project operation

B. Projects violating ECC Conditions

1. First Violation

The Project Proponent shall be informed by the Director of the EMB or the RED about the nature of the violation and shall be asked to explain within seven (7) days upon receipt of notification why they should not be penalized. The Director of the EMB or the RED shall decide within seven days (7) days upon receipt of explanation whether the justification presented merits consideration or a violation has been committed.

The Director of EMB or RED shall impose a fine and require the proponent to submit a plan that will address the violations.

The amount of fines for every violation of the ECC conditions shall not exceed P 50,000 thereof, which shall be set at the discretion of the DENR.

The project proponent is required to settle all the requirements within fifteen (15) days upon receipt of notification. Failure to comply with these requirements would constitute an automatic ground for the suspension of their ECC.

2. Subsequent Violations

Any Project Proponent found to have committed further violation of any or all ECC conditions shall be required by the EMB/Regional Office to cease operation and have his ECC revoked.

Section 3. IMPLEMENTING BODY

The EMB/DENR Regional Offices shall be responsible in determining whether there has been any violation of P.D. 1586,and its implementing rules and regulations

Section 4. ADMINISTRATIVE AUTHORITY /SANCTION

4.4.1 The EMB/DENR is the agency which reviews the EIS and PD. As such all DENR Personnel are not allowed to be involved in any way, whatsoever, directly or indirectly in the preparation of EIS and/or PD documents. Any personnel found to have violated this provision shall be liable to administrative sanctions and penalties in accordance with the Rules and Regulations. of the Civil Service Commission.

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Section 5. MOTION FOR RECONSIDERATION

4.5.1 All Motions for Reconsideration by the project proponent shall be submitted to the EMB Director or RED within fifteen (15) days upon receipt of the DENR order . The EMB Director or the RED shall decide on this Motion for Reconsideration within (30)days upon the receipt of the motion . The decision of the EMB Director or the RED, as the case may be, shall be final

Section 6. APPEALS

4.6.1 Any appeal from the decision /order of the EMB Director or RED shall be filed by the Project proponent with the Office of the Secretary within fifteen (15) days upon the receipt of the said order or devisor . The Secretary shall decide on the appeal within a period of thirty (30) days upon the receipt of the said appeal. The decision of the Secretary shall be final and executory.

ARTICLE V - SUPPLEMENTAL RULES AND REGULATIONS

5.1. Projects which have not been responded by the proponent within a year from the date of filing shall be automatically invalidated. The DENR shall send /notify the proponent one month before the proposed termination date.

5.2. If after termination, the proponent decides to proceed with his project it is considered as a new application and shall pay the corresponding fee.

ARTICLE VI - EFFECTIVITY

These Rules and Regulations shall take effect thirty (30) days after publication in any newspapers of general circulation.

ARTICLE VII - REPEALING CLAUSE

All rules and regulations found inconsistent herewith shall be superseded by this administrative order.

FULGENCIO S. FACTORAN, JR.
Secretary

RECOMMENDING APPROVAL:

VICTOR O. RAMOS
Undersecretary
for Field Operations

DELFIN J. GANAPIN JR.
OIC-Undersecretary
for Environment and Research

RODRIGO U. FUENTES
Director, EMB

ANNOTATED ENVIRONMENTAL IMPACT STATEMENT OUTLINE

(The following outline is a general guide for proponents. It is to be used along with the scoping guidelines for specific industry type. In cases such guidelines is not available, the kind of information required for an EIS can be narrowed down during the scoping sessions with appropriate DENR units)

1.0 NAME AND ADDRESS OF PROJECT PROPONENT

The name of the person or entity, whether government or private, which intends to undertake a project/action, or a group of projects/actions.

2.0 TYPE OF PROJECT

Classification of the Proposed project. For purpose of proper industrial classification the DTI classification system is suggested to be used.

3.0 OVERVIEW SUMMARY

This portion will consolidate the important findings of the Environmental Impact Assessment (EIA) process and will be written in such a manner as to allow reviewers to focus immediately on items of concern.

The summary should briefly describe the project, the probable environmental impacts, the avoidance and/or mitigating measures to be implemented, the various alternatives project, and the significance of the unavoidable and irreversible environmental impacts. Phases of project development which might circulate public concern should be identified and described with particular clarity. The summary of findings can be presented following the table below:

Activities (Phases)	Identified Impacts	Mitigating Measures to be Adopted	Cost of the Measures

4.0 THE PROJECT SETTING

4.1 Declaration and Objective

In cases where a proposed project/action has a number of proponents, this section should identify all these proponents and define the responsibility of each.

The objective of the project should likewise be included and stated in this section. Thus, the project's goals should be put in terms of social, economic, and environmental parameters, i.e., cost, benefits and beneficiaries, social disbenefits, etc.

4.2 The Need

This section discusses the needs for which the project is proposed and against which potential environmental impacts may be evaluated. Therefore, it is essential that trade-offs between the benefits of the project and its adverse environmental consequences be exhaustively discussed. Also, the beneficiaries and/or groups that will be affected adversely will have to be clearly identified.

4.3 Alternatives

Briefly discuss the siting, timing, logistics and design of alternatives considered and nominated during the course of selecting the alternative for which the EIS is prepared and describe the basis upon which each alternative was rejected in favor of the selected alternative. Also, describe the significant differences in environmental impacts among the alternatives considered.

4.4 Associated Projects

The relationship of the proposed project with other existing and proposed projects in the area of concern and immediate vicinities should be discussed. This section should also identify and discuss the possible environmental concerns that might arise through the stimulated development of other projects, e.g., the construction of a highway might stimulate the prolification of industries in the areas, increase in load of waste disposal system etc.

5.0 THE PROPOSAL

The alternative chosen and other alternatives still under active consideration (if any) should be discussed in this section. Common factors of the various alternatives should be discussed first followed by the peculiarities of each alternative.

Ascertain the conformity of project plans to existing laws and government policies through consultations with the appropriate government agencies.

5.1 General Layout

Describe the proposed project location and provide maps of appropriate scale (1:50,000 - 1:1,000,000) showing the project site. Maps provided should be such that project facilities could easily be pin-pointed in relation to easily recognizable geographic features and existing transport systems and human settlements within the project area. Photographs of the area should also be provided; if possible, aerial photographs should be given.

In addition, the project proponent should provide topographic maps and other thematic maps of appropriate (preferably from 1:2,000 - 10,000) scale. Such maps should show detailed location and rights-of- way for all project facilities including temporary and permanent transport system (dirt roads, harbors, docks, air strips, highways, etc.) communication facilities, construction camps, waste disposal areas and other auxiliary facilities.

5.2 Pre-Construction Details

In this section, it is imperative to describe the following:

a) the timing and duration of all project activities from pre-construction to full operation. A graph or chart showing the above should be prepared;

Examples of activities are:

<u>Physical</u>

- site clearing
- burning
- excavation
- construction of access roads
- blasting and drilling
- demolition
- drainage alterations
- reclamation
- forest clearing.

b) schedule of construction, development of transportation and other public use facilities;

c) number, sources and housing needs of work force, and size, location and duration of temporary construction camps;

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d) activities to be undertaken in the construction phase and relevant factors associated with each, e.g., in the construction of access roads, factors that should be considered are 1) type of road surface (dust levels expected) 2) size of roads (traffic levels, degree of clearing required), 3) character of land through which roads pass (vegetation types, surface water crossing points, habitats, groundwater alteration), 4) proximity to residential areas (noise, dust, changing traffic patterns on urban/rural streets);

e) safety measures; and

f) special design features to reduce adverse effects of the project on the environment.

5.4 Operation and Maintenance

The items below should be exhaustively discussed:

a) Nature of raw materials to be utilized and their sources;

b) Processes and operation procedures of the project;

c) Noise, wastes, emissions, effluents to be emitted and disposed of;

d) Manpower and equipment requirements;

e) Expected projected size and scale;

f) Technical and operation procedures including flow diagrams, timing schedules and inspections;

g) Maintenance under normal conditions - types of expected maintenance, predicted maintenance problems and plans for any partial or complete shutdown associated with maintenance problems; and

h) Number of jobs available to local residents and from the outside by occupation.

5.5 Contingency Plans

This section should discuss:

a) Significant environmental hazards that may arise during the construction and operation of the project through accident or design failure such as accidental spills, fire, seismic activity, etc., and how these could be contained and the probability of the occurrence of such events should be determined;

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b) Plans for detection (where applicable) of such accidental or natural events, remedial measures to be taken in response, including a description of procedures and equipment to be employed in the response; and

c) Plans for environmental rehabilitation, clean up and restoration following such accidents.

5.6 Abandonment

The project proponent should outline the abandonment procedures and discuss:

a) Plans for removal or disposition of temporary structures and facilities;

b) Plans for abandoning temporary roads and bridges. (Considerations may include the closing of roads and the removal of bridges except where removal would result in more environmental disturbances than leaving them in place);

c) Relocation and/or termination plans for all project facilities; and

d) Restoration plans for the project area after cessation of project operation.

6.0 A BRIEF HISTORY OF PAST ENVIRONMENTAL CONDITIONS AND A DESCRIPTION OF THE EXISTING ENVIRONMENTAL AND RESOURCE USE

Description of the historical trends of the environment in addition to the existing environmental conditions in section is to supplement the information given in Section 4.0 and 5.0. This is aimed at providing baseline information on the natural environment and socio-economic settling of the project area. This information will serve as basis for identifying the possible environmental and socio-economic impacts of the project (This will be discussed in detail in Section 8.0). The sub-sections outlined below is intended as a guide to the nature, scope and level of detail of information necessary to adequately describe the past and existing environment. This outline should not, however, in any way, be considered as absolute by the proponent. Rather, he should exercise his own judgement in adding or selecting (for description), items which might be significantly affected by the proposed project's activities.

Further, information presented in this section will give the assessor as well as decision-makers an idea of how the project area exists prior to project development. Thus, equipped with this knowledge and aware of the specifications of the project as described earlier in the proceeding sections, one could identify areas of critical importance and impacts of the project can be more reliably predicted. Moreover, the assessor should see to it that in cases where information or data is lacking for a

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certain sector gaps should be duly noted. Also; a qualitative and quantitative description of present resource use should be included. Maps, charts, diagrams and graphs should accompany information presented whenever possible and all sources of information should be identified and appropriately acknowledge.

All environmental data gathered for this section should be appended. Also, data accumulated in the assessment process should be appended.

6.1 Climate

The nature and duration of climatic records and climatic conditions prevailing in the vicinity of the proposed project shall be described. The following items should be included in the description

a) extremes and means of monthly, weekly, (and daily if possible) temperature, precipitation, etc.

b) probability and frequency of the occurrence of fogs, thunderstorms, storms, typhoons, etc.

6.2 Terrain

The following items should be described in this section:

a) topographic, physiographic and geologic features and geomorphic processes at work within the project area. (The provision of maps is necessary if and when applicable);

b) physical and chemical characteristics of the soil and rocks in the project areas;

c) erosion problems;

d) sensitivity of the terrain to disturbance;

e) recognized geologic and hydrological hazards such as floods, earthquakes, landslides; and

f) unique or scenic geologic/landform features, which include lakes/rivers and similar features.

6.3 Hydrology

Describe the following important parameters of ground and surface waters:

a) physical, chemical and bacteriological parameters of water bodies within the project site (e.g., color, odor, temperature, BOD., salinity, hardness, pH, acidity, coliform content, etc.);

b) historical trends in water quality, quantity water depletion and unique, current or previous pollution problems; and

c) the ambient water quality standards and effluents standards set by EMB.

6.4 Oceanography

Describe important parameters of ocean waters and coastal areas within the project site, including the following:

a) any past or existing pollution problems in the ocean waters and coastal waters;

b) historical trends and existing condition of water quality;

c) projects (if any) which are located in the vicinity of the ocean body and are presently contributory to its degradation (including kinds and quantities of wastes disposed); and

d) native of tides, currents, wave action, littoral currents and shoreline characteristics.

6.5 Atmosphere

The following items should be described in this section:

a) historical trends in air quality of the project area;

b) existing air quality and types and levels of air pollutants already existent in the area of concern; and

c) to be appended are existing ambient air quality standards and emission standards set by EMB;

6.6 Vegetation

Describe the following items:

a) forest cover, forest stand structure, maturity, (provide a map of the above information, if available);

b) species of plants comprising plant communities, indicate relative abundance of species by quantitative means or if unavailable, indicate livelihood of occurrence (common, occasional, rare); described its importance to man and to species of animals in the area which depend on these plants for food or as a habitat;

c) identify undisturbed, rare or unique vegetation, plant life of special economic, historic, social or scenic value.

6.7 Fish and Wildlife

Describe the following items:

a) distribution and relative abundance, within the area of concern, of species of animals and fish; indicate their importance, i.e., food sport, commercial, scientific, ecological or aesthetic. List should be by common names and scientific names;

b) identify any rare and endangered species found in the vicinity of the project area;

c) diversity, rarity, breeding and feeding grounds, migration areas and routes of all species identified; and

d) extent and nature of utilization of fish, birds, mammals, and other animals in the project area, and the relative importance of these resources to the people of the area.

6.8 Land and Resource Use

Describe the following items:

a) the existing land uses of the project area and immediate vicinities, e.g., agricultural, residential, industrial, etc., and the use of other resources (transportation facilities, structures, waste disposal, etc., not included in 6.7(d);

b) the existing land-use plans and patterns of the area and indicate any inconsistencies to proposed plans, if any; and

c) areas within the project area and immediate vicinities, of unique sensitivity or special status such as ecological reserves, nature reserves, campsites, military reserves, scenic spots, etc., and areas of religious, historic and cultural significance.

6.9 Socio-economic Aspects

Describe :

a) existing lifestyles of the community including cultural and spiritual community patterns;

b) population densities and characteristics, e.g., distribution by age, sex, ethnic, groups, educational attainment, etc.;

c) employment situation, including occupational distribution, location and availability of work force;

d) existing housing facilities, business establishments, hospitals, schools, aesthetic and recreational facilities, fire protection, law enforcement manpower, etc., including beneficiaries of such facilities and/or services;

e) existing income of municipality and/or barangay where the project is to be located; and

f) existing transportation and communication facilities, (use a map showing the relation of the project area with said facilities).

7.0 FUTURE ENVIRONMENTAL CONDITIONS WITHOUT THE PROJECT (An average of five (5) years projection)

This section will provide reviewers an idea of the prevailing environmental conditions in the proposed project area without the changes and stimulating factors the proposed project would p se. Thus, this information will serve as basis against which significance of impacts of the proposed project could be determined and appropriately evaluated. All subsections in 6.0 will be discussed in this section utilizing available environmental data presented in the preceding section. Further, factors and conditions which might have a bearing in the projection of impacts, (e.g., meteorological features of the area, existing projects and pollutants should be accounted for in making the projection.)

Particular attention should be given to foreseeable unique environmental problems, levels of atmospheric pollutants, quality and quantity of water, socio-economic conditions, etc.

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8.0 PREDICTION AND ASSESSMENT OF IMPACTS

This section must describe and compare the possible environmental impacts of the project and all alternatives with emphasis on actions most likely to cause major environmental disruptions. The assessment of the potential impacts should be made on the basis of information collected from existing sources supplemented by field data. If factual data are not available or of questionable quality, the report should clearly indicate that the impacts are predicted on unsubstantiated scientific grounds. Impacts should be categorized as direct or indirect and should be considered at all stages of the project - pre-construction, construction, operation and abandonment phases.

8.1 Physical/Chemical Effects

These are impacts on environmental elements which are always present to some degree such as water, land and air and may be briefly summarized as follows:

a. Water

i. Surface Water

- Alteration of shorelines, riverbeds, lakebeds, etc.; occurrence of erosion; deposition of silt;

- Decrease/increase of water level in watershed areas; disruption of run- off routes; changes in drainage and flood characteristics of water body; fluctuation of water levels and flow rates in great extremes, thereby affecting users on structures on the route;

- Changes in water quality resulting in increased water treatment cost and abandonment;conflict with regulation, guidelines, standards for various water uses.

ii. Ground Water

- Alteration in ground water flow and elevation, decrease or increase in ground water sources; change in major uses and users of water;

- Changes in the interaction of ground water with surface drainage through the processes of infiltration, re- charge, discharge, etc., changes in soil percolation rates; and

- Change in the interaction of ground water quality of even abandonment of sources.

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b.) Atmosphere

i. Air Characteristic

- Changes in air characteristics resulting from the project may have implications from the standpoint of public health, temperature modification, humidity change.

ii. Wind

- Occurrence of wind modification (valley, barrier or funnel effect), creation of localized with disturbances such as those resulting from the establishment of high rise building complexes and highways.

iii. Inversion

- Development of inversion conditions which result in the entraprient of

- air remittance causing high impingement concentrations of air pollutants.

8.2 Ecological Effects

These are effects on the distribution and/or abundance of plant or animal species. Species refer to groups of organisms which interbreed or are potentially capable of interbreeding and which are reproductively isolated from all other groups of organisms.

a.) Terrestrial Species

i. Vegetation

Adverse effects of project on rare species, destruction of unusual local populations of certain plant species.

ii. Wildlife

Certain wildlife species are rare or locally unusual because of natural factors or because of habitat loss and degradation. Hence, populations of such species may be adversely affected through failure to map concentration locations and failure to reduce adverse impacts through project timing and location, noise reduction, establishment of wildlife reserves, etc.

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b.) Aquatic Species and Habitats

- Untimely species extermination through changes in habitat modification, including increases in water temperature, nutrient and sediment loading and changes in water flow rates and levels;

- Destruction of spawning beds through inadequate drainage control and soil stabilization near water bodies;

- Degradation or destruction of aquatic habitat through extensive cutting and filling in the approaches to river and stream crossings catalyzed by inadequate drainage control and soil stabilization.

8.3 Aesthetic Effects

Certain basic qualities such as harmony in proportion, color and scale are viewed by a majority of normal human beings in the same perspective and a such, constitute a reasonably good base for unbiased evaluation of an area. Hence, the following basic concerns associated with aesthetic qualities should be considered:

a.) Land

Impairment through project siting or facility of present scenic qualities such as prominent rock outcrops in low relief areas, exposed surfaces of heterogeneous, mixtures of rock types displaying color and texture contrasts, etc.

- Visual impairment of the scenic features of the project area such as wide vista areas, sharp landscape contrast between mountainous areas and broad river valleys or plains.

b.) Atmosphere

- Effect on visual qualities by the generation of dust or the discharge of particulates.

c.) Water

- Change in appearance of a watercourse through changes in color, turbidity, quantity and force;

- Reduction in the attractiveness of project area by the physical intrusion of a facility or deposit of debris.

d.) Flora and Fauna

- Change in size, abundance, maturity and species diversity of area vegetation and wildlife.

e.) Man-made Objects

The significance of man-made object may be impaired not by disturbance of the object itself but by disturbing its surrounding, e.g. establishment of a part next to a bathing area. Hence, architecture and siting of project as well as knowledge and appreciation of surrounding areas should be carefully studied and considered.

f.) Composition

Drastic alteration of an area's aesthetic appeal through modification of one or several of its elements.

8.4 Socio-economic Effects

Factors to be considered in this section are the project's effect and associated environmental modifications on human health, welfare and social organizations. In the assessment of those effects, the following elements should be considered:

a.) Demography

Changes in population size, composition, distribution and implications of these changes;

Possible disruption in fertility, mortality and migrational patterns of the area;

Effect on the area's service sector through migration of workers and dependents to project site.

b.) Manpower

- Short and long-term labour market impact on residents;

Impacts on the relevant components of the labour markets;

- Impact of employment on income levels and distribution; and

- Implications of employment access for residents.

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c.) Transportation

- Effects of transportation routes on the economy of the area;

- Cost of travel; and

- Availability of facilities to residents.

d.) Housing and Community Infrastructure

- Impact of additional infrastructure (housing, business, recreational facilities, schools, etc.) on the landscape or on the surrounding community;

e.) Education, Health and Safety and Social Services

- Effects of the project (direct and indirect on the health conditions in the area;

- Effect of changes in wages for the communities involved, possible impact on family dislocation, child development, crime and violence; and

- Possible stress and disruption among residents and non-residents.

- Occupational safety of the workers that will be employed by the project.

f.) Lifestyle

- Impact on the economic activities in and around the development area which have hearings on the lifestyle and socio-economic activities of the community;

- Possible changes in the quality of residential, cultural and spiritual community patterns and lifestyles; and

- Changes in recreational activities; and

- Effects on cultural communities near or within project area.

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9.0 CONTINGENCY PLANS

Discuss the possible significant environmental hazards during all stages of project implementation likely to be caused by accident or design failure, e.g., pipeline rupture, fire and accidental spills of toxic materials. Plans for the detection of these events, preventive measures to be utilized and plans for environmental rehabilitation, clean- up and restoration after such accidents should be discussed in detail.

10.0 ENVIRONMENTAL BRIEFINGS AND MONITORING

Discuss plans for an Environmental Awareness and the Emergency response (APELL) programs for all the project staff and the surrounding communities all stages of project implementation, plans for monitoring the environmental side effects and plans for an ongoing evaluation and updating the construction specifications, techniques, and scheduling of operations to ensure an increasingly effective protection of the environment as the project progresses towards completion.

11.0 MITIGATION MEASURES

Discuss the measures planned to be undertaken that would eliminate or reduce the severity of adverse impacts through the rehabilitation of impaired environmental features, e. g., revegetation/reforestation of a denuded area, the scheduling of associated activities, design and installment of waste treatment facilities, etc.

12.0 RESIDUAL/UNAVOIDABLE IMPACTS

Discuss the effects/impacts that are likely to remain after all practicable mitigating measures have been incorporated into the development proposal. Indicate the nature, extent and duration of said impacts. also state the environmental significance of the potential residual impacts.

13.0 INFORMATION DEFICIENCIES

Identify and discuss the information deficiencies encountered in the preparation of the EIS and the importance of these deficiencies in the assessment of environmental impacts. If possible, give terms of reference for studies to obtain the lacking information.

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14.0 APPENDICES

These should include all field (primary) and secondary data used to describe the past and existing environmental conditions of the project area, e.g., climatic records, population, atmospheric and water quality records, etc. Likewise, an annotated list of references and copies of reports or studies associated with the assessment should also be cited.

15.0 CONSULTATION AND COMMENTS INCLUDING PUBLIC RECOMMENDATIONS

All comments and recommendations gathered/received during the commenting stage of the draft EIS should be included under this section. Also, the replies of the project proponent to comments and queries of interested parties and other concerned entities should be placed under this section.

16.0 OTHER DOCUMENTS TO BE ATTACHED

The following documents are to be attached to the submitted EIS.

a.) Endorsement from the Local Government Unit or the Regional Development Council as the case may require

b.) Sworn statement from the Consultants who prepared the EIS which sample format is likewise appended.

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CERTIFICATION FROM THE LOCAL GOVERNMENT UNIT

This is to certify that the undersigned has read understood the implications of the proposal (Name of Project) on the surrounding areas. Further, I certify that I have consulted my respective constituents and that they interpose no objection whatsover for the project.

Done this _____ day of _____, at _____

By: _____

Subscribed and sworn to before me this _____ day of _____ _____, at _____. Affiant exhibiting to _____ at _____.

_____
Signature

Date: _____

CERTIFICATION

This is to certify that all the data/information contained in the PD/EIS are true, accurate and complete and that an objective and thorough assessment of the project was done. Any information that are found to be untrue, copied from other sources without due citation and which tends to misrepresent the findings of the study, the liability shall be held to be account of the undersigned.

Done this _____ day of _____, at _____

By:

Consultants duly authorized representatives

Subscribed and sworn to before me this _____ day of _____, at _____. Affiant exhibiting to me his Residence Certificate No. _____, issued on _____ at _____.

_____

Signature over printed nam

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ANNOTATED PROJECT DESCRIPTION OUTLINE

The following form shall be filled up for projects to be located in any of the twelve (12) environmentally critical areas as identified under Presidential Proclamation no. 2146

1.0 NAME AND ADDRESS OF PROJECT/PROGRAM PROPONENT

State the name of the person/entity who/which plans to undertake the project. The address and telephone, fax and pager no. if applicable number of the above should also be included to facilitate communications between the DENR and all concerned.

2.0 TYPE AND PURPOSE OF THE PROJECT

State the category and type to which the project belongs. It is recommended that DTI Industrial classification be used. Describe briefly the goals and objectives of the project.

3.0 LOCATION AND AREA TO BE COVERED BY THE PROJECT

Indicate the exact location as well as the total area of the project site on a 1:10,000 scale topographic map and/or 1:10,000 cadastral survey plan. Attach appropriate clearances/references/proofs of application zoning certification form on other regulatory agencies concerned with land use planning e.g. HLRB, DZA etc.

4.0 PROJECT SCALE AND CYCLE

a. Discuss the project process. Include in this portion the projected extraction rate, milling rate, manufacturing rate, capacity and/or output of the project.

b. State the projected lifespan of the project in year and the estimated cost of the project in persons. Project cost should include cost of each of the following:

a.	Workforce	e.	Machineries/equipment
b.	Maintenance/Operation	f.	Supplies/Materials
c.	Rehabilitation	g.	Total Project Cost
d.	Installation		

For facility of the process describe present in a flowchart the plan of operation or process flow of the project. This portion should show the source of raw materials/construction materials on pertinent maps and how these materials are processed/utilized into their end products and by-products. The volume of the aforementioned materials should be stated in cubic meters and/or metric tons.

All activities that would be undertaken by the project proponent covering the entire project cycle (preconstruction, construction, operation, abandonment) should be discussed.

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5.0 IDENTIFICATION ENVIRONMENTAL IMPACTS

Fill up the attached leopold matrix

6.0 ENVIRONMENTAL MANAGEMENT MEASURES

On the basis of the filled matrix, state the mitigating measures that will be undertaken by identified impacts that will minimize the adverse effects.

7.0 SIGNATURE OF PROJECT PROPONENT OR PERSONS PREPARING THE PROJECT DESCRIPTION

Attach a sworn statement of the persons who prepared the project description together with his/their corresponding signature, and signify therein that the information provided are factual and true. Any discovery of misrepresentation of information can be a basis for the rejection of the PD or non issuance of the ECC.

Notes:

All documents should be submitted in Five (5) copies. The original copy should be notarized.

This outline was prepared by Environmental Impact Assessment Section of Environmental Management Bureau (EMB), Department of Environment and Natural Resources (DENR) and is provided free to all applicants.

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Instruction

Answer the following questions by placing an "X" in the appropriate YES/NO space; consider activity, construction, operational, as well as Indirect Impacts.

Use the "explanations" Section to clarify points or add information

A. Natural Biological Environment

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the proposed activity affect any natural feature or water resource adjacent to or near the activity areas? YES ___ NO ___									
If YES, specify natural feature affected:									
a. Surface water hydrology									
b. Surface water quality									
c. Soil/erosion									
d. Geology									
e. Climate									
2. Will the activity affect wildlife of fisheries? YES ___ NO ___									
If YES, specify vegetation and hectare(s) affected.									
a. Wildlife habitat									
b. Ecology of fisheries									
3. Will the activity affect natural vegetation? YES ___ NO ___									
If YES, specify vegetation and hectare(s) affected.									

B. Environmental Hazards

1. Will the activity involve the use, storage, release of, or disposal of any potentially hazardous substances? YES ___ NO ___

   If YES, specify substance and potential effect.

2. Will the activity cause an increase or probability of increase of environmental hazards? YES ___ NO ___

   If YES, specify type.

3. Will the activity be susceptible to environmental hazard due to its locations? YES ___ NO ___

   If YES, specify type.

C. Resource Conservation and Use

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity affect or eliminate land suitable for agricultural or timber production? YES ___ NO ___									
If YES, specify hectare and soil class which will affected:									
a. Inundation area (If the project result in inundation)									
2. Will the activity affect the potential use or extraction of an indispensable or scarce mineral or energy resource? YES ___ NO ___									
If YES, specify type affected.									
3. Will the activity affect the potential use or extraction of an indispensable or scarce mineral or energy resource? YES ___ NO ___									
If YES, specify resource affected and approximate amount.									

D. Water Quality and Quantity

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity affect the quality of water resources within, adjacent to, near the activity area? YES ___ NO ___ If YES, specify water resource affected and amount in gallons/day: a. Quality and Quantity									
2. Will the activity result in a deleterious effect on the quality of any water resource areas or watersheds? YES ___ NO ___ If YES, specify water resource that might be affected.									

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
a. Will the activity affect the water supply downstream irrigation (if applicable) If YES, specify possible substances causing effects.									

E. Air Quality/Atmospheric Environment

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity affect the air quality in the project area, immediately adjacent areas, or the regional airshed? YES ___ NO ___ If YES, specify possible substance affecting air quality.									

F. Noise/Sonic Environment

1. Will the activity result in the generation of noise? YES ___ NO ___

   If YES, specify noise source.

G. Community Facilities/Services

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the proposed activity result in changes in community facilities, services or institutions? YES ___ NO ___									
If YES, specify facilities/services/institutions affected.									
a. School, medical center, electricity, water supply									
2. Will the proposed activity result in changes in the supply of, or demand for, infrastructure? YES ___ NO ___									
Facilities									

II. Community Structure

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the proposed activity relocate existing community facilities, business enterprises and housing? YES ___ NO ___									
a. Resettlement project									
If YES, specify potential community facilities, business enterprises, and housing areas affected:									
2. Will the proposed activity substantially change the income, racial, ethnic or age distributions of the neighborhood and community? YES ___ NO ___									
If YES, specify areas/changes									
a. Income									
3. Will the proposed activity result in changes in community population? YES ___ NO ___									
If YES, estimate what the population change will be as a percentage increase/decrease of the existing population. Indicate increase or decrease, and percentage change.									
a. Percentage change unknown									
4. Will the activity result in potential conflicts or impact physical, demographic or attitude/value cohesion? YES ___ NO ___									
If YES, specify impact.									
5. Will the activity result in impacts to lifestyle or values systems? YES ___ NO ___									

I. Open Space and Recreation

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity affect the condition, use of or access to any space and/or recreation areas? YES ____ NO ____									
2. Are any mitigation or enhancement measures foreseen to compensate for the above sated impacts? YES ____ NO ____ Explain below.									
1. Will the activity create new opportunities for recreational experiences? YES ____ NO ____ If YES, specify. a. Reservoir-related recreation									

J. Historic Resources

1. Will any site or structure of historic significance be affected? Yes _____ No _____

2. Will any known archaeological or palaeontological site be affected by the activity? Yes _____ No _____

K. Visual Resources

	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity cause a change in the visual character in or near the activity area through alternation of natural or cultural features? YES ____ NO ____ If YES, specify natural and cultural features that may be changed. a. Natural									
2. Will the activity affect views or access to views of natural or cultural landscape features? YES ____ NO ____ If YES, specify viewshed affected. a. Natural									
3. Will the activity introduce new materials, colors, and forms to the immediate landscape? If YES, specify.									

L. Economics and Environment

	Direct	Indirect	Short Term	Long Term	Regional	Intra-state	[illegible]	Federal	Individual
1. Will the proposed activity cause elimination or relocation of existing commercial and industrial enterprises? YES ____ NO ____									
2. Will the activity cause generation of reduction in employment? YES ____ NO ____									
3. Will the proposed activity affect property values and local tax revenues? YES ____ NO ____									
If YES, specify potential effects.									
a. Irrigation District									
4. Will the proposed activity affect local expenditures for infrastructural services (sewer, water, etc.)? YES ____ NO ____									
5. Will the proposed activity effect the local regional-economics? YES ____ NO ____									
a. Increase of the local revenues									
6. Will the activity cause an increase or decrease in seasonality of employment? YES ____ NO ____									
If YES, indicate which and state occupation and groups affected.									
a. Farmer-irrigation									

M. Planning Coordination and Growth	Direct	Indirect	Short Term	Long Term	Reversible	Irreversible	Severe	Moderate	Insignificant
1. Will the activity require a variance from or result in a potential violation of any statute, ordinance, by-law, regulation, or prevent or minimize damage to the environment? YES ___ NO ___ If YES, specify variance and/or statutes.									
2. Will the activity stimulate additional local and regional land use development? YES ___ NO ___ If YES, specify extent and scale(s). a. Land use-irrigation									
3. Are there any other development planned which are or will be impacted by the proposed activity including those beyond the control of the submitting agency? YES ___ NO ___ If YES, specify other development affected.									

Source: Application and Evaluation of EIA Methodologies Using A Small Dam/reservoir Case Study, presented to the Intercountry Workshop on Rapid Techniques for Environmental Assessment in Developing Countries, Asian Institute of Technology, Bangkok, 1-5 February 1982.

Annex C

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

ENFORM I

PROPONENT : _____

LOCATION : _____

SHORT DESCRIPTION OF PROJECT: _____

_____

_____

_____

1. Is your project in any of those areas that fall under the category of 'Environmentally Critical Projects' which list appears as Annex A?

☐ Yes ☐ No

2. Is your project in any of those areas within the identified 'Environmentally Critical Areas' which list appear as Annex B?

☐ Yes ☐ No

I hereby certify that the above information are true to my knowledge and I shall be held liable if found to be untrue.

_____ Date

_____ Proponent

Processing fee ₱_____
Official Receipt #:_____

THIS PORTION IS TO BE FILLED UP BY APPROPRIATE DENR AUTHORITY

TO WHOM IT MAY CONCERN:

This is to certify that _____ *is hereby exempted from PD 1586 and that, therefore, the proponent can proceed with the implementation of the proposed project, subject however, to the conditions attached to this certificate and other appropriate environmental rules and regulations required by both national and local authorities.*

Given this _____ *day of* _____, *19*____, *at* _____

(PLACE DENR SEAL HERE)

BY AUTHORITY OF THE DENR SECRETARY:

_____
(Name & Designation)

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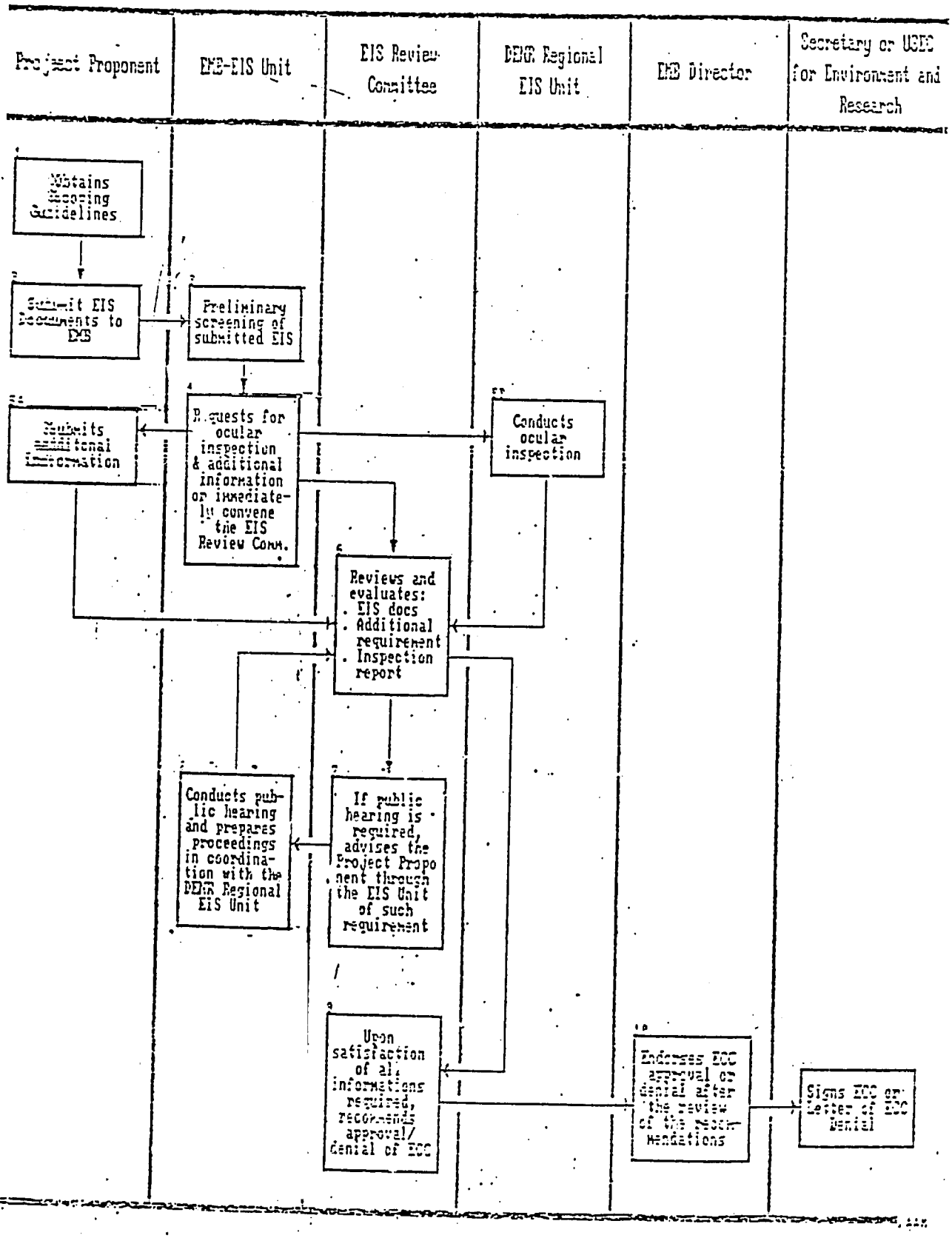
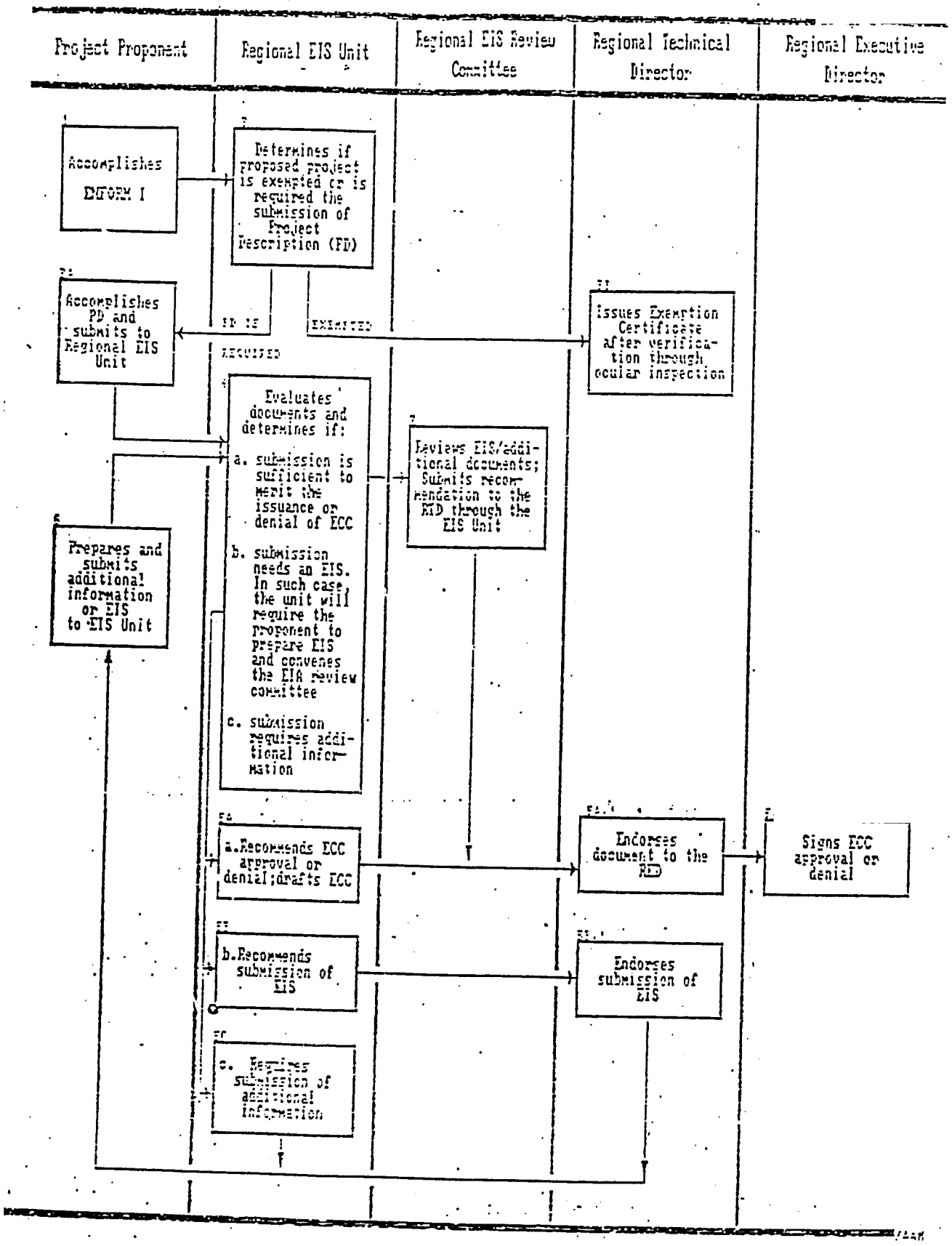
REVIEW OF ENVIRONMENTAL IMPACT STATEMENT (EIS) DOCUMENTS



REVIEW OF PROJECT DESCRIPTION (PD) DOCUMENTS



APPENDIX E-4

LIST OF EXEMPTIBLE PROJECTS TO EIA REQUIREMENTS

LIST OF EXEMPTIBLE PROJECTS TO EIA REQUIREMENT

I. Introduction

One of the limitations of P.D. 1586 (EIS System) is that many projects with no or minimal significant impacts are required to undergo the EIA process due to their being located in environmental critical area. While to a certain extent, subjecting these non-environmentally critical projects to EIA could be environmentally beneficial, common sense and practicality dictates otherwise. With inadequate resources at the DENR to implement EIA, it becomes necessary to focus available resources to environmentally critical projects, i.e., those projects whose impacts are more significant or are of higher magnitude.

The main purpose of this list is to screen those projects that need not undertake EIA. This would guide DENR Regional Offices in the performance of their EIA functions as mandated by DENR Administrative Order No. 21: Amending the Revised Rules and Regulations Implementing P.D. 1586 (EIS System), as well as other entities involved in EIA, especially the Project Proponents.

The list is definitely incomplete. The items we have listed here are only those we have thought of and those which we have identified from our records. DENR personnel who will undertake the review and evaluation of projects seeking Environmental Compliance Certificates (ECC) are, therefore, advised to use their knowledge and skills, discretion and reasoning in the screening of projects not listed here.

II. List of Exemptible Projects by Industry

A. Agro-Base

1. Rice Mills
2. Corn Mills
3. Backyard Animal Farms, including:

    a. Poultry - Up to 1,000 heads
    b. Piggery - Up to 20 heads/sows
    c. Cattle Fattening/Breeding/Dairy - Up to 100 heads
    d. Goat raising

4. Crop Plantations whose lands have already been developed or converted to agricultural purposes, including:

    a. Sugar cane
    b. Pineapple
    c. Banana
    d. Abaca
    e. Citrus

5. Flowers/Ornamentals Production and Sale, including Landscaping

6. Purchase/Sale/Importation of Farm Implements including:

   a. Tractors
   b. Haulers
   c. Sprayers
   d. Threshers
   e. Dryers
   f. Shellers
   g. Irrigation Pumps
   h. Work Animals
   i. Graders/Sorters

7. Storage/Post harvest Facilities

8. Refrigeration and Cold Storage Facilities

B. Fishery

1. Deep sea fishing

2. Purchase/Sale/Importation of Fishing Vessels and Fishing Gears and Equipment

C. Mining

Exploration activities involving diamond drilling, trenching, test pitting; except geothermal and oil exploration.

D. Forestry

1. Integrated Social Forestry Projects which are community-based agro-forestry projects designed to maximize upland productivity, enhance ecological stability and improve the socio-economic conditions of forest occupants and communities dependent on the forests for livelihood.

2. Watershed Rehabilitation Projects involving the implementation of soil erosion control measures through vegetative (bench, brush, fascine, etc.) and/or engineering (check dams, rip-raps, gabions) means.

E. Infrastructure

1. Repair, routine maintenance and/or replacement of existing public service facilities necessary to maintain service, including the following:

a. Roads and Bridges
b. Water Supply and Sewerage Systems
c. Dikes, Breakwaters
d. Flood Control and Drainage Spillways
e. Seawalls, Riverwalls, Navigational Aids
f. Boat Launching or Mooring
g. Piers and Pilings
h. Improvement of Fish Landing Sites and Hatcheries

2. Construction Activities involving

   a. single/two story structures 200 sq. m. or less designed for 40 persons or less.

   b. repair, maintenance, replacement of existing facilities and accessory structures.

3. Construction, repair, replacement or maintenance of temporary or permanent, minor structures or facilities accessory to existing installations including the following: signs, fences, utility or equipment storage tanks, water sprinkling systems, parking lots, loading and unloading ramps, bus/jeepney or mini-bus shelters, guard houses, water tanks, curbs, gutters, sidewalks and driveways abutting existing streets, and interior or exterior remodelling or alteration of existing structures or facilities.

4. Routine maintenance and improvement works on existing dams, artificial lakes or reservoir facilities and accessory structures.

5. Ice Plants

6. Machine Shops/Foundries up to 1 ton capacity.

7. Small water impounding projects.

8. All level I (point source development) and level II (communal faucets) water supply facilities.

9. Construction of schools, churches, medical clinics facilities, sports and recreation facilities, public markets.

F. Transport

Purchase/Sale/Importation including repair and maintenance of passenger/transport/cargo/vessel, airplanes/helicopters, trains, trucks, buses/mini-buses, jeepneys.

G. Garments manufacturing with no dyeing and only involving spinning, cutting and sewing.

H. Cottage industries including:

1. Stuffed toys manufacturing
2. Handicrafts and giftware
3. Rattan/Furniture manufacturing

I. Service Sector

1. Restaurants/Fastfoods
2. Motels/Inns
3. Vulcanizing Shops/Tire recapping
4. Bakeries
5. Gasoline Stations except LPG facilities.

Prepared by: Environmental Impact Assessment Group
Environmental Management Bureau
DENR
July 1992

APPENDIX E-5

DRAFT MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This Agreement entered into by and among:

The **DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES** and its attached agencies and bureaus, a government agency existing under the laws of the Republic of the Philippines, with main office at Visayas Avenue, Diliman, Quezon City, and represented by its Secretary, **FULGENCIO S. FACTORAN, JR.**, hereinafter referred to as "DENR";

The **DEPARTMENT OF AGRICULTURE** and its attached agencies and bureaus, a government agency existing under the laws of the Republic of the Philippines with main office at Elliptical Road, Diliman, Quezon City, and represented by its Secretary, **SENEN C. BACANI**, hereinafter referred to as "DA";

The **DEPARTMENT OF AGRARIAN REFORM**, a government agency existing under the laws of the Republic of the Philippines, with main office at Elliptical Road, Diliman, Quezon City, and respresented by its Secretary **BENJAMIN T. LEONG**, hereinafter referred to as "DAR";

The **HOUSING AND LAND USE REGULATORY BOARD**, a government regulatory agency existing under the laws of the Republic of the Philippines, with main office at the NHA Compound, Elliptical Road, Diliman, Quezon City and represented by its Commissioner, **ERNESTO C. MENDIOLA**, hereinafter referred to as "HLURB";

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The **PUBLIC ESTATES AUTHORITY**, a government agency existing under the laws of the Republic of the Philippines with main office at Paseo de Roxas, Makati, Metro Manila and represented by its General Manager, **LUIS B. PANGILINAN**, hereinafter referred to as "PEA";

The **NATIONAL HOUSING AUTHORITY**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main office at Elliptical Road, Diliman, Quezon City and represented by its Acting General Manager, **ROBERTO F. BALAO**, hereinafter referred to as "NHA";

The **DEPARTMENT OF TOURISM**, a government agency existing under the laws of the Republic of the Philippines, with main office at T. M. Kalaw, Manila and represented by its Secretary, **NARZALINA LIM**, hereinafter referred to as "DOT";

The **DEPARTMENT OF TRADE AND INDUSTRY**, a government agency existing under the laws of the Republic of the Philippines, with main office at Gil Puyat Avenue, Makati, Metro Manila and represented by its Secretary, **LILIA R. BAUTISTA**, hereinafter referred to as "DTI";

The **BOARD OF INVESTMENTS**, a government agency existing under the laws of the Republic of the Philippines, with offices at Sen. Gil Puyat Avenue, Makati, Metro Manila, and represented by its Secretary, **LILIA R. BAUTISTA**, hereinafter referred to as "BOI";

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The **ENERGY REGULATORY BOARD**, a government regulatory agency existing under the laws of the Republic of the Philippines, with main office at Philcomcen Building, Ortigas Avenue, San Juan, Metro Manila and represented by its Chairman, **REX V. TANTIONGCO**, hereinafter referred to as "ERB";

The **OFFICE OF ENERGY AFFAIRS**, a government regulatory agency existing under the laws of the Republic of the Philippines, with main office at Meritt Road, Fort Bonifacio, Makati, Metro Manila, and represented by its Acting Executive Director, **RUFINO B. BOMASANG**, hereinafter referred to as "OEA";

The **NATIONAL POWER CORPORATION**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main office at Quezon Avenue, Quezon City and represented by its President, **PABLO V. MALIXI**, hereinafter referred to as "NPC";

The **PHILIPPINE NATIONAL OIL CORPORATION**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main office at Makati, Metro Manila and represented by its President, **MONICO V. JACOB**, hereinafter referred to "PNOC";

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The **NATIONAL ELECTRIFICATION ADMINISTRATION**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines with main office at Quezon Avenue, Quezon City, represented by its Administrator, **RODRIGO E. CABRERA**, hereinafter referred to as "NEA";

The **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**, a government agency existing under the laws of the Republic of the Philippines, with main office at Port Area, Manila and represented by its Secretary, **JOSE DE JESUS**, hereinafter referred to as "DPWH";

The **DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS**, a government agency existing under the laws of the Republic of the Philippines, with main office at Philcomcen Building, Ortigas Avenue, Pasig, Metro Manila, and represented by its Secretary, **PETE NICOMEDES PRADO**, hereinafter referred to as "DOTC";

The **PHILIPPINE PORTS AUTHORITY**, a government agency existing under the laws of the Republic of the Philippines with main office at South Harbor, Port Area, Manila, and represented by its General Manager, **ROGELIO A. DAYAN**, hereinafter referred to as "PPA";

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The **NATIONAL WATER RESOURCES BOARD**, a government regulatory agency existing under the laws of the Republic of the Philippines with main office at the NIA Building, EDSA, Diliman, Quezon City and represented by its Executive Director, **LUIS M. SOSA**, hereinafter referred to as "NWRB";

The **NATIONAL IRRIGATION ADMINISTRATION**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main offices at EDSA, Quezon City, and represented by its Administrator, **JOSE B. DEL ROSARIO, JR.**, hereinafter referred to as "NIA";

The **METROPOLITAN WATERWORKS AND SEWERAGE SYSTEM**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main office at Katipunan Road, Balara, Quezon City and represented by its Administrator, **LUIS V. Z. SISON**, hereinafter referred to as "MWSS";

The **LOCAL WATERWORKS AND UTILITIES ADMINISTRATION**, a government owned and controlled corporation existing under the laws of the Republic of the Philippines, with main office at Katipunan Road, Quezon City, and represented by its Administrator, **ARMANDO LIZASO**, hereinafter referred to as "LWUA";

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The **LAGUNA LAKE DEVELOPMENT AUTHORITY**, a government regulatory agency existing under the Republic of the Philippines with main office at Bonifacio Building, University of Life, Pasig, Metro Manila, and represented by its Acting General Manager, **DR. VICENTE C. LAVIDES**, hereinafter referred to as "LLDA";

The **METRO MANILA AUTHORITY**, a government agency existing under the laws of the Republic of the Philippines, with main office at Orense St., Makati, Metro Manila, and represented by its General Manager, **ROBERTO C. NACIANCENO**, hereinafter referred to as "MMA";

The **DEPARTMENT OF SCIENCE AND TECHNOLOGY**, a government agency existing under the laws of the Republic of the Philippines, with main office at Bicutan, Taguig, Metro Manila, and represented by its Secretary, **CEFERINO L. FOLLOSCO**, hereinafter referred to as "DOST";

The **DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT**, a government agency existing under the laws of the Republic of the Philippines, with main office at Mandaluyong, Metro Manila, and represented by its Secretary, CESAR N. SARINO, hereinafter referred to as "DILG";

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The **NATIONAL MUSEUM**, an attached agency of the Department of Education, Culture and Sports (DECS) existing under the laws of the Republic of the Philippines, with main office at the Executive House Building, P. Burgos St., Manila.

The **DEPARTMENT OF HEALTH**, a government agency existing under the laws of the Republic of the Philippines, with main office at the San Lazaro Compound, Sta. Cruz, Manila, and represented by its Secretary, **ANTONIO PERIQUET, JR.**, hereinafter referred to as "DOH";

The **LAND BANK OF THE PHILIPPINES**, a government financial institution existing under the laws of the Republic of the Philippines, with main office at Sen. Gil Puyat Avenue Extension, Makati, Metro Manila and represented by its President, **DEOGRACIAS N. VISTAN**, hereinafter referred to as "LBP";

The **DEVELOPMENT BANK OF THE PHILIPPINES**, a government financial institution existing under the laws of the Republic of the Philippines with main office at Buendia Avenue, Makati, Metro Manila and represented by its President, **ROBERTO F. DE OCAMPO**, hereinafter referred to as "DBP";

The **NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY (NEDA)** acting as the Technical Secretariat of the **INVESTMENT COORDINATION COMMITTEE (ICC)** an inter-agency committee of the NEDA Board tasked to review the economic, technical, financial and socio-political merits of development projects, with main

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office at Amber Avenue, Pasig, Metro Manila and represented by its Director General, CAYETANO W. PADERANGA, JR., hereinafter referred to as "NEDA-ICC";

-WITNESSETH: THAT-

WHEREAS, the only rational way of planning the country's national progress is through sustainable development: the pursuit of higher levels of quality of life while preserving or even enhancing environmental quality;

WHEREAS, the policies implemented and regulatory efforts undertaken by the Government have been insufficient in coping with the adverse environmental consequences of development projects;

WHEREAS, in its effort to protect the environment and conserve the stock of natural resources, the Government launched in 1977 the Environmental Policy Decree (P.D. 1151) and in 1978 the "Philippine Environmental Impact Assessment (EIA) System" (P.D. 1586), which required proponents of development projects to forecast the environmental impacts of such projects on the environment, determine and implement concomitant preventive or mitigating measures to address adverse consequences and submit a report of their findings in the form of either a Project Description (PD) document or an Environmental Impact Statement (EIS);

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WHEREAS, the Environmental Impact Assessment Group of the Environmental Management Bureau (EMB) of DENR, hereinafter referred to as the EIA Group, was created to implement the goals and objectives of the aforecited provisions of P.D. 1586;

WHEREAS, it is recognized that other government and regulatory agencies aside from DENR are involved in various aspects of environmental protection and natural resources conservation;

WHEREAS, there is a need to streamline the procedures of processing applications for the Environmental Compliance Certificate (ECC);

WHEREAS, to ensure the success of the implementation of the EIA System, there is a need to encourage more active participation of line and regulatory agencies, government owned and controlled corporations (GOCCs), government and private financial institutions, the private business sector, and non-government organizations (NGOs) in policy formulation, program implementation and to strengthen collaboration among them through more functional and viable working arrangements;

WHEREAS, it is equally essential to provide a basic framework to promote inter-agency linkages in the implementation of the EIA System;

WHEREAS, the DENR is the primary agency tasked with the environmental protection, natural resources conservation and EIA administration;

WHEREAS, the DA is responsible for the management and development of agricultural lands;

WHEREAS, the DAR has jurisdictional authority over the management of agricultural lands for conversion to non-agricultural uses;

WHEREAS, the HLURB is responsible for the development and implementation of an integrated program of land use and zoning policies for the entire country;

WHEREAS, PEA is responsible for the determination, development and administration of reclamation sites except those intended for port operations purposes; WHEREAS, NHA is responsible for the development of government housing and resettlement programs;

WHEREAS, the DPWH is responsible for the development, construction and maintenance of national roads, bridges and major flood control infrastructure projects;

WHEREAS, the NIA, NWRB, MWSS, and LWUA are collectively responsible for the management, development and rehabilitation of water resources;

WHEREAS, the PPA is responsible for the development, upgrading, rehabilitation and maintenance of ports throughout the country;

WHEREAS, DOTC is the primary government entity responsible for policy formulation, planning, programming, implementation, administration and regulation of transportation and communication networks and systems;

WHEREAS, the DOT is responsible for the development and promotion of tourism as a major contributor to the social and economic growth of the country;

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WHEREAS, the Government Financial Institutions (DBP, LBP) are responsible for the expeditious processing and release of loan requirements by private entities;

WHEREAS, the OEA, ERB, NEA, NPC, and PNOC are the responsible agencies for the development and management of the country's energy resources;

WHEREAS, the DOH is responsible for the promotion, protection, preservation and restoration of the health of the Filipino people;

WHEREAS, the DTI and BOI are responsible for the promotion and development of domestic and foreign trade, industries and investment;

WHEREAS, the DILG is responsible for the strengthening of the administrative and regulatory capabilities of local government units in the performance of their functions and that of devolved agencies under conditions of greater autonomy, with increasing capacity to govern and carry out social, economic, political and environmental development programs;

WHEREAS, the DOST is responsible for the formulation and implementation of policies, plans, programs and projects for the development and promotion of science and technology in the country;

WHEREAS, the NATIONAL MUSEUM is responsible for the study and preservation of the nation's rich artistic, historic and cultural heritage;

WHEREAS, the MMA is responsible for the maintenance of schools, operation of health facilities, formulation and implementation of development plans for Metro Manila;

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Now, Therefore, for and in consideration of the foregoing premises, the parties do hereby mutually declare and agree as follows:

General Principles

1. That, on the basis of mutual cooperation, concrete and concerted action shall be taken in support of the goals and objectives of the EIA System;

2. That, all line agencies shall integrate the EIA System into their regular functions particularly those leading to the design and location of development projects or anything that significantly affects the ecological balance in the area;

3. That, all government agencies proposing to implement development projects with possible environmental impact shall consult with communities to be affected, regulatory agencies and DENR-EMB at the earliest stage of project preparation;

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4. That, an inter-agency EIA network with sectoral classifications shall be established to facilitate regular exchange of information on procedures and guidelines, continued review of process flowcharts, documentation requirements and forms towards streamlining of overall environmental and government licensing and permit structures;

5. That, a regular review of policy and institutional arrangements related to the EIA System shall be conducted to monitor the effectivity of policy implementation and to institute corrective measures as required to reflect the dynamic nature and evolution of the EIA System;

6. That, the EIA network to be established at the central level shall be replicated, if administratively feasible, at the field offices of the concerned agencies; and,

7. That, the approval process must be time-bound.

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ROLES AND RESPONSIBILITIES

DENR shall:

1. Initiate policy, institutional and operational reforms to streamline and strengthen the implementation of the EIA System in consultation with the inter-agency EIA Network to be established;

2. Formulate, in coordination with NEDA and DILG, guidelines and criteria in determining social acceptability of development projects in the delineation of functions between the DENR and the Regional Development Councils (RDCs);

3. Devise plans for the accreditation of the Environmental Unit (EU) of each lead agency and provide technical assistance in the establishment of the EUs;

4. Provide agencies, through the EIA Network and its technical sectoral committees, streamlined PD/EIS flowcharts indicating procedures, requirements, duration of processing and other factors involved;

5. Disseminate, through its bureaus and attached agencies, as well as the EIA Network, the list of projects which requires the submission of PD, EIS, or are exemptible;

6. Decentralize the processing of Project Descriptions (PDs) to regional offices;

7. Provide technical assistance, as needed, in the preparation of the Environmental Impact Statement (EIS) in the form of streamlined scoping guidelines and reduced number of requirements;

8. Review the classification of environmentally critical areas and projects and revise same in consultation with the EIA Network;

9. Explore the possibility and study the implications of issuing a "programmatic" ECC, that is, designing generic conditions attendant to ECCs for certain types of projects (e.g., industrial estates); and,

10. Undertake the review of existing policies and enabling legislations.

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HLURB shall:

1. Strengthen institutional and operational linkages with and involve other agencies in the formulation and updating of its national land use policies, plans and programs;

2. Implement vigorously zoning rules and regulations nationwide for the effective separation of industrial from residential areas to minimize land use conflicts;

3. Designate permanent technical representatives to the inter-agency EIA Network and for agency representatives to be vested with decision-making powers and authority for and in behalf of HLURB;

4. Disseminate to agencies, through the EIA Network, pertinent findings on land use classification and zoning;

5. Replicate the streamlined systems and procedures enforced at the central level to the field offices and provide the necessary training and upgrading the capability of field personnel;

6. Advise proponents to secure ECCs after the issuance of a certificate of locational viability;

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7. Require and issue a Locational Clearance (LC) to proponents only after issuance of the ECC by EMB; and,

8. Explore the possibility of issuing an umbrella certification of locational viability for all areas pre-identified by the DOT as tourism estates and tourist zones.

NHA shall:

1. Integrate the development of housing and relocation programs and projects within the EIA System;

2. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of NHA; and,

3. Inform project proponents about the EIA System, assist in the packaging and design of project proposals which shall incorporate requirements in the preparation of either the PD or the EIS.

DAR shall:

1. Designate a permanent technical representative to the inter-agency EIA Network;

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2. Inform all land use conversion applicants about the EIA System and require the presentation of the ECC; and

3. Design and implement, in coordination with the EIA Network, a systematic process flow for land use conversion.

DA shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of the DA;

2. Establish an Environmental Unit (EU) whose responsibility is to pre-screen PDs prior to endorsement to EMB;

3. Inform project proponents about the EIA System, assist in the packaging and design of project proposals which shall incorporate requirements in the preparation of either the PD or the EIS; and

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4. Require the presentation of the ECC and the Permit to Operate before issuance of a certificate of registration for feedmilling operations and biologics manufacturing.

BOI shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of BOI;

2. Establish an Environmental Unit (EU) whose responsibility is to pre-screen, check consistency and completeness of documentation requirements and pre-evaluate of PDs prior to endorsement to EMB; and,

3. Establish a one-stop clearing house whereby proponents seeking BOI-incentives shall be provided assistance in the processing of EIA and other pertinent regulatory requirements.

DTI shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of DTI;

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2. Submit their industrial estate programs to HLURB to serve as input to the formulation and updating of the national land use plans and programs; and,

3. Require each developer of the regional industrial centers (RICs) and public industrial estates (PIEs) to submit Environmental Impact Statement (EIS) to DENR-EMB and each locator within the RICs and PIEs to submit only Project Descriptions to the DENR Regional Office concerned.

<u>DPWH,DOTC, LWUA, NWRB, NIA, MWSS, PEA, PPA shall</u>:

1. Designate permanent technical representatives to the inter-agency EIA Network and for agency representatives to be vested with decision-making powers and authority for and in behalf of their respective agencies;

2. Ensure that all infrastructure agencies shall integrate the EIA System in the planning, programming and design of projects; and,

3. Submit their infastructure programs to HLURB as inputs to the formulation and updating of national land use plans and programs.

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DOT shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of DOT;

2. Establish a one-stop clearing house whereby proponents undertaking tourism-related activities/projects shall be provided assistance in the processing of EIA and other pertinent regulatory requirements.

3. Establish an Environmental Unit (EU) whose responsibility is to pre-screen, check consistency and completeness of documentation requirements and pre-evaluate of PDs prior to endorsement to EMB; and,

4. Submit the tourism master plan to HLRB to serve as input to the formulation and updating of national land use plans and programs.

OEA/ERB/NEA/PNOC/NPC shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of their respective agencies;

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2. Ensure that proponents have acquired an ECC prior to issuance of any permits from concerned agencies;

3. Establish an Environmental Unit (EU) whose responsibility is to pre-screen, check consistency and completeness of documentation requirements and pre-evaluate PDs prior to endorsement to EMB; and,

4. Allocate in project budgetary requirements corresponding amounts for the environmental guarantee fund in the case of PNOC and NPC.

DOH shall:

1. Strengthen the capability of the exisitng Environmetnal Health Service to perform the functions of environmental health ipact assessment, and;

2. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of DOH.

DOST shall:

1. Review the appropriateness of adopting foreign technologies in the country and consider their possible deleterious effects to the environment; and,

2. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representative to be vested with decision-making powers and authority for and in behalf of DOST.

The NATIONAL MUSEUM/MMA/DILG shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for the agency representatives to be vested with decision-making powers and authority for and in behalf of their respective agencies; and,

2. Establish an Environmental Unit (EU) whose responsibility is to pre-screen, check consistency and completeness of documentation requirements and pre-evaluate of PDs prior to endorsement to EMB.

DBP and LBP shall:

1. Designate a permanent technical representative to the inter-agency EIA Network and for agency representatives to be vested with decision-making powers and authority for and in behalf of their respective agencies; and,

2. Establish an Environmental Unit (EU) whose responsibility is to pre-screen, check consistency and completeness of documentation requirements and pre-evaluate of PDs prior to endorsement to EMB.

NEDA shall:

1. Provide technical support, as needed in establishing the inter-agency EIA Network; and,

2. Monitor implementation of streamlining efforts in coordination with NGOs, as well as participation of concerned agencies and report on the progress of the EIA Network to the ICC.

IN WITNESS WHEREOF, the parties, through their duly authorized representatives, have hereunto affixed their signatures this 26th day of June 1992 in Manila.

FULGENCIO S. FACTORAN, JR.
Secretary
Department of Environment
and Natural Resources

BENJAMIN T. LEONG
Secretary
Department of Agrarian
Reform

SENEN C. BACANI
Secretary
Department of Agriculture

NARZALINA LIM
Secretary
Department of Tourism

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LILIA R. BAUTISTA
Secretary
Department of Trade and Industry/Board of Investments

JOSE P. DE JESUS
Secretary
Department of Public Works and Highways

PETE NICOMEDES PRADO
Secretary
Department of Transportation and Communications

ANTONIO PERIQUET, JR.
Secretary
Department of Health

CESAR N. SARINO
Secretary
Department of Interior and Local Government

CAYETANO W. PADERANGA, JR
Director General
National Economic and Development Authority

ERNESTO C. MENDIOLA
Commissioner
Housing and Land Use Regulatory Board

ROBERTO F. BALAO
Acting General Manager
National Housing Authority

JOSE B. DEL ROSARIO, JR.
Administrator
National Irrigation Administration

LUIS M. SOSA
Executive Director
National Water Resources Board

ARMANDO LIZASO
Administrator
Local Waterworks and
Utilities Administration

LUIS V. Z. SISON
Administrator
Metropolitan Waterworks
and Sewerage System

VICENTE C. LAVIDES
Acting General Manager
Laguna Lake Development
Authority

ROBERTO NACIANCENO
General Manager
Metro Manila Authority

LUIS B. PANGILINAN
General Manager
Public Estates Authority

ROGELIO A. DAYAN
General Manager
Philippine Ports Authority

RUFINO B. BOMASANG
Executive Director
Office of Energy Affairs

REX V. TANTIONGCO
Chairman
Energy Regulatory Board

PABLO V. MALIXI
President
National Power Corporation

MONICO V. JACOB
President
Philippine National Oil
Corporation

RODRIGO E. CABRERA
Administrator
National Electrification
Administration

GABRIEL CASAL
Director
National Museum

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DEOGRACIAS VISTAN
President
Land Bank of the Philippines

ROBERTO DE OCAMPO
President
Development Bank of the Philippines

CEFERINO L. FOLLOSCO
Secretary
Department of Science and Technology

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APPENDIX E-6

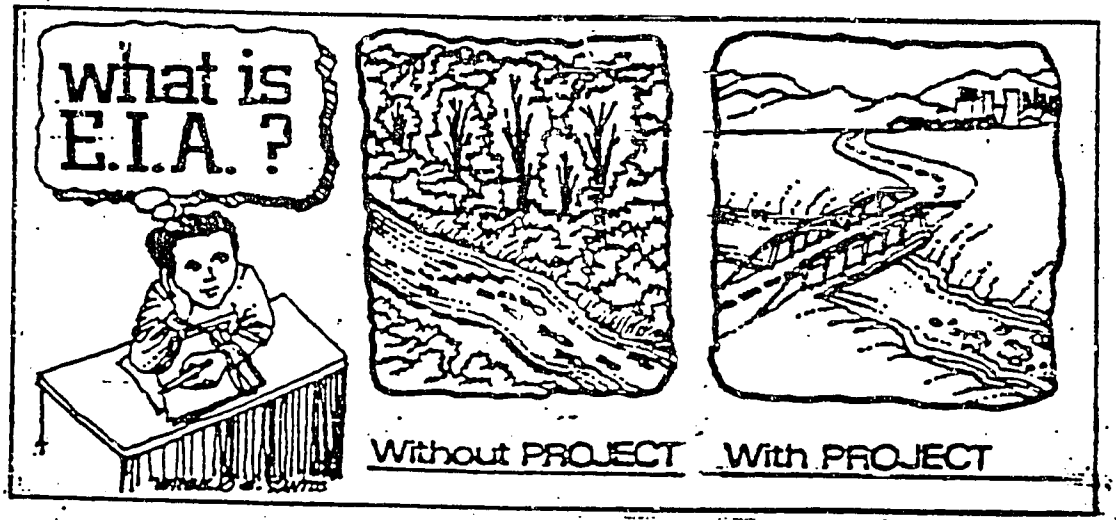
DRAFT MANUAL ON ENVIRONMENTAL IMPACT ASSESSMENT

Manual on Environmental Impact Assessment

I. INTRODUCTION

1. What is Environmental Impact Assessment?

Environmental impact assessment is a systematic study of the relationship between a project and the environment. It is a process whereby an estimate is made of the environmental consequences which may be expected to result from a proposed development activity or project. It determines what influence a project will have on the environment and how the environment will affect the project.



2. What is the role of environmental impact assessment in environmental management?

Environmental impact assessment is used as a planning and management tool. As a planning tool, it helps planners identify where to locate projects, how such projects should be designed, determine the operational constraints that will be encountered, and minimize adverse environmental impacts. As a management tool, it is used for collecting and analyzing information about the environmental effects of projects so as to help in implementing decisions.

The major objectives of environmental impact assessment are as follows:

1. Understand the likely consequences of new projects or activities on the environment;

2. Identify measures which can minimize these consequences; and

3. Provide sufficient data for decision making.

The assessment should provide answers needed by policy makers, planners, engineers, affected groups and government agencies, to help them understand the implications of projects proposals and to take the necessary decisions or actions.

3. **What are the legal bases for an environmental impact assessment?**

Presidential Decree (PD) 1151 issued in 1977 mandates all agencies and instrumentalities of the national government, including government-owned or controlled corporations, as well as private corporations, firms and entities to prepare environmental impact statements for any project or undertaking which significantly affects the quality of the environment.

PD 1586, issued in 1978 established the Environmental Impact Statement (EIS) System and defines its scope, which covers environmentally critical projects (ECP) and environmentally critical areas (ECA).

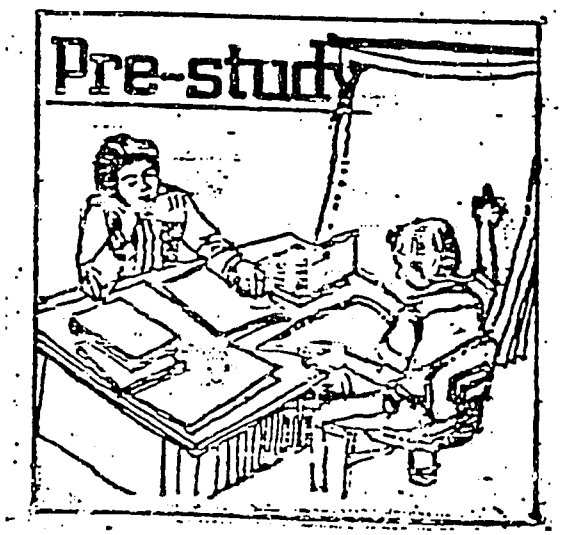
II. THE ENVIRONMENTAL IMPACT STATEMENT SYSTEM

1. **What is the EIS System?**

The EIS System refers to the entire process of organization, administration and procedure institutionalized for the purpose of assessing the significance of the effects of physical developments on the quality of the environment.

2. **What are the processes involved in the EIS System?**

The EIA System consists of three phases: viz.,



A. *The Pre-study Phase*

a. Pre-screening

While the project is being conceptualized, or in the feasibility study stage, the project proponent should coordinate with the EMB or the DENR regional office to determine if the project falls under the EIS System.

b. Scoping

In coordination with EMB and/or the DENR Regional Office, the information requirements for the study such as scoping guidelines, initial environmental evaluation, and terms of reference, are established.

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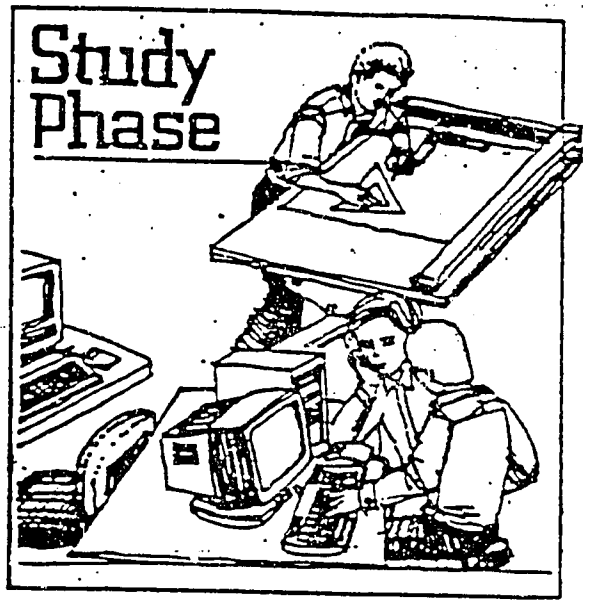
B. *The Study Phase*

c. Site characterization & Prediction of Impacts.

Information of the existing environment surrounding, including the site, are gathered. The types and magnitude of effects and impacts of the proposed project are identified and several alternatives are described.



d. Evaluation of Impacts and Proposal of Alternatives/Options

The Significance of the impacts of proposed projects are considered, and alternatives/options are proposed

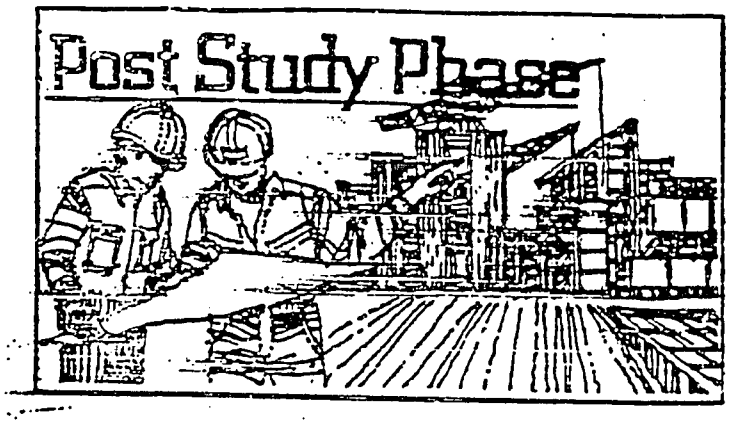
e. Identification and assessment of mitigating measures

The recommended measures are identified to mitigate the predicted adverse impacts of the proposed project. This stage include as well the identification of the various alternatives and their overall impacts are determined. The level of assessment at this stage depends on the requirements of the environmental impact assessment set at the pre-study phase.

f. Preparation of the EIS

The written report on the environmental impact assessment, known as the Environmental Impact Statement (EIS), is prepared.

C. *The Post Study Phase*



g. Review of the EIS

The Environmental Impact Statement (EIS) is reviewed by DENR in order to see if it is comprehensive and acceptable. There may also be provision of public hearing, to give the public the opportunity to check whether their concerns have been adequately addressed and represented in the report.

h. Granting of the Environmental Compliance Certificate

Once the process had been satisfied and that the environmental issues flagged in the study had been fully addressed, an Environmental Compliance Certificate is issued by DENR.

i. Post auditing and monitoring

The project is monitored to see if it conforms with the requirements set at the planning stage, and also to judge the quality of the assessment for future reference. Details of each process is discussed in Annex A of this Manual.

3. What projects are covered by EIS System?

The following Environmentally Critical Projects and Areas fall under the scope of the EIS system. Proponents are required to apply for Environmental Compliance Certificate (ECC) before these projects can be implemented:

A. *Environmentally Critical Project (ECP)*

1. Heavy Industries
   - non-ferrous metal industries
   - iron and steel mills
   - petroleum and petro-chemical in
   - smelting plants

2. Resources Extractive Industries
   - Major mining and quarrying projects
   - Forestry projects
   - Fishery Projects

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3. Infrastructure Projects
   - major dams
   - major power plants
   - major reclamation projects
   - major roads and bridges

B. *Environmentally Critical Areas (ECA)*

1. National parks, watershed reserves, wildlife preserve and sanctuaries;

2. Potential tourist spots;

3. Habitat for any endangered or threatened species of indigenous Philippine wildlife (flora and fauna)

4. Unique historical, archaeological or scientific interest;

5. Areas traditionally occupied by cultural communities or tribes;

6. Areas frequently visited and/or hard-hit by natural calamities;

7. Areas with critical slopes;

8. Prime agricultural lands;

9. Recharge areas of aquifers;

10. Water bodies;

11. Mangrove areas; and

12. Coral reefs.

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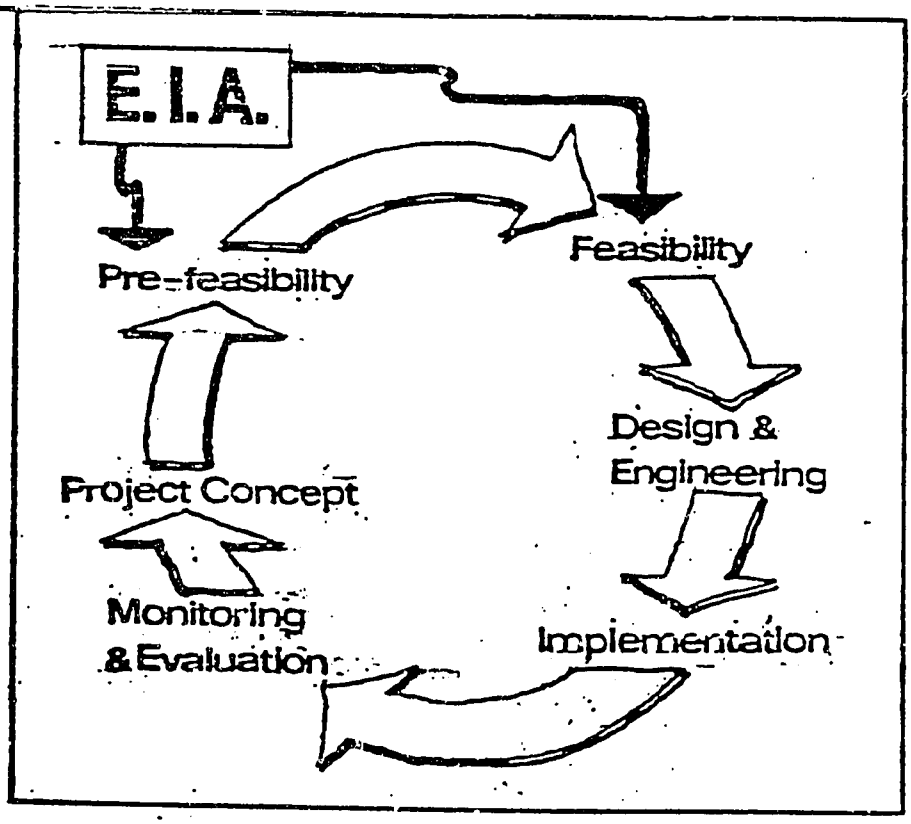
4. When should environmental impact assessment be undertaken?

Environmental impact assessment is done during the feasibility stage of the project cycle where inputs from the study can really help in shaping a particular project to be both environmentally sound and economically viable. It should be started as early as possible and in parallel with other studies so that the environmental consequences of the project can be taken into account from the earliest planning stage. Recommendations can also easily be implemented without considerable change in plans and increase in capital outlay.



5. Which government agency implements the EIS System?

Pursuant to Executive Order 192, which reorganized the Department of Environment and Natural Resources, the Environmental Management Bureau is mandated to implement the EIS System.

The Regional Offices are mandated to implement the EIS System pursuant to DAO ___ series of 1992.

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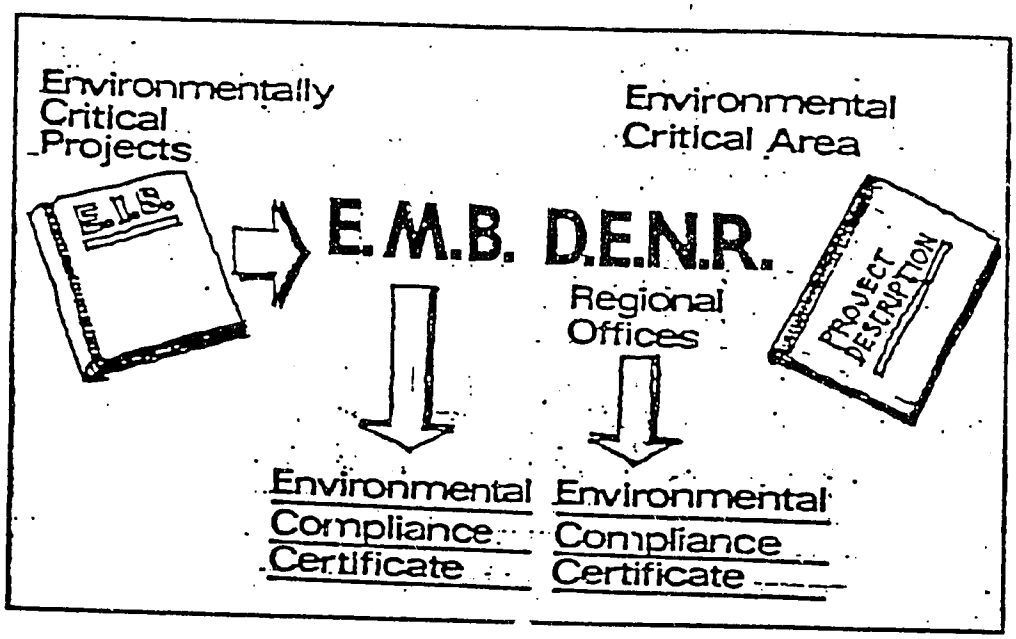
III. ENVIRONMENTAL COMPLIANCE CERTIFICATE (ECC)

1. What is Environmental Compliance Certificate?

The Environmental Compliance Certificate is a document issued by the DENR to certify that the project under consideration will have minimal environmental effects for as long as the conditions stipulated in the ECC are strictly followed, and that proponent has complied with requirements of the EIS System.

The ECCs the for Environmentally Critical Projects are issued by he EMB and signed by the DENR Secretary while ECCs for projects located in Environmentally Critical Areas are issued by he Regional Offices and signed by the Regional Executive Directors.



2. Can Projects Be Implemented Without An ECC?

Projects which fall within the scope of the EIS System cannot be implemented without first securing an ECC. Projects that conform to the following criteria do not fall within the purview of the EIS System and are therefore exempted from securing an ECC.

a. It has minimal discharge of wastes, and the management of such wastes are relatively easy.

b. It has a capitalization of not more than P 500,000.

c. It employs not more than 20 persons.

They should, however, apply for Certificate of Exemption from DENR.

Some projects may also be exempted by the President for reasons of national security and international commitment.

Such exemption, however, shall not stop the DENR or appropriate lead agencies from requiring the project proponent to institute necessary remedial measures to protect the environment.

3. Is there a penalty for not securing an ECC?

Presidential Decree No. 1586 provides the penalties for not securing an ECC with the imposition of a fine not to exceed P 500,000 and/or the issuance of a closure order.

4. What are the procedures in obtaining an ECC?

The procedures to be observed in obtaining an Environmental Compliance Certificate are as follows:

a. The project proponent, with the assistance of the EMB or the Regional Office initially determines if a project falls within the EIS System by filing up ENFORM 1 (Annex B)

If the project does not fall under the EIS System, the project proponent shall be issued a Certificate of Exemption, upon payment the prescribed fees, and may proceed with the project;

b. If the project falls under the EIS System, the EMB/DENR RO determines whether it is an Environmentally Critical Project (ECP) or is located in an Environmentally Critical Area (ECA). If it is an ECP, the project will require an EIS and the proponent shall file his application with EMB.

If the project is not an ECP but is located in an ECA the proponent shall submit a Project Description to the DENR Regional Office.

The project proponent pays a total fee of P 310 covering the processing, filing and legal research fees.

c. Proponents shall prepare the EIS or PD according to the prescribed outline of DENR. See Annex C and D for outline of EIS and PD.

d. The proponent shall cause the preparation of the EIS or PD to be submitted to the DENR (Refer to Annex A for EIS preparation). The expenses for the preparation of the EIS or PD shall be defrayed by the proponent.

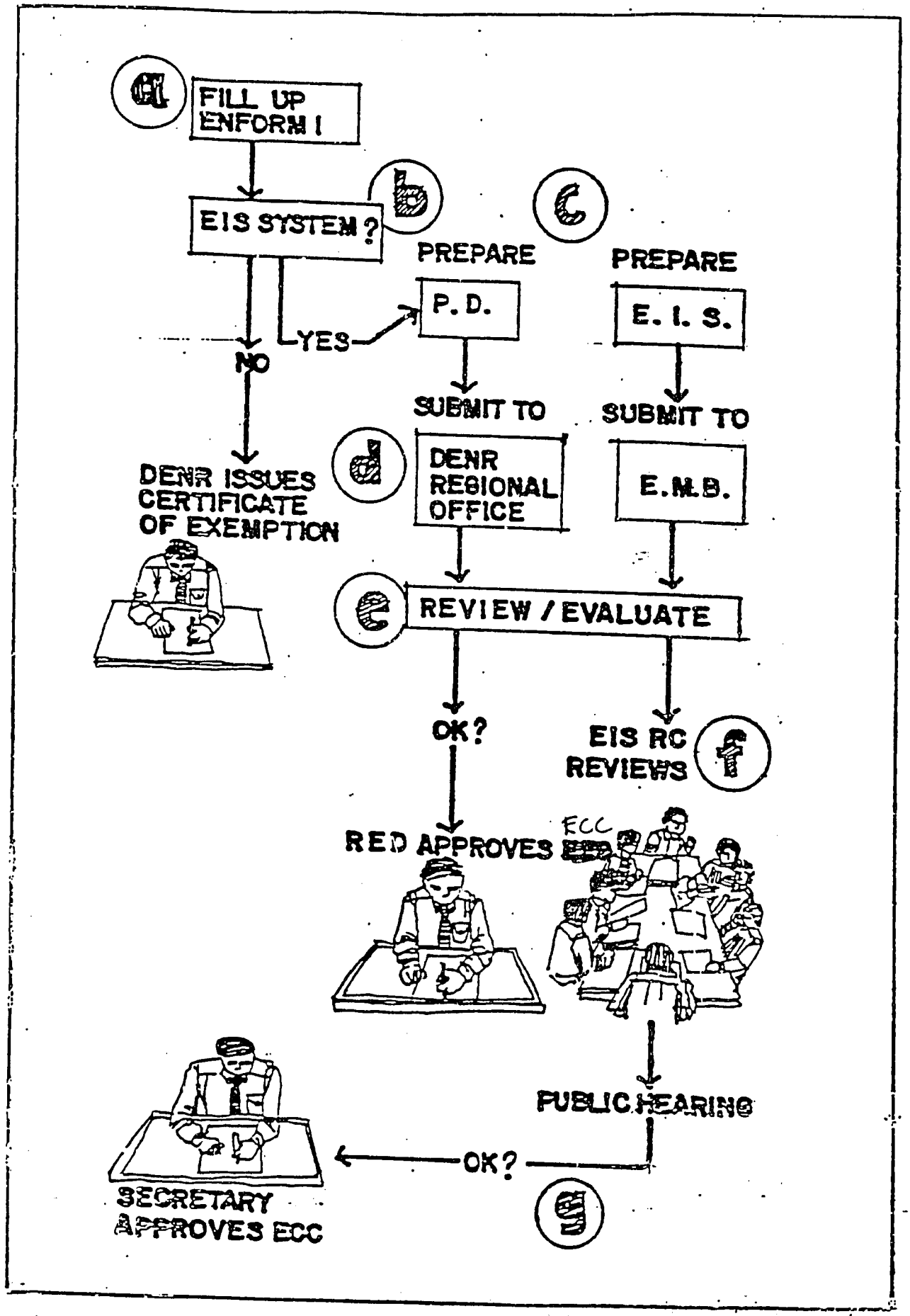
e. For PD's, the Regional Office reviews and evaluates the documents. Part of the evaluation process is the ocular inspection of the project site. Once all the pertinent data have been validated, the ECC may be approved or denied by the Regional Executive Director (RED).

f. In cases where the regional office deems that the project requires an EIS instead of a PD, the proponent is informed accordingly and prepares the EIS for re-submission to the regional office, which will follow the same procedure for EIS evaluation as enumerated in item g-i below.

g. For EIS, the EMB reviews and evaluates the documents. An ocular inspection may be conducted to check the veracity of the data contained in the EIS.

h. The EIS may be referred to the EIS Review Committee for further review and evaluation. The Committee may require the holding of a public hearing to be conducted by DENR.

i. After thorough evaluation of all inputs the Review Committee recommends for the approval or denial of the ECC.


a
FILL UP ENFORM I
EIS SYSTEM?
b
c
PREPARE
P. D.
PREPARE
E. I. S.
YES
NO
SUBMIT TO
DENR REGIONAL OFFICE
SUBMIT TO
E.M.B.
d
DENR ISSUES CERTIFICATE OF EXEMPTION
e
REVIEW / EVALUATE
OK?
EIS RC REVIEWS
f
RED APPROVES
ECC
PUBLIC HEARING
OK?
g
SECRETARY APPROVES ECC

IV. DOCUMENTS IN THE EIS SYSTEM

1. **What are the types of documents in the EIS System and what should they contain?**

The two types of documents in the EIS System are as follows:

a. *Project Description (PD)*

This document is required if a projects is not an Environmental Critical Project but shall be located in an environmentally critical area. It is essentially a brief description of the project, and contains a description of the sources of pollution and the control measures for such. It also includes socio-economic problems which are expected to be generated by the project. The PD will form the basis for issuing an ECC, or the requiring a more detailed study like an EIS.

b. *Environmental Impact Statement (EIS)*

The EIS, on the other hand, is a more detailed and in-depth analysis of the environmental consequences of an environmentally critical project and should contain the following:

- description of the existing environment;
- description of the various activities to be undertaken for a particular project and the environmental parameters affected by the same;
- discussion of alternatives;
- discussion of resources necessary; and
- mitigating measures for unavoidable impacts.

V. POINTERS FOR THE PREPARATION OF ENVIRONMENTAL STATEMENTS

A. *PLANNING FOR THE EIS*

1. Before preparing the EIS, consult the EIS Unit of the EMB or DENR Regional Office. They will be able to assist you with the following:

a. identification of the documents relevant to your project, and the procedures pertinent to compliance with the EIS System;

b. processing or special tax incentives which may be availed of in the acquisition of pollution control equipment/instruments; and

c. information regarding permits issued by the other agencies which may also be required prior to the granting of an ECC.

2. When a proposed project has undergone a feasibility study (FS), the costs expected to be incurred in the preparation of the EIS are greatly reduced. This is because of the similarity of the contents of both studies, as can be seen from the EIS outline and the example of a feasibility study of a project as shown in Annex E. With the availability of a Feasibility Study, portions of the EIS can already be written/prepared even prior to the conduct of an in-depth Environmental Impact Assessment.

It would therefore be very advantageous to be familiar with the requirements of both FS and EIS, so that the gathering of the required information is facilitated and the data acquired is maximized and reduced to basics.

B. *CHOOSING THE CONSULTANTS*

1. The project proponent has two options as to who will prepare the EIS, either using his own technical staff or hiring a private consulting firm/consultant.

The DENR does not prepare the EIS or PD for project proponents. Neither does it make recommendations as to which consulting firm or consultant to hire.

2. Possible sources of consultants/consulting firms may be obtained from the following sources: Technological and Livelihood Research Center, which publishes a computer listing of local consultants relative to environment protection, and the National Science and Technology Administration, which maintains a listing of technical consultants according to specific sector of expertise.

3. Be familiar with the services/expertise of a consultant/consultancy firm prior to contracting the preparation of an EIS. When selecting the services of a consultant/consulting firm the following should be considered:

a. make sure the consultant/s know/s the outline of the EIS and is familiar with the overall requirements of the EIS;

b. select a consultant/consulting firm that has had domestic or international experience in the preparation of EIS or at least holds appropriate credentials to be real service;

c. check with several consultants/consulting firms before hiring the services of one in particular (e.g. consultants/consulting firms charge varying rates for preparing EIS since there are no standardized fees for such);

d. make sure that data to be collected or the studies proposed by a consultant/consulting firm are necessary for the project in order to avoid being unduly charged for unnecessary information; and

e. Cross-check with EMB any questions which you feel the consultant/consulting firm has not satisfactorily answered.

4. It is advisable to employ an interdisciplinary team, in the preparation of an EIS. However, only those experts who are most relevant to the project, based on its complexity should be selected.

C. *REQUIREMENTS OF OTHER AGENCIES*

1. Be familiar with permits/licenses issued by government agencies which are relevant to your project.

D. *DATA COLLECTION*

1. In collecting baseline data, it is important to determine which data are needed for the proposed project, and where these data may be found. There are various sources of data such as technical reports, papers, studies and the like. Getting data from these sources is sometimes referred to as "secondary data collection". This involves basic research in public libraries, government agencies or private research agencies. See Annex F for the Directory of Environmental Data and Agency Expertise.

Data collected may be clarified/updated through interviews with staff of agencies concerned.

2. The data used in the EIS should be timely. Generally, older data gives a less accurate picture of the existing conditions at a project site and its immediate vicinity. If no current data is available, it should be ascertained if specific studies were undertaken in order to augment the lack of current data.

3. The use of standards, established by government agencies is a final means of evaluating the adequacy or the impact of a proposed project. It should be kept in mind, however, that standards are yardsticks based upon objectives and are subject to interpretation.

E. *WRITING THE EIS*

1. The EIS should be presented in the format prescribed by the required EIS Outline for the project.

2. Although the EIS is essentially a technical report, it must be written in a manner that is understandable to the layman so that it could be evaluated by persons from various academic/professional fields. Keep in mind that the EIS is for information dissemination and decision-making purposes.

3. In writing the EIS, consider the following:

   a. be concise; avoid irrelevant and/or lengthy text which may be appended;

   b. append technical information to avoid confusion and encourage ease of review by respective experts

   c. number every page of the EIS correctly

   d. document all sources of information and references;

   e. discuss all the aspects as prescribed in the EIS Outline

   f. explain and/or append all calculations

   g. all maps, photographs, diagrams, and/or illustrations, should be properly labeled, scaled, referenced and sequenced in the text of the EIS.

4. Specific computations presented in tables, figures or other forms of data reported must be accurate. It is helpful to illustrate how certain figures/numbers were derived by explaining computations and assumptions or conditions.

5. Not all sectors of a required EIS Outline may apply to a project/or project development site. For example, if a project site for development is extensively denuded, or falls within an existing urban settlement, chances are, there will be few flora or fauna in the immediate vicinity. In this case, the preparation of a flora/fauna survey or study may not be necessary. However, in such a situation, this would be best addressed in the project alternatives and/or mitigating measures, by indicating in what manner the project will encourage or enhance the return of flora/fauna in the immediate area or surrounding environs of the project site.

   Following this train of though, the objective in writing the report would be to select those components of the project with substantial or major impacts and report on such in detail, as necessary, based on the required EIS Outline.

6. Particular attention should be paid to references presented in the EIS. This applicable to the entire text of an EIS. A well referenced document assures the reviewer that the proponent took time to carefully research the report.

7. Visual displays such as maps, charts and photographs are of vital importance to supplement any written documentation. Visual displays in EIS should be tasteful, informative, referenced and well integrated with the accompanying text.

8. AN EIS which is poorly referenced and/or lacks basic data usually results in a document containing too many general statements which are of little value to the reviewer or decision-maker. Documents of this type are usually of two types: a) relatively thin documents, and b) relatively bulky documents consisting of pages of text unrelated to the required topic to be discussed. While there is no required a minimum or maximum number of pages, it should be kept in mind that the number of pages is no real measure of adequacy of an EIS. For example, statement such as "the project proponent shall exercise care and practice sound environmental management techniques in the prevention of soil erosion," or, "special consideration will be given to maintaining ecological balance at the project site," do little to specify exact methods of implementation and/or obtaining how such will actually be accomplished. As such, generalities will only serve to prolong the review process since more information will be required before a rational decision can be made.

F. *EIS SUBMISSION*

1. Check the EIS before submission. Make sure that the following minimum requirements of the EIS are incorporated into the text where appropriate, or may be appended for reference purposes.

a. A Land Use Map (city or municipal), approved by the Housing and Land Use Regulatory Board. When there is no approved land use map, the project proponent should indicate in map form, the existing land uses surrounding the project site.

b. A BCGS topographic map (scale 1:50,000) of the municipality whereof in project is located.

c. The survey plan describing the exact location, boundaries, coordinates and area of property.

d. Color Photos of the project site.

e. Right over land should be presented such as copy of Deed of Absolute Sale, Transfer Certificate of Title or Title.

f. The necessary permit, such as locational viability certification, water drawing rights, etc.

g. Endorsements from local government units and local leaders in the area where the project will be located.

PROCEDURES FOR THE CONDUCT OF THE ENVIRONMENTAL IMPACT ASSESSMENT

Step 1: Pre-screening

Prior to any project implementation, project proponents are to coordinate with EMB or the nearest DENR Regional Offices to initially determine whether the proposed project falls under the purview of the EIS System. The proponent shall be asked to fill up ENFORM I and immediately shall be informed whether the project is;

a. Classified as a Environmentally Critical Project (ECP) and thus, would require the submission of an Environmental Impact Statement (EIS). Under such case, the EMB shall be the one responsible for the processing of the EIS.;

b. Classified as those falling under the determined Environmentally Critical Areas (ECA) and hence would be required to submit initially a Project Description by the Regional Offices. After evaluation, the Regional Offices may require the submission of an EIS if deemed necessary; or

c. Exempted if they meet these three conditions viz; i) discharges minimal amount of wastes and the management of such waste is relatively easy; ii) has a capitalization of not more than P 500,000 ; and iii) employs not more than 20 persons. The Regional Offices shall be responsible in the issuance of an exemption certificate.

For projects that would be required an EIS, the proponent has the option to either undertake the study using his/her in-house experts or commission the task to a consultant.

Step 2: Scoping

For projects identified that would need an EIS, scoping sessions with DENR will follow. Scoping is a stage in the process where the information requirements for the EIS is established. This stage is considered to be important as it can provide to the proponent a clear direction for the environmental impact assessment work. Scoping include the following:

a. Preparation of background information on the proposed activity;

b. Notification and involvement of interested parties e.g. other government agencies, local government units, non-government organizations,

private sector or all of those that are perceived to be affected by the proposed project;

c. Identification and selection of alternatives to be assessed;

d. Identification of significant impacts to be consider in the study a key part of this being the screening out of irrelevant information;

e. Determination of the important impacts that are to be evaluated and in particular the depth of study required for different impacts; and

f. Other requisites for the study such as those asked by international financing institutions like the World Bank and Asian Development Bank which needs to be taken into account and will affect the scope of the study.

Stage 3: Site Characterization and Prediction of Impacts

Once the study is "scoped", the proponent through its team, or the consultant, shall now proceed with the EIS by collecting the necessary data information and predicting the project impacts.

The main activities at this stage are:

A. Impact Identification

Further the identification, description, and quantification of the type or magnitude of effects and impacts of the proposed activity and each alterative particularly:

- causes of impact (discharges, etc.);
- direct environmental impact in short and long term;
- indirect and secondary environmental impacts in both short and long term.

Generally, the major impact categories that is studied, but not limited, are the following:

- atmospheric pollution;
- water and soil pollution;
- noise;
- effects on fauna and flora;
- effects on landscape and visual impact;
- socioeconomic impacts.

B. Impact Prediction

Impact prediction involves the projection of the potential effects of a particular project. The process will require different sets of data and the methods for collection will also vary widely. As prediction essentially deals with uncertainty, utmost thoroughness must be observed in analyzing the information and relating them to the effects of the project. It must be borne in

mind that while the exercise of predicting impacts are projections in nature, it needs to be made explicit and managed in the impact assessment if a decision-maker is to understand the full implications of different alternatives.

The various methods that may be adopted in prediction include the use of probability prediction methods, error analysis, sensitivity analysis, matrix analysis and other techniques for presenting and explaining uncertain results. (For further information on these research an "Planning Methodologies)

Stage 4: Evaluation of Impacts and Proposed of Alternatives

The key activity at this stage is the evaluation of the significance of impacts, that is, judgement about which impacts found in the study are considered important and therefore needs to be mitigated. The identified impacts are compared with pre-defined acceptability criteria or existing environmental standards. For instance, air quality standards existing in the country provide an indication of acceptable pollutant levels. Where standards have not been developed, standards and guidelines established in other countries can provide useful guidance on impact acceptability. Where no standards or guidelines exist, the study team may propose acceptability criteria based on their own professional judgement and knowledge of the field. The process of evaluation thus involves:

- defining criteria for acceptability;
- comparing the impact levels with the criteria

The criteria for acceptability need to be made explicit when presenting the study results.

Stage 5: Identification and Assessment of Mitigating Measures

On the basis of the evaluation of impact, the corresponding mitigation measures are then identified and assessed. This stage is an activity of key importance in the overall environmental impact assessment process. Information on measures available to reduce, prevent or compensate for impacts and their costs has a major role to play when weighing the alternatives at the decision-making stage.

In most cases, a preliminary evaluation of the significance of impacts will be carried out in parallel with impact prediction to identify areas requiring particular attention in terms of impact mitigation measures.

To ensure that each identified environmental impact is addressed vis-a-vis the mitigation measures a mitigation plan is drawn up which include:

- technical design features to mitigate certain impacts at the development stages;
- contingency plans to manage any risks that may occur as a result of the development in the future; and

- comparison of alternatives spelling out its advantage/disadvantage.

This stage also involve re-evaluation of impacts to determine whether the measures lead to acceptable levels of the impacts.

Stage 6: Preparation of the Environmental Impact Statement (EIS)

Having now determined the impacts and the corresponding mitigating measures the next stage involves the preparation of the Environmental Impact Statement (EIS). As a rule, the EIS aimed at two audiences:

First, the decision-maker(s) who will use the report to in making decisions on the proposal. The decision-maker therefore needs a document that:

- addresses the issues relevant to the decision;
- expresses the information in a form that one can easily make use of (and in particular that one can relate to information available to him on other aspects of the proposal);
- and that is clearly presented and easily understandable.

Second, the report may be generally read by other interested parties including elected representatives, local and central government officials, regional inspectors, provincial and municipal politicians, representatives and officials as well as members of action groups, individuals directly affected by the decision and members of the general public. The report will therefore need to show clearly that the different issues of concern to them have been properly examined and presented and the EIS needs to show clearly the environmental implications of all the "reasonable alternatives".

Bearing the audience in mind, the writer of the EIS should be guided by the following considerations in presenting the information:

- Where relevant, information should be presented on the different phases of the activity and on indirect, secondary and cumulative impacts
- The methods used to make predictions and extent of uncertainty associated with the predictions should be explicitly described.
- The criteria used in evaluation should be explicitly stated.
- The information should be in a form that the decision-maker can readily understand, usually in the form of ranking, rating or scoring. The information needs to be concise but not degraded through over simplification.
- Where possible, the information should be organized to highlight the most important impacts associated with each alternative.

- The presentation and the methods used should be understandable to the non-expert.

- Information or mitigation measures and or residual impacts should be summarized clearly in the relevant impact categories.

Stage 8: Review of the Submitted EIS

The completed EIS is then submitted to the appropriate unit of DENR for review and assessment. The assessment process are detailed in DAO _____ s 1992.

Stage 9: Granting of the Environmental Compliance Certificate

Upon satisfaction of the process as prescribed by law, the DENR now grants an Environmental Compliance Certificate (ECC) to the proponent. The ECC shall contain several conditions that will specifically address the identified problems in the EIS. Once a proponent has obtained an ECC, he/she can now proceed with the establishment and construction of the proposed plant.

Stage 10: Post Auditing and Monitoring

It is important to stress that EIA is only one component of continuing environmental management.

Post-auditing and monitoring are important not only for checking whether the development conforms to the requirements laid down at the planning stage, but also useful for judging the quality of the EIA for future reference Monitoring will indicate how well the actual impacts resulting from the development compare with the predictions made by the study team.

The task of monitoring is performed by DENR, through the EMB and the Regional Offices. This involves monitoring the activities of firms that have been issued ECCs.

Annex B

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

ENFORM I

PROPONENT : _____

LOCATION : _____

SHORT DESCRIPTION OF PROJECT: _____

1. Is your project in any of those areas that fall under the category of "Environmentally Critical Projects" which list appears as Annex A?

☐ Yes ☐ No

2. Is your project in any of those areas within the identified "Environmentally Critical Areas" which list appear as Annex B?

☐ Yes ☐ No

I hereby certify that the above information are true to my knowledge and I shall be held liable if found to be untrue.

_____ Date

_____ Proponent

Processing fee ₱ _____
Official Receipt #: _____

THIS PORTION IS TO BE FILLED UP BY APPROPRIATE DENR AUTHORITY

TO WHOM IT MAY CONCERN:

This is to certify that _____ *is hereby exempted from PD 1586 and that, therefore, the proponent can proceed with the implementation of the proposed project, subject however, to the conditions attached to this certificate and other appropriate environmental rules and regulations required by both national and local authorities.*

Given this _____ *day of* _____, *19*____, *at* _____

(PLACE DENR SEAL HERE)

BY AUTHORITY OF THE DENR SECRETARY:

_____
(Name & Designation)

DIRECTORY OF ENVIRONMENTAL DATA AND AGENCY EXPERTISE

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Geography	Topographic Map Base Map Planimetric Map Administrative Division Map Provincial Base Map Regional Administrative Map	NAMRIA, HLURB, MGB DENR Operations, NEDA
Geology and Geomorphology	Geology and Mineral Resources of the Philippines (Vol. I)	MGB
	Information on Geology and Hazard Risks	PHIVOLCS
	Records on Seismicity	PAGASA, NAPOCOR PNOC, Department of Geology: UP Diliman
	Geologic Map Land Form/Physiographic Map Geostructural Map Geostructural Map of the Philippines Geologic Hazard Susceptibility Map Geologic Map of the Philippines	NAMRIA, MGB
	Soil Survey & Classification Reports Soil and Land Resources Evaluation Project Reports Pedo-Geomorphic Map	BSWM
Topography, Slope	Survey Reports	DENR
Aspect and Elevation	Topographic Map Slope Map Contour Map Elevation Map Land Scape Map	NAMRIA, BSWM, HLURB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
	Forest Inventory Map Land Use Map Land Condition Map Land Capability Map Present Land Use Map General Land Use Map Land Limitation and Use Efficiency Map Cropping System Map Pasture Development Map Development Area Network Map Rice Based Map Corn Based Map Vegetables and Rootcrop Based Map Fruit Trees Based Map Industrial Based Map Cut Flowers Based Map Land Use Oppurtunity Map Aerial Photograph and Topographic Map Forest Resource Map (Land Sat. Imageries & Aerial Photo-Based) Land Use and Vegetation Map Reforestation Project Map Existing Generalized Land Use Map	
Mineral Resources and Reserves	Mining rights and contracts Geology & Mineral Resources of the Philippines - Vol. II (Mineral Resources)	MGB
	Environmental Impact Statements Mineral News Service	EMB, Mining Companies involved MGB
	[illegible] Metallic Mineral Resources Map Non-metallic Mineral Resources Map	MGB, NAMRIA, HLURB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Land Classification and Regulatory Status	Data on Farm Size	BAS
	Cadastral Surveys	LMB, DAR
	CARP Records	DENR-FMB
	Land Classification Map Control Map Forest Reserve Map Land Management Unit Map Land Limitation Map Prime Land Map Communal Forest/Pasture Map	NAMRIA-LC, BSWM, LMB
	Provincial Profile on ENR	DENR-PENRO
Land Use / Cover	Lot/Subdivision Plans	LMB, HLURB
	Survey Returns, other data/ information on resources	LMB, HLURB
	Land Use Data	
	Basic Framework for Development and Soil Conservation Planning Guide for the Visayan Island, Mindanao Island & Luzon Island	BSWM
	Geology and Mineral Resources of the Philippines - Vol.I (Geology), Vol. II (Mineral Resources)	
	Forest Condition Map Satellite Image Map Land Cover Map	NAMRIA, FMB, HLURB, BSWM

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Natural Disasters	NDCC Monthly and Annual Reprots on Incidence and Damages from National Disasters	NDCC, PHILVOLCS, PAGASA
	Tropical Cyclone Routes Map Geologic Hazard Susceptibility Map Floodprone Areas Map Flooding Map Calamity Map Typhoon Prone Areas Map	PAGASA, NAMRIA, BSWM, DPWH
Location and Extent/Size of Surface Freshwater Resources	Groundwater and Springs: Rapid Assessment of Water Supply Sources Reports per province Framework Plans for River Basins	NWRB
	Irrigation Inventory	NIA
	Surface Water Resources Map Hydrologic Map Fishpond Resource Map Swamp Zonification Map Base Map Band Zone Map Drainage Map of Major Lakes Satellite Image Map Water Resource Map	NAMRIA, NWRB
	Fisheries Series No. 1/1981 State of the Art: Lakes and Reservoirs Research	ICLARM
	PCARR Project No. 882 Survey of types and Status of Lakes and Reservoirs in the Philippines	PCARRD

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Water use and Regulation	Sectoral Planning Guidelines for Water Phillippine Standard Methods for Air and Water Analysis Vol. I and II	HLURB, EMB, DOH
	Rapid Assessment of Water Supply Sources, Reports per Province Groundwater and Springs: Rapid Assessment of Water Supply Sources, Reports per Province	NWRB
	Irrigation System Map Water Impounding Projects Map Fishpond Resource Map Coast Charts Harbour Charts Band Zone Map Existing Irrigation Projects Potential Land and Cropping Inventory Map Overlay Map of Existing and Proposed Water Impounding Projects	NWRB, NAMRIA, NIA, BCGS
	Data on Local Water Supply and Demand Water District Formation Division Status Reports 1990	LWUA
Surface Water/Stream Conditions	Rapid Assessment of Water Supply Sources, Reports per Province Groundwater and Springs: Rapid Assessment of Water Supply Sources, Reports per Province Philippine Water Resources	NWRB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
	Land Use Assessment for Potential Agricultural and Environmental Investment	BSWM, IESAM (UPLB)
Floodrisk/Floodprone	Floodprone Map Cyclogram Map Swamp Zonification Map Watershed Map Surface Water Resources Map Provincial Base Map Land Limitation and Use Efficiency Map Land Limitation Map Flood Zone Map	NWRB, NAMRIA, BSWM
	Soil/Land Resources Evaluation Project Land Use Assessment for Potential Agricultural and Environmental Investment	BSWM
	Philippine Flood Control	NWRB
	A Report on Flood Control Measures	DPWH
	1991 Predicted Tide and Current Tables	ICLARM
Prevailing Tidal Fluctuations	Coast Charts Harbour Charts	NAMRIA, BCGS, Universities and Colleges
	Special Project Reports	UP-MSI

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
	Environmental Impact Statements Special Projects Reports e.g. Pasig River, Tullahan-Tenejeros, etc.	EMB, LLDA, UPLB
	Water Quality Monitoring Reports	EMB, LLDA, DOH, DENR DENR Regional Offices
	Standard Methods for the Examination of Water and Wastewater	Bureau of Research & Laboratories/ DOH, MWSS
	Surface Water Supply of the Philippine Island Surface and Water Supply Bulletin	MWSS, NWRB, LWUA
	Supplimentary Study of Deforestation and Spring Yields	LWUA
	Municipal River Basin Map Hydrologic Map Water Resources Map Flooding Map Irrigation System Map Water Impounding Projects Map Fishery resource Map Fishpond Resource Map Fishpond Map	NWRB, BFAR, NAMRIA, NIA, BCGS
Watershed Importance	Watershed Map Surface Hydrology Map Surface Water Resources Map Slope Map Hydro-Ecological Zone Map	NAMRIA, NWRB, BSWM

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Vegetation/Flora	List, Distribution and Location of Endangered/Commercial Species	PAWB, NM
	Forest Resource Statistics	FMB
	Annual Statistics on Phil. Protected Areas and Wildlife Resources	PAWB
	Biological Study/Research Reports	ERDB-UPLB
	Research Studies of Academic Institutions	ERDB, PCARRD
	Forest Conditions Compilation Map Forest Resource Map (LANDSAT & Aerial Photos) Land Use and Vegetation Map Reforestation Project Map Forest Inventory Map Forestry Vegetation Cover Map (Aerial Photos) Forestry Vegetation Cover Map (Bureau of Soils and Aerial Photos) Agricultural Products Map Agroclimatic Zone Map Spot Sattelite Land Use Map (Swedish Space Corp.)	NAMRIA, DENR, BSWM, FMB, HLURB, UPLB, DA
	Statistics on Philippine Protected and Wildlife Resources	PAWB
	Flora & Fauna Summaries	UP-EMB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Climate	Annual Clirnatological Review Philippine Agro-Meteorological Bulletin Annual Report of the Weather Bureau Climatological Normals/ Averages in the Phil. Meteorological Station Reports Monthly/Annual Reports on Incidence and Damage from Typhoon Annual Tropical Cyclone Report Tropical Cyclone Summaries	PAGASA
	Agrometeorological Station Reports Crop-weather Calendar	PAGASA, Universities and Colleges
	Climate abd Rainfall Distribution Map Climate Map Agro-Climatic Zone Map	NAMRIA, PAGASA, BSWM
Air Quality	Field Monitoring Reports on Ambient and Source Emissions	DENR Regional Office-EMS
	Industrial Polution Monitoring in Metro Manila	LLDA, DENR/NCR
	EIS Documents; Monitoring Reports from EIA Projects	EMB
	Private Industry Air Quality Monitoring	Private Industries
	Philippine Standard Methods for Air and Water Analysis Vol. Level II	HLURB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Vegetation/Flora	List, Distribution and Location of Endangered/Commercial Species	PAWB, NM
	Forest Resource Statistics	FMB
	Annual Statistics on Phil. Protected Areas and Wildlife Resources	PAWB
	Biological Study/Research Reports	ERDB-UPLB
	Research Studies of Academic Institutions	ERDB, PCARRD
	Forest Conditions Compilation Map Forest Resource Map (LANDSAT & Aerial Photos) Land Use and Vegetation Map Reforestation Project Map Forest Invertory Map Forestry Vegetation Cover Map (Aerial Photos) Forestry Vegetation Cover Map (Bureau of Soils and Aerial Photos) Agricultural Products Map Agroclimatic Zone Map Spot Sattelite Land Use Map (Swedish Space Corp.)	NAMRIA, DENR, BSWM, FMB, HLURB, UPLB, DA
	Statistics on Philippine Protected and Wildlife Resources	PAWB
	Flora & Fauna Summaries	[illegible]

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
	NCSO Statistics Annual Phil. Yearbook	NSO
	Provincial and Municipal Reports	DSWD
	Secondary Data from Framework Plans	IADs
	Municipal Socio-Economic Profiles	Municipal Gov[illegible]
	Philippine Health Statistics	Health Intelli[illegible]
	Population Density Map Population Distribution Development Cluster Map Growth Map	NAMRIA, NSO, [illegible]
Livelihood and Income Livelihood Sources	Statistics on Crop and Municipal Profiles Regional Profile of Regions I-XII	BAS Municipal Go[illegible] HLURB
	NSO Statistics Forestry Statistics on Upland Communities	NSO DENR
	DENR-Assisted KKK Project Map Fish Productions/Landing Sites Map Agricultural Products Maps Commodity Flow Map Geographical Flow of Commodity Map Cropping System Map Rice Based Map Corn Based Map Coconut Based Map Vegetables and Rootcrop Based Map Fruit Trees Based Map	BFAR, NAM[illegible]

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Legal Institutional Jurisdiction of Natural Resources	Legal Mandate of Government Agencies	DENR, DA, DILG, DOT, DND
	Timber License Area Map	NAMRIA, DENR, PAWB, FMB
	Military Reservation Map	HLURB, BSWM, NAMRIA
	National Parks Map Forest Reserve Map Land Management Unit Map	
Legal Legislation on Environment and Resources	Regional, Provincial/Municipal Legislative Records	Regional Provincial/Municipal Office Natural
	Philippine Environmental Law (Vol. I and II) Directory of Environmental Legislation 1987	EMB
General Information	1990 Philippine Statistical Yearbook	National Statistical Coordination Board
	Economic and Social Indicator	NEDA
	The Philippine Environment in the Eighties	EMB
	Directory of Aerial Photographs and Maps (Geo-Based Information Holdings Inventory System)	NAMRIA

Source: Manual for the Preparation of an Ecological Profile; Environmental Center of the Philippines Foundation, Inc. 1991, Quezon City

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Fauna	Annual Statistics on Philippine Protected Areas and Wildlife Resources	PAWB
	Biological Study/Research Reports	Academic and Research Institution, ERDB
	Data on fishery Resources	BFAR, PAWB, ERDB, Haribon Society
	Birds of Catanduanes	NM
	Game Refuge Map Game Map Fishery Resource Map Endangered Species Distribution Map Livestock Map	NAMRIA-RSDAD, BFAR, PAWB, HLURB
	Birds of the Philippines	Haribon Foundation/ DENR (EMB Library
	Marine Invertebrates (Marine Fisheries Commodity)	PCARRD
	Marine Invertebrates	UPLB
Bacteria and Fungi	Research studies	Universities and colleges, DOH, UPLB
	Reports on Plant and Animal Diseases	DOH, BPI, BAI, DA ERDB, FMB, UPLB
Demography	Realizing the vision of a new society National Multi Year Human Settlement Plan 1978 to 2000	HLURB

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Languages and Dialects	NSO Statistics	NSO
	Distribution of Cultural Linguistic Groups in the Philippines	BSWM
Ancestral Domain	Agency Records	DENR, DAR, NAMRIA, ONCC, OSCC, OMA
	Map of Proclaimed Ancestral Lands	NAMRIA
	CFSA/CSC contracts	DENR, PAFID
History and Archeology	Annual Report	
	Archaeological Survey in Southeastern Mindanao	
	A Selected Bibliography on Philippine Prehistory	
	National Parks Map	
Political Units	Administratvie Maps	PDO, DILG
	Administrative Boundary Map	NAMRIA, NSO, LMB, DPWH
	Map of Administrative Division by Provinces	HLURB, BSWM
	Political Map of the Philippines	
Citizen Participation	Agency Reports	PDO, MDO, DILG, NGOs, COMELEC
	Socio-Institutional Support Services Map	BSWM

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
	Annual Report 1989 DECS Statistical Bulletin	DECS
	Map Showing Elementary and Highe School Map showing Colleges and Universities Map showing Medical and Health Facilities	DPWH, DECS, HLURB
	Socio-Economic Profile of Provinces (1985-1990)	PPDO
Tourism and Recreation	Data of Tourism and Recreational Facilities	DOT
	"Philippines" The People's Industry Ten Years of Phil. Tourism	Philippine Tourism Authority Library
	Annual Statistics on Phil. Protected Areas and Wildlife Resources	PAWB
	Map Showing Tourist Spots Socio-Economic Profile of Provinces (1985-1990)	HLURB, DOT PPDO
Dumpsites, Sewerage Systems Waste Water Treatment Systems	Solid Waste Subsidy Records	EMB
	Water Supply and Sewerage Sanitation Plans	MWSS, DPWH

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Wet Market and Slaughterhouse	Permits Inspection Reports Municipal Profile	DILG, LGU, BAI, DOH, LGU LGU
Cooperative and Non-Government Organizations	List of Registered Cooperatives NGO Network Directories	DA-BACOD, NIA PHILDHRRA, NATCO, ANGOC, AF PBSP, PURC
Tribal/Ethnic Groups	Agency Reports Ethnographic Studies Survey of Upland Occupants CCFS/CS contracts Ethnographic Studies Other Research Studies on Philippine Tribes Ethnographic Map	ONCC, OSCC, OMA Universities and Colleges, Research Institutions, MM, ONCC, OSCC NAMRIA, FMB, UPLB-IESAM, College of Forestry, Ateneo Institute for Philippine Culture, PURC, De La Salle Univeristy Research Center DENR, PAFI ONCC, OSCC, NM, ECTF, PBSP, ASC, ESDEC, UGAT, ECTF, PACT-UCCP, TABAK, OTREDEV, UP, RIMCU-XU, SU, Ateneo University OSCC
Religious Groups	NSO Statistics	NSO

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Sectoral Production Crop Production	Industrial based Map Copra Based Map Pasture Development Map Cut Flowers Based Map Agricultural Statistics on Volume/ Value of Organic Products	BAECON, BAS BAS
	Basic Framework for Development and Soil Conservation Planning Guide for the Visayan Island (Mindanao Island and Luzon Island)	BSWM
	Location and Number of Industrial Establishments	DTI, BOI
	Mineral Production Map Fish Production Map Livestock Production Map Aquatic Resource Utilization	MGB, NAMRIA, BFAR
	Socio-Economic Profile of Provinces (1985-1990)	PPDO, NEDA, DILG
Power Generation	Data on Power Generating Facilities, Coverage of Electrification Program	OEA, NEA
	Energy Resource Map	NAMRIA
	Socio-Economic Profile of Provinces (1985-1990)	PPDO

VFIL

TOPIC	INFORMATION / DATA PROVIDED	AGENCY
Transportation and Communication	Road Maps, Feasibility Studies and Engineering Designs	DPWH
	List of Telecommunications Regional Field Office and Facilities Annual Report of the Postal Service Office Annual Report of the Telecommunication Office Inventory of Philippine Domestic Fleet Bus Industry Summary Sheet Metro Manila Operation's Number of Domestic Fleet	DOTC
	Road Network Systems Map Airport and Seaport Map Existing Marine Ports Nautical Charts All Modes of Transportation Administrative Classification of Roads Map of Telephone Systems Map of broadcast Stations Telecommunication and Postal Services Map	HLURB, DPWH, NAMRIA, DOTC, BCGS
	Socio-Economic Profile of Provinces (1985-1990)	PPDO, DILG, NEDA
Health and Education	Annual Report DECS Statistical Bulletin	DECS
	Current Health Status of the Philippines Philippine Health Statistics	Health Intelligence Service DOH

APPENDIX E-7

DENR ADMINISTRATIVE ORDER NO. 35
SERIES OF 1990

DENR ADMINISTRATIVE ORDER NO. 35
Series of 1990

SUBJECT: REVISED EFFLUENT REGULATIONS OF 1990, REVISING AND AMENDING THE EFFLUENT REGULATIONS OF 1982

Pursuant to the provisions of Section 6(1) of Presidential Decree No. 984, otherwise known as the "Pollution Control Decree of 1976", and by virtue of Executive Order No. 192, Series of 1987, the Department of Environment and Natural Resources hereby adopts and promulgates the following rules and regulations:

Section 1. Title. These rules and regulations shall be known as the "Revised Effluent Regulations of 1990".

Section 2. Scope. These rules and regulations shall apply to all industrial and municipal wastewater effluents.

Section 3. Definitions. The following words and phrases, as used in these rules and regulations, shall have the following meanings unless the context clearly indicates otherwise:

a) "BOD" mea : a measure of the approximate quantity of dissolved oxygen that will be required by bacteria to stabilize organic matter in wastewater or surface

water. It is a semi-quantitative measure of the wastewater organics that are oxidizable by bacteria. It is also a standard test in assessing wastewater strength.

b) "Coastal Water" means an open body of water along the country's coastline starting from the shoreline (MLLW) and extending outward up to the 200-meter - isobath or three-kilometer distance, whichever is farther.

c) "Department" refers to the Department of Environment and Natural Resources.

d) "Effluent" is a general term denoting any wastewater, partially or completely treated, or in its natural state, flowing out of manufacturing plant, industrial plant or treatment plant.

e) "Inland Water" means an interior body of water or watercourse such as lakes, reservoirs, rivers, streams, creeks, etc., that has beneficial usage other than public water supply or primary contact recreation. Tidal affected rivers or streams are considered inland waters for purposes of these regulations.

f) "Mixing Zone" is the place where the effluent discharge from a point source mixes with a receiving body of water. The area or extent of the zone shall be determined by the discharger and approved by the Department on a case-to-case basis.

g) "NPI" means New/Proposed Industry or wastewater treatment plans to be constructed.

h) "OIE" means Old or Existing Industry

i) "Primary Contact Recreation" means any form of recreation where there is intimate contact of the human body with the water, such as swimming, water skiing, or skin diving.

j) "Protected Water" means a watercourse or a body of water, or any segment thereof, that is classified as a source of public water supply, propagation and harvesting of shellfish for commercial purposes, or spawning areas for Chanoschanes and similar species, or primary contact recreation, or that which is designated by competent government authority or by legislation as tourist zone, national marine park and reserve, including coral reef park and reserve.

k) "Strong Waste" refers to wastewater whose initial BOD value before treatment is equal to or greater than 3,000 mg/L.

Section 4. Heavy Metals and Toxic Substances. Industrial and other effluents when discharged into bodies of water classified as Class A, B, C, D, SA, SB, SC and SD in accordance with Section 68, as amended, of the 1978 NPCC Rules and Regulations shall not contain toxic substances in levels greater that these indicated in Table 1.

Table 1
EFFLUENT STANDARDS, TOXIC AND OTHER DELETERIOUS SUBSTANCE
(Maximum Limits for the Protection of Public Health)

PARAMETER	UNIT	PROTECTED WATERS CATEGORY I (Class A, A, & SA)		PROTECTED WATERS CATEGORY 2 (Class A, B, & SB)		INLAND WATERS CLASS C SC		MARINE WATERS CLASS SD		MARINE WATERS CLASS	
		OB	NPI	OB	NPI	OB	NPI	OB	NPI	OB	NPI
Arsenic	mg/L	(B)	(B)	0.2	0.1	0.1	0.2	1.0	0.5	1.0	0.5
Cadmium	mg/L	(B)	(B)	0.05	0.03	0.1	0.05	0.2	0.1	0.5	0.2
Chromium (trivalent)	mg/L	(B)	(B)	0.1	0.05	0.2	0.1	0.5	0.2	1.0	0.5
Cyanide	mg/L	(B)	(B)	0.2	0.1	0.3	0.2	0.5	0.2	–	–
Lead	mg/L	(B)	(B)	0.2	0.1	0.3	0.3	1.0	0.5	–	–
Mercury (tet.)	mg/L	(B)	(B)	0.005	0.005	0.025	0.025	0.005	0.005	0.05	0.01
PCB	mg/L	(B)	(B)	0.003	0.005	0.025	0.025	0.005	0.003	–	–
Formaldehyde	mg/L	(B)	(B)	2.0	1.0	0.2	1.0	2.0	1.0	–	–

NOTE:

(A) - The Effluent Standards apply to industrial/manufacturing plants and municipal sewage treatment plants discharging more than thirty (30) cu.m. per day. Except as otherwise indicated, all limiting values in Table I (Section 4) are maximum values that shall not be exceeded.

(B) - Discharge of sewage and/or trade effluents are prohibited or not allowed.

Section 5. Conventional and Other Pollutants Affecting Aesthetics and Oxygen Demand. Effluents from domestic sewage and industrial wastewater treatment plants not covered under Section 6 of these Regulations, when discharged into receiving waters classified as Class A, B, C, D, SA, SB, SC and SD in accordance with Section 68, as amended, of the 1978 NPCC Rules and Regulations shall not contain the following pollutants in concentrations greater than those indicated in Tables 2A and 2B.

Table 2A
EFFLUENT STANDARDS: Conventional and Other Pollutants in Protected Waters Category I & II and in Inland Waters Class CA

PARAMETER	UNIT	PROTECTED WATERS				INLAND WATERS CLASS C	
		CATEGORY 1 (CLASS AS & SAS)		CATEGORY 2 (CLASS A, B, & SB)			
		OB	NPI	OB	NPI	OB	NPI
Color	PCU	(B)	(B)	150	100	200(C)	150(D)
Temperature (max.rise in deg. Celsius in RBW)	°C rise	(B)	(B)	3	3	3	3
pH (range)		(B)	(B)	6.0-9.0	6.0-9.0	6.0-9.0	6.5-9.0
COD	mg/L	(B)	(B)	100	60	150	100
Settleable Solids (1-hour)	mg/L	(B)	(B)	0.3	0.3	0.5	0.5
5-Day 20°C BOD	mg/L	(B)	(B)	50	30	80	50
Total Suspended Solids	mg/L	(B)	(B)	70	50	90	70
Total Dissolved Solids	mg/L	(B)	(B)	1,200	1,000	1,500	1,000
Surfactants (MBAS)	mg/L	(B)	(B)	5.0	2.0	7.0	5.0
Oil/Grease (Petroleum Ether Extract)	mg/L	(B)	(B)	5.0	5.0	10.0	5.0
Phenolic Substances as Phenols	mg/L	(B)	(B)	0.1	0.05	0.5(G)	0.1(G)
Total Coliforms (MPN/100 mL)	MPN/100 mL	(B)	(B)	5,000	3,000	15,000	10,000

Table 2B

EFFLUENT STANDARDS: Conventional and Other Pollutants in Inland Waters Class D, Coastal Waters Class SC and SD and Other Coastal Waters not yet Classified

PARAMETER	UNIT	INLAND WATERS (CLASS D)		COASTAL WATERS (CLASS BC)		CLASS SD & OTHERS COASTAL WATERS NOT CLASSIFIED	
		OB	NPI	OB	NPI	OB	NPI
Color	PCU	–	–	(C)	(C)	(C)	(C)
Temperature (max. rise in deg. Celsius)	°C rise	3	3	3	3	3	3
pH		5.0-9.0	6.0-9.0	6.0-9.0	6.0-9.0	5.0-9.0	5.0-9.0
COD	mg/L	250	200	250	200	300	200
5-Day 20°C BOD	mg/L	150(D)	120	120(D)	100	150(D)	120
Total Suspended Solids	mg/L	200	150	200	150	(G)	(F)
Total Dissolved Solids	mg/L	2,000(H)	1,500(H)	–	–	–	–
Surfactants (MBAS)	mg/L	–	–	15	10	–	–
Oil/Grease (Petroleum Ether Extract	mg/L	–	–	15	10	15	15
Phenolic Substances as Phenols	mg/L	–	–	1.0(I)	0.5(I)	5.0	1.0
Total Coliforms	MPN/100 mL	(J)	(J)	–	–	–	–

Notes for Table 2A and Table 2B:

1. In case where the background level of Total Dissolved Solids (TDS) freshwater rivers, lakes, reservoirs and similar bodies of water is higher than the Water Quality Criteria, the discharge should not increase the level of TDS in the receiving body of water by more than ten percent of the background level.

2. The COD limits in Table 2A and 2B generally apply to domestic wastewater treatment plant effluent. For industrial discharges, the effluent standards for COD should be on a case to case basis considering the COD-BOD ratio after treatment. In the interim period that this ratio is not yet established by each discharger, the BOD requirement shall be enforced.

3. There are no effluent standards for chloride except for industries using brine in discharging into inland waters, in which case the chloride content should not exceed 500 mg/L.

Legend for Tables 2A & 2B:

(A) - Except as otherwise indicated, all limiting values in Tables 2A and 2B are 90th percentile values. This is applicable only when the discharger undertakes daily monitoring of its effluent quality, otherwise, the numerical values in the tables represent maximum values not to be exceeded once a year.

(B) - Discharging of sewage and/or trade effluents is prohibited or not allowed.

(C) - Discharge shall not cause abnormal discoloration in the receiving waters outside of the missing zones.

(D) - For wastewaters with initial BOD concentration over 1,000 mg/L but less than 3,000 mg/L, the limit may be exceeded up to a maximum of 200 mg/L or a treatment reduction of ninety (90) percent, whichever is more strict. Applicable to both old and new industries.

(E) - The parameters Total Suspended Solids (TSS) should not increase the TSS of the receiving water by more than thirty (30) percent during the dry season.

(F) - Not more than 30 mg/L increase (dry season).

(G) - Not more than 60 mg/L increase (dry season).

(H) - If effluent is the sole source of supply for irrigation, the maximum limits are 1,500 mg/L and 1,000 mg/L, respectively, for old industries and new industries.

(I) - Not present in concentration to affect fish flavor or taste or tainting.

(J) - If effluent is used to irrigate vegetables and fruit crops which may be eaten raw Fecal Coliforms should be less than 500 MPN/100 ml.

Section 6. Effluent Standards for BOD for Strong Industrial Wastes.

a) Interim requirements for Old or Existing Industries. For strong industrial wastewate with high BOD and where the receiving body of water is Class C, D, SC and SD accordance with Section 68, as amended of the 1978 NPCC Rules and Regulations, tl interim effluent requirements for old industries which will be applicable within the peric indicated in Table 3A.

Table 3A.
INTERIM EFFLUENT STANDARDS FOR BOD APPLICABLE TO OLD OR EXISTING INDUSTRIES PRODUCING STRONG INDUSTRIAL WASTES, (1990 - 1994)

Industry Classifications Based on BOD of Raw Waste - Waters - Produced		Maximum Allowable Limits in mg/L, according to Time Period and Receiving Body of Water		
	Effectivity date - Dec 31, 1991		Jan. 1, 1992 - Dec 31, 1994	
	Inland Waters (Class C & D)	Coastal Water (Cl.SC & SD)	Inland Waters (Class C & D)	Coastal Water (Cl.SC & SD)
1. Industries producing BOD within 3,000 to 10,000 mg/L	320 or 95% removal	650 or 90% removal	200 or 97% removal	320 or 95% removal
2. Industries producing BOD within 10,000 to 30,000 mg/L	1,000 or 95% removal	2,000 or 90% removal	600 or 97% removal	1,000 or 95% removal
3. Industries producing more than 30,000 mg/L	1,500 or 95% removal	3,000 or 90% removal	900 or 97% removal	1,500 95% removal

Note:

1. Use either the numerical limit or percentage removal whichever is lower (or whichever is more strict).

2. Starting January 1, 1995, the applicable effluent requirements for old or existing are indicated in Table 3B.

3. For parameters other than BOD, Table 2A and Table 2B both under Section 5 shall apply.

b) Requirements for New Industries. Upon the effectivity of these regulations new/proposed industries, or those old/existing industries that are yet to construct their wastewater treatment facilities, which are producing or treating strong wastewaters shall comply with the requirements in Table 3B below. By January 1995, this Table shall be applicable to all industries producing strong wastes.

Table 3B

EFFLUENT STANDARDS FOR NEW INDUSTRIES PRODUCING STRONG WASTES UPON EFFECTIVITY OF THESE REGULATIONS, AND FOR ALL INDUSTRIES PRODUCING STRONG WASTES STARTING JANUARY 1, 1995.

Industry Classification Based on BOD or Raw Wastewater	Maximum Allowable Limits in mg/L Based on Receiving Body of Water	
	Inland Waters (Class C and D)	Coastal Waters (Class SC and SD)
1. Industries producing within 3,000 to 10,000 mg BOD/L	130 or 98% removal	200 or 97% removal
2. Industries producing within 10,000 to 30,000 mg BOD/L	200 or 99% removal	600 or 97% removal
3. Industries producing more than 30,000 mg BOD/L	300 or 99% removal	900 or 97% removal

Note: Including old or existing industries producing strong waste whose wastewater treatment plants are still to be constructed.

1. Use either numerical limits or percentage removal whichever is lower (or whichever is more strict).

2. For parameters other than BOD, Tables 2A and 2B shall apply.

Section 7. Mixing Zone Requirements. The following general conditions shall govern the location and extent of the mixing zone:

a) No mixing zone or combination of mixing zones shall be allowed to significantly impair any of the designated area of the receiving body of water.

b) A mixing zone shall not include an existing drinking water supply intake if such mixing zone would significantly impair the purposes for which the supply is utilized.

c) A mixing zone for rivers, streams, etc, shall not create a barrier to the free migration of fish and aquatic life.

d) A mixing zone shall not include nursery area of indigenous aquatic life nor include any area designed by the Department of Environment and Natural Resources for shellfish harvesting, tourist zones and national marine parks and reserves, coral reef parks and reserves and declared as such by the appropriate government agency.

e) In general, the length of the mixing zone or plume in the rivers or similar waterways shall be as short as possible and its width shall be preferably not more than one-half of the width of the waterway.

f) In discharging hot effluents from power plants, mineral ore milling and similar generators of large volume of liquid wastes the permissible size of the mixing zone shall be determined through modelling taking into consideration the size, hydraulic and hydrological data of the receiving body of water and the design and siting of the wastewater outfall.

g) For the protection of aquatic life resources, the mixing zone must not be used for, or be considered as, a substitute for wastewater treatment facility.

Section 8. Additional Requirements.

a) In addition to fulfilling the above-stated requirements in Sections 4 to 6, no effluent shall cause the quality of the receiving body of water to fall below the prescribed quality in accordance with its classification or best usage.

b) Where the combined effect of a number of individual effluent discharges causes one or more water quality parameters to exceed the prescribed limits, the maximum permissible concentrations of such parameters shall be reduced proportionately so as to maintain the desire quality.

c) When discharging effluents, into coastal waters, the location and design of the submarine outfall shall be based on prevailing oceanographic and wind conditions so that discharged materials shall not find their way back to the shore and that there shall be minimum deposition of sediments near and around the outfall.

d) Effluents discharged into prescribed inland and coastal waters Category II, such as Class A,B and SB, shall meet the requirements of Sections 4 and 5 above.

e) Starting January 1, 1995, old or existing industries shall comply with the standards set for new industries in these regulations.

f) For a period to be determined by the Department Secretary and provided that the resulting effects on receiving waters does not pose an immediate threat to life, public health, safety or welfare or to animal or plant life or property, any existing industry that produces strong wastes which cannot meet the limits for BOD in Tables 3A and 3B, maybe allowed to operate and be issued a temporary permit to operate on condition that it pays first a penalty fee for polluting a receiving body of water in the amount equivalent to five pesos (₱5.00) per kilogram of BOD discharged per day in exceedance of the allowable effluent limit provided

further that the calculated fine shall not exceed ₱5,000 per day in accordance with PD 984 and its implementing rules and regulations. (Conversion Factor: 1 mg/L = 1g/cu.m.)

g) Each discharger covered under these regulations shall monitor its effluent and its effect on the receiving body of water regularly in order to ensure compliance with Sections 4,5 and 6 hereof and Section 69, as amended, of the 1978 NPCC Rules and Regulations.

Section 9. Prohibitions.

a) No industrial or domestic sewage effluent shall be discharge into Class AA and SA waters.

b) In order to avoid deterioration of the quality of the receiving body of water, no new industrial plant with high waste load potential shall discharge into a body of water where the dilution or assimilative capacity of said water body during dry weather condition is insufficient to maintain its prescribed water quality according to its usage or classification.

c) No person shall discharge, wholly or partially, untreated or inadequately treated industrial effluents directly into bodies of water or through the use of by-pass canals and/or pumps and other unauthorized means except upon prior approval of the Department Secretary.

d) Other Restrictions:

1. All water pollution control facilities/installations shall be properly and consistently maintained and correctly and continuously operated in order to maintain an effluent quality that complies with Sections 4 to 6 of these regulations.

2. No industrial or manufacturing plant shall be operated without the control facilities or wastewater treatment system in good order or in proper operation except with the permission of the Department Secretary when special circumstances arise.

3. No industrial or manufacturing or source of pollution shall be operated at capacities beyond the limits of operation or capability of the wastewater treatment facility in order to maintain the effluent quality within the standards or pertinent conditions required by law and/or stipulated in the permit to operate.

4. No person shall build, erect, install or use any equipment, contrivance or any means the use of which conceal and/or dilute an effluent discharge and which otherwise constitute a violation of any provisions of these regulations or the 1978 NPCC rules and Regulations, as amended.

Section 10. **Methods of Analysis for Effluents.** – For purposes of these Regulations, any domestic or industrial effluent discharged into any body of water or watercourse shall be analyzed in accordance with the latest edition of the "Philippine Standard Methods for Air and Water Analyses", the "Standard Method for the Examination of Water and Wastewater" published jointly by the American Public Health Association, the American Waterworks Association and the Water Poliution Control Federation of the United States, or in accordance with such other methods of analysis as the Department may prescribe. The approved methods of analysis are given in Table 4.

Section 11 **Maximum Quantity to be Discharge.** - For the protection of public health and aquatic resources of the country and in cases where the volume, strength and nature of one or more pollutants, enumerated in, or not otherwise covered in the preceding Sections, are expected to cause a serious deterioration of a receiving body of water or cause harm or injury to aquatic life and resources, the department secretary shall provide the guidelines for the use of the concerned line agencies, providing for the maximum quantity of any gathered or contaminant that may be allowed to be discharged into the said body of water or watercourse, including the maximum rate at which the contaminant may be so discharged.

This Section particularly applies, but is not limited to industrial effluents covered under Section 6 of these regulations, specifying in kilograms per day the BOD that may be discharged considering the classification and dry weather flow of the receiving body of water.

Section 12 **Penalties.** - Any person or group of persons found violating or failing to comply with any Order or Decision of the Department and/or the Pollution Adjudication Board or any provision of these Regulations, shall be liable under Section 9 of the Pollution Control Law (PD No. 984) and/or Section 106 of the 1973 NPCC Rules and Regulations, as amended.

Section 13 **Separability Clause** - Any Section or provision of these regulations declared to be unconstitutional or invalid by a competent court, the other sections or provisions hereof shall remain to be in force.

Table 4.
APPROVED METHOD OF ANALYSIS

PARAMETER	METHOD OF ANALYSIS
ARSENIC	Silver Diethyl Idithicarbonate Method (Calorimetric)
BOD	Azide Modification (Dilution Technique)
BORON	Carmine Method (Calorimetric Method)
CADMIUM	Atomic Absorption Spectrophotometry (Wet ashing with conversion HNO_3 + HCl)
CHLORINATED HYDROCARBONS	Gas Chromatography (ECD)
CHROMIUM (Hexavalant)	Diphenyl Carbazide Colorimetric Method
COLOR	Visual Comparison Method (Planting Cobalt Scale
CYANIDE	Specific Ion Electrode Method
DISSOLVED OXYGEN	Azide Modification (Winkler Method) Membrane Electrode (DO meter)
FECAL COLIFORMS	Multiple Tube Fermentation Technique or Membrane Filter
LEAD	Atomic Absorption Spectrophotometry
NITRATE AS NITROGEN	Brucine Method for Saline Waters, specific Ion Electrode Meter for Fresh Water
OIL AND GREASE	Gravimetric Method (Petroleum Ether Extraction)
ORGANC PHOSPOROUS COMPOUNDS	Gas Chromatography (ECD)
PCB	Gas Chromatography (ECD)
pH	Glass Electrode Method
PHENOLIC SUBSTANCES	Chloroform Extraction Method
PHOSPHATE AS PHOSPHORUS	Stannous Chloride Method
SETTLEABLE SOLIDS	Imhoff Cone Method
SURFACTANT (MBAS)	Methylene Blue Method (Colorimetric)
TEMPERATURE	Use of Mercury-Filled Thermometer
TOTAL COLIFORMS	Multiple-Tube Fermentation Technique or Membrane Filter
TOTAL MERCURY	Cold Vapor Technique (Mercury Analyzer, AAS)
TOTAL SUSPENDED SOLIDS	Gravimetric Method

NOTE: Other method found in the Philippines Standard Method for Air and Water Analysis, the "Standard Method for the examination of Water and Waste Water" published jointly by American Public Health Association, the American Waterworks Association and the Water Pollution Control Federation of the US or in accordance with such other method of analyses as the DENR may prescribe.

Section 14 **Repeating Clause** - Any provision of the 1973 Rules and Regulations, as amended, the Effluence Regulations of 1982, and other existing rules and regulations of the Department which are inconsistent herewith are hereby repealed.

Section 15 **Amendments** - This regulations may be amended and/or modified from time to time by the Department.

Section 16 **Effectivity** - This regulations shall take thirty (30) days after publication in the official agents or newspaper of general circu'ation.

Approved:

(SGD) FULGENCIO S. FACTORAN, JR.
Secretary of the Department of Environment
and Natural Resources

APPENDIX E-8

DENR ADMINISTRATIVE ORDER NO. 2
SERIES OF 1991

DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES

ADMINISTRATIVE ORDER)
NO. 02 :)
Series of 1991)

SUBJECT: Errata to some Provision of DENR Administrative Order No. 34, S. 1990 on the Revised Water Usage and Classification/Water Quality Criteria and DENR Administrative Order No. 35, S. 1990 on the Revised Effluent Regulations of 1980.

In the interest of service and pursuant to the provisions of Executive Order No. 192, Series of 1987, due to a number of errors, typographical as well as those which were inadvertently included/excluded, DENR Administrative Order Nos. 34 and 35 are hereby amended as follows:

1. The following shall be the corrections/modifications:

   a. For DENR Administrative Order No. 34

      i) Footnote B, table 1, page 5 should read:

         "For irrigation purposes, SAR should have a minimum value of 8 and a maximum value not to exceed 18. Boron should not exceed 0.75 mg/l".

      ii) The Water Quality Criteria for "Total Coliforms" for Class SC of Table 3 page 8 should be 5000 (M) instead of 1000(M).

      iii) Item (e) "significant parameters", page 10, should read:

         "As a guide ..... are indicated in Table 6"

      iv) Table 6A, page 10 should be Table 6.

   b. For DENR Administrative Order No. 35

      i) The Title of Table 1, Section 4, page 2 should read:

         "TABLE 1 - EFFLUENT ..... SUBSTANCE"
                (Maximum ..... Health)^

ii) Footnote (A) of Section 4, Table 1, page 3 should read:

"Except as otherwise indicated, all limiting values in Table 1 (Section 4) are maximum and therefore shall not be exceeded".

iii) There shall be an additional footnote (No. 4) in Tables 2A and 2B, Section 5, page 5 which should read:

4. "The effluent standards apply to industrial manufacturing plants and municipal treatment plants discharging more than thirty (30) cubic meters per day".

iv) The effluent standards for "Total Dissolved Solids" of Class C, OEI and NPI (Section 5, Table 2A, page 4) should be deleted i.e. 1500 mg/l, 1000 mg/l, respectively.

2. The above corrections/modifications shall be published as required by law prior to implementation.

FOR IMMEDIATE COMPLIANCE.

FULGENCIO S. FACTORAN, JR.
Secretary

APPENDIX F

RECENT NEWSPAPER ARTICLES

APPENDIX F

RECENT NEWSPAPER ARTICLES

Construction rules on gov't projects amended

President Aquino recently signed Presidential Decree 1594 further amending the rules and regulations involving government civil works. The signing came after the Philippine Constructors Association submitted its recommendations on the amendments to the Implementing Rules and Regulations (IRR) of PD 1594, the law governing the procurement of civil works.

According to PCA Executive Director Manolito Madrasto, the previous IRR covering government infrastructure contracts were not adequate enough to cover the complex procedures involved in civil works projects.

Among the main amendments are:

1) The head of the office may keep the approved agency estimate (AAE) confidential until the opening of bids or publicly announce the AAE through advertisement. In cases where the AAE is held confidential, it shall be finalized.

2) Without the number of rainy of unworkable days established before the bidding date and known to all participating bidders, the contract time is presumed to have excluded the unfavorable conditions.

3) Advertisement for at least three times, if the project cost is more than P1 million. However, for projects costing P1 or below, or for projects authorized by the regional/district offices, the invitation to bid shall be advertised within the region or province.

4) For projects where the notice to proceed (NTP) is issued after 120 calendar days from the bidding date, the awarded bidder may request for a contract unit price adjustment using the parametric formula updated to the month of the NTP.

5) Once the project is 95 percent accomplished, the contract time may be suspended and the government upon the request of the contractor may create an inspection team to make preliminary inspection and submit a punch-list to the contractor in preparation for the final turn-over of the project. The punch list will contain, among others, the remaining works, work deficiencies for necessary corrections, and the specific time to fully complete the project as agreed upon by the government and the contractor.

Source: MANILA BULLETIN, June 17, 1992

EIA for environmentally critical areas transferred to local units

Environmental impact assessment (EIA) for projects located within "environmentally critical areas" (ECA) will soon be transferred to local administrators. But "environmentally critical projects" (ECPs) will remain under central control of the Department of Environment and Natural Resources (DENR).

Under P.D. 1586 and Proclamation 2146, a scheme wherein EIA will only be applied in cases involving ECAs and ECPs was adopted. Such approach was aimed at simplifying the system's implementation. Previously, both ECPs and ECAs fall under the jurisdiction of DENR's central office.

Officials of DENR said the decision on EIA devolution was reached after an assessment of local level capabilities with respect to the system's application was finalized.

"Local units are more familiar with environmentally critical areas than DENR central office personnel," Rodrigo Fuentes, director of the Environmental Management Bureau (EMB), explained.

ECAs generally cover relatively fragile ecosystems such as natural parks and reservations, primary agricultural lands, wetlands, and areas which are frequently hard hit by natural calamities.

With the new policy, conversion of agricultural lands to other uses, for instance, will no longer be under the jurisdiction of DENR's central office. The same rule applies to small- and medium-sized agribusiness projects such as piggery and poultry which are usually located along river systems.

The devolution of the EIA system is expected to shorten the time frame normally required in processing applications for environmental compliance certificates (ECCs). An ECC is the project clearance issued by DENR after EIA requirements are adequately complied with by an applicant.

In the existing system, even rural-based industries are compelled to apply for an ECC at DENR's central office, specifically at EMB. Processing time takes from six months to years depending on availability and accuracy of information submitted.

Notwithstanding the new approach, devolution of the EIA system to local units will not be complete as DENR decided to hold on to projects which are deemed more controversial.

Delfin J. Ganapin, Jr., DENR undersecretary for environment and research, said huge industrial projects whose ECCs normally entail sets of conditions, including the raising of environmental guarantee funds, will remain in the hands of the department.

These projects, it was noted, generally require more technical inputs as well as comprehensive assessments and thus the need for specialized expertise. Among those considered as ECPs are as follows: heavy industries, resource extractive activities, and major infrastructure projects.

Reacting to a criticism hurled against the EIA system during a forum on environment held last month at the University of the Philippines, Mr. Ganapin said there is no point comparing the implementation of EIA under the present Administration and the previous one.

"We are processing thousands of applications now while there were only very few applications then," he said. "Besides, there a lot of exemptions given to pollutive projects during the previous regime," he added in reference to a provision in the EIA law which was liberally exercised under the Marcos Administration.

Mr. Ganapin further stressed that despite hitches in the full adoption of the Philippine Strategy for Sustainable Development (PSSD) within the Government, the national leadership has been supportive of the approach.

"For one, the President has not exempted any project from EIA and that alone is a major accomplishment," he underscored, "and in spite of our hardline stance on very critical issues, we have never been pressured to change our position."

He further described PSSD's complete adoption within the Government as a protracted internal struggle which could take several years. "There is an internal battle going on and we realize there are no miracle solutions to critical issues confronting us now." — **Hernani P. de Leon**

Source: PHILIPPINE DAILY INQUIRER, June 25, 1992

94

LGUs may go direct to foreign sources of development loans

By MARICAR S. BAUTISTA, *Reporter*

Local government units (LGUs) will be given the authority to go directly to donor countries for funds to underwrite their development programs once the Ramos Administration fully implements the Local Government Code.

Cielito Habito, director-general of the National Economic and Development Authority, yesterday said, "In the next few years we will see local governments really taking a more direct hand in the grown development efforts."

He said this will be the "best manifestation of people empowerment under the Ramos Administration." He added, "This is development originating from the grassroots, from the local level."

Mr. Habito added that since the President is set on fully implementing the Code, this means more autonomy to LGUs for their development.

Aside from giving added taxation powers to LGUs, he said "NEDA is going to assist them in accessing (ODA) official development assistance grants as much as possible for their projects."

At present, LGUs, after identifying projects, are required to get prior approval from the concerned department to which their projects have been submitted. This step is done only after NEDA has found a donor for such projects. The process has been criticized as too bureaucratic and hinders LGUs from developing their potentials.

"We are moving away from, say, the Manila centric type of development that we had in the past. *Pag napabayan, dun ng central government agencies yung lugar nila, yung lugar di sila na* (Once the central government agencies forget their turfs, then these are completely forgotten)," Mr. Habito said.

"This time," he added, "it will be the local officials and the people themselves who will be responsible and they will be given the authority and the resources."

On the people empowerment campaign promise of Mr. Ramos, the NEDA chief said, "NEDA is right now in the process of formulating the next medium-term Philippine development plan."

Because of the planned decentralization, Mr. Habito said the development plan will be formulated in consultation with local officials. "We will be engaging in active consultation at the local levels. We will get the people's idea of how they would like their development to take place."

The NEDA head said LGUs have direct access to some donor countries such as France. "This is people empowerment. We are allowing people to take part in the process of planning for their future, planning for the country's development."

DECENTRALIZATION

In a related development, the decentralization of the environmental impact assessment (EIA) system will take effect on July 18 but regional units of the Department of Environment and Natural Resources (DENR) appear unprepared for it.

"We don't have an inventory of which regions are fully capable of handling the EIA although there are efforts now to link up with technical experts from local academic institutions," said Sixto Tolentino, Jr., who heads the EIA unit of the Environmental Management Bureau (EMB).

While defending DENR's decision to devolve its EIA functions, Mr. Tolentino admitted the offices and technical capabilities in the department's regional offices are still wanting.

For instance, there is no specific financial provision to support EIA devolution and training DENR personnel is heavily biased in favor of Manila-based [illegible]

Compounding further, this situation is the impact of full implementation of the Local Government Code (LGC).

"The issue of fully transferring these functions to local government units, based on provisions of the LGC, is another thing that worries us," Mr. Tolentino said.

DENR's EIA devolution has concentrated too much on the regional offices and not on community and provincial offices which may be eventually absorbed by the LGUs.

The bottom line is that while national DENR officials will initially develop EIA capability, DENR's provincial and community officials going to the LGUs will remain unable to handle the job.

MAJOR CONCERN

In the meantime, the major concern is whether the regions effectively respond to the EIA decentralization order. A pilot test conducted in Bicol indicated the local EIA system succeeded but only through assistance from Bicol University and University of Nueva Caceres.

"Take note we have made it clear to our regional units that they have the prerogative to refuse to us projects which they think they can't technically handle," Mr. Tolentino said, further calling the decentralization move as a big step forward in bringing region-based investors.

Under previous practice, all EIAs were processed only at DENR's central office thereby bringing projects located in Metro Manila and its periphery.

Under a recently issued DENR order, all projects located in environmentally critical areas (ECAs) are given to DENR's regional offices. Those classified as environmentally critical projects (ECPs), however, remain under the EMB.

The ECAs which will be devolved basically refer to agribusiness projects, land conversion applications, tourism projects, small-scale mining and quarrying, and minor infrastructure projects.

Those involving large infrastructure as well as industrial projects, power generation included, comprise the ECPs which will still be under the EMB.

Personalities from the academe and the nongovernmental community have formally criticized DENR's plan to decentralize the EIA system, invoking as main argument the lack of local-level capability. Such a problem would make the EIA system vulnerable to graft and corruption, critics further noted.

GANAPIN

But in a previous interview, DENR undersecretary Delfin J. Ganapin, Jr. explained that decentralization of EIA is basically in compliance with provisions of the LGC.

He further stressed that such an approach would "democratize" EIA practice which is currently confined to a few management consultants and academicians.

Under the EIA, an applicant first submits a project description after which an environmental impact statement (EIS), normally in the form of voluminous documents and studies, is required.

An EIS is generally subcontracted to technical consultants or management consultancy firms involving a huge sum.

The DENR then conducts an assessment and review of the documents submitted and then decides if it will approve or disapprove the project.

Once approved, an environmental compliance certificate is issued. — Harmony P. de Leon

Source: Business World, July 3, 1992

USAID shifts to policy reform

By MICHAEL ALUNAN

Assistance from the U.S. Agency for International Development (USAID), which has been decreasing steadily in the past years, has radically changed its focus to support more policy reforms and countryside development.

For decades, USAID focused mainly on projects benefitting the communities surrounding the US Bases in Clark and Subic. Since 1946, USAID funding reached a total of $4.42 billion. Close to $1 billion of this amount came in the form of food aid.

Recently, USAID has supported efforts toward macro-economic policy reforms, which are seen to have far-more reaching benefits.

This new thrust is premised on the belief that "sustainable economic growth depends on a dominant role for the private sector and the assurance that market forces, not government fiat, establish signals which drive investment," a USAID report said.

This thrust can aptly be described in the age-old proverb, which states "Give a man some fish and he will survive for a day, but teach him how to fish and he will survive for a lifetime."

It appears, however, that USAID's thrust towards a healthier policy environment for growth and development even goes further as it encourages the Filipino to teach himself or learn on his own about standing up on his two feet.

For decades, the July 4 Philippine-American Friendship day has been criticized as a mockery of the country's mendicancy and state of subservience.

But with the dismantling of the US military bases, the country has to grapple on its own and face the problems and challenges of nation-building.

In the past years, USAID assistance steadily declined from a peak of $390.7 million in fiscal year 1990 to $365.9 million in FY 1991, $184.9 million in FY 1992, and only $168 million in FY 1993.

The $168 million budget for FY 1993 is the first non-US base related assistance program.

USAID officials point out that the Philippines is still the largest recipient of US economic assistance in Asia, and No. 5 in the world.

Malcolm Butler, former USAID director, earlier noted that this new relationship will "involve more balance, less dependence, and frankly a greater contribution from the Philippines."

He noted increasing pressure from US Congress and American taxpayers who demand "higher returns" in terms of sustainable economic growth to benefitting countries.

Aid will therefore have to be treated like capital investment which move in a very competitive market. "Countries which offer good opportunities for foreign aid and for efficient use of it, will attract more compared to those that do not," he said.

This new dimension of aid itself is far different from the alms-giving concept wherein relief goods, food grants and other commodities are donated, while artesian wells, school buildings and other infrastructures are built.

A USAID report said that the "factors that most affect a nation's development are the vitality of the private sector, the government's economic and development policies, the international economic environment (its competitiveness in the world market), and social and cultural factors."

One of USAID's major focus is "rural development," mainly because the majority of poor Filipinos live in rural areas and depend on agriculture for their living. In 1988, about [illegible] million or 58 percent of all Filipinos live in rural areas. The agriculture sector employs 47 percent of the Philippine work force, but agricultural workers receive only 19 percent of the country's income.

Given this demography, investing in agriculture will provide higher returns not only because it is cheaper (as a job in agriculture costs only about ₱3,000 against ₱300,000 in manufacturing), but more so because of its multiplier effects.

One of USAID's program addressing these problems is the recently-launched $80 million Agribusiness System Assistance Program (ASAP), which basically calls for an advocacy for more policy reforms.

Also of importance is USAID's complementing "private sector strategy" aimed at channeling resources toward macro and sector-specific policy reforms. These would encourage growth of competitive and export-oriented industries as opposed to inward-looking, entrenched and inefficient industries which have survived mainly because of protectionist policies.

But how USAID's new thrust will help shape the economic landscape of the country and the Philippine-American relationship will now depend on government and the Filipinos themselves. After all, one can only teach a student like the Philippines so much but what is more important is for the student to respond and learn on his own.

Source: MANILA BULLETIN, July 4, 1992

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DENR starts devolving its powers

The Department of Environment and Natural Resources (DENR) has started a devolution of its powers to local government entities by authorizing its regional offices nationwide to process and monitor all projects located in environmentally critical areas (ECAs).

Acting DENR Secretary Ricardo M. Umali said this is in line with DENR Administrative Order No. 21 where ECAs are listed as environmentally sensitive areas under Presidential Proclamation No. 2146, including national parks, watershed reserves, wildlife preserves and sanctuaries; areas set aside as aesthetic potential tourist spots; areas which constitute the habitat for any endangered or threatened species of indigenous Philippine wildlife; areas which are traditionally occupied by cultural communities or tribes; and certain mangrove areas and coral reefs.

With the administrative order, the regional offices was given the responsibility to approve or deny issuance of environmental compliance certificates to projects that are in ECAs.

Environmentally critical projects are, however, to be evaluated by the Environment Management Bureau in Quezon City. They are those that have high potential for negative environmental impact.

The decentralization of processing is expected to lessen the burden borne by project proponents coming from provinces who need to comply with the requirements at the DENR Central offices in Quezon City.

Under the new order, the proponents need only to transact their business with the DENR regional offices located in regional centers. (Priscila R. Arias)

Source: MANILA BULLETIN, July 26, 1992

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FVR presents 19 priority bills to solons today

By FE B. ZAMORA

PRESIDENT Ramos is expected to endorse 19 priority bills in his State-of-the-Nation address at the opening of the ninth Congress today.

The President, who will speak before the joint session of the Senate and the House of Representatives at 4 p.m., said the measures are in support of the five thrusts of his administration, namely, economic recovery, political stability, effective [illegible] people empowerment and protection of environment.

Mr. Ramos expressed confidence that enactment of these bills will end insurgency and propel the Philippines to become a newly industrialized country.

Among the measures is a massive infrastructure program costing P200 billion, which is aimed at transforming the country into a bustling trade center by the turn of the century.

To support his programs, Mr. Ramos is proposing new tax measures, which aim to help the government achieve its revenue target of P284.2 billion for next year's budget. He stressed that the rich will be taxed more.

He will also endorse bills granting amnesty to rebels, creating a Department of Energy and providing for government reorganization.

The President's legislative proposals are as follows:

Economic Development

● Creation of a legislative-executive development council that will serve as a consultative and advisory body to the President and Congress on socio-economic development.

● A proposed national budget of P330.2 billion for 1993 that will augment the appropriations for economic, infrastructure, labor and environmental concerns.

bill will expand the scope of condominiums to include an interest in a building, plant, factory or factory site in the case of an industrial estate.

Political Stability

● An amnesty package backed by a livelihood program aims to bring back communist, military and Muslim rebels to the mainstream of society.

● The death penalty will be restored for heinous crimes such as murder, rape and drug-trafficking, and kidnap-for-ransom under certain circumstances.

● A Racketeering-Influenced and Corrupt Organization statute seeks to combat economic crimes and reduce graft and corruption. It will be patterned after the RICO law in the United States.

● Bills on the modernization of the Armed Forces and the Philippine National Police seek to streamline and professionalize the military and the police by providing continued appropriations for buying new weapons, aircraft, sea vessels and technologies.

Effective Bureaucracy

● The executive branch will be reorganized for more efficient operation by eliminating overlapping functions as well as realigning and integrating offices.

budget deficit and support urgent programs. Collection efforts will be strengthened and stiffer penalties will be imposed on tax evaders.

The so called "sin taxes" will be increased and the value added tax system will be broadened.

● Creation of the Department of Energy as a permanent governing body for the formulation, planning, monitoring, implementation and coordination of policies and programs on energy.

Under the proposal, a P1-billion energy development fund from the Oil Price Stabilization Fund will be set aside.

● The Public Service Act will be amended to pave the way for the privatization of the transport industry.

● A public works bill will give priority to communication facilities as well as arterial highways, local and national roads, major bridges, urban highways and major flood control projects.

These infrastructure projects will require P200 billion over the period 1993 to 2000.

● The Alien Legalization Bill seeks to legalize the status of overstaying aliens, eliminate graft and corruption in immigration and deportation operations and help generate more revenues.

● The Condominium Act will be amended to provide security to the delivery of basic services in the Metro Manila area.

● Another bill seeks to improve the quality of education in all levels. It also aims at providing free elementary education for every Filipino child, provide basic classroom needs and more technical and scientific training.

People Empowerment

● Another measure seeks to provide economic empowerment to the unemployed and the underemployed. It seeks to provide manpower training and organize manpower pools while supporting the overseas employment program.

● Idle government lands and other assets will be sold, the proceeds of which will be used to support housing for the poor and the agrarian reform program.

Environmental Protection

● An Environmental Protection Code will consolidate existing laws and issuances on the environment to clarify and resolve conflict areas and streamline the implementation of environment programs.

● A new Forestry Code will institutionalize people-oriented forestry, ban logging in old growth forests, ensure perpetual financing for forestry activities, penalize forest violators and provide incentive to for-

Source: PHILIPPINE DAILY INQUIRER, July 27, 1992

NGOs Urge Ramos to Junk BNPP, Spend More in Infrastructure

BY ELPIDIO T. EBIAS JR.

The country's non-government organizations (NGOs) is urging the Ramos administration to forego its plan to operate the Bataan nuclear power plant (BNPP) and hike spending for infrastructure and other basic services.

These are among the measures proposed by the NGOs to sustain the country's economic growth in the 1990s.

In a press briefing last Friday, the NGOs said instead the new government must push for the development of indigenous energy sources like geothermal.

They also cited the need to improve management of the country's natural resources and implementation of the agrarian reform law.

In addition, they said the new administration must address such issues as foreign debt, food and agriculture, peace and order.

The NGOs will present these proposals to President Ramos today in a meeting in Malacañang.

With regard to the power crisis, the NGOs recommended that peak energy consumption levels be reduced through demand side management, audit, and conservation technologies.

To improve the country's finances, the NGOs said the president must certify as urgent tax laws that will improve the collection efficiency and imposed more taxes on the rich.

Furthermore, they proposed the restructuring of the prevailing regressive tax system, which hurts the poor, and make it more progressive.

"Government, too, has a shortfall in revenues, mainly because of inefficient tax collection and a narrow tax base. It (government) simply lacks the political will to tax the rich and go after the tax evaders," they said.

Filomeno Sta. Ana from the Freedom from Debt Coalition suggested that government spending be directed towards stimulating the economy and generating employment.

"This means going against the International Monetary Fund (IMF) program and current policy of having tight fiscal and monetary targets," Sta. Ana said.

He said the IMF program has led to a stagnant economy. "The first to suffer from the sharp cut in government spending are infrastructure projects as well as delivery of basic social and economic services."

The NGOs' socio-economic agenda, according to Eugene Gonzales of the Council for People's Development, is based on the principles of peace anchored on on social justice, sustainable development, and people empowerment.

"The ongoing social conflict cannot be ultimately solved through military means. The political and economic roots of insurgency and rebellion must be attacked through the attainment of social justice for the poor and powerless," Gonzales said.

Likewise, Gonzales explained that the Filipinos' life has been dependent on what the land, river, seas, forests, and skies give them. "We must stop the profligate use and abuse of our natural resources, which are ours only in trust for those who will come after us."

He said for development to be sustainable, "it should not only be ecologically sound, but also economically viable, people centered, culturally appropriate, empowering and participatory."

"In the same manner that people empowerment should give ordinary Filipinos greater say and participation in the way their local communities and national government are run," Gonzales said.

Source: THE BUSINESS STAR, AUGUST 3, 1992

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DPWH Sets P14.4B for 1992 Infrastructure Program

Luzon Projects to Get 40% of Total Outlay

The Department of Public Works and Highways (DPWH) has earmarked a total of P14.431 billion for its infrastructure program this year which is aimed at improving the delivery of basic services to the people.

The DPWH said that the program's thrusts are in line with President Ramos' pledge in his state-of-the-nation address to push infrastructure-building more aggressively with priority on power development, communications, road networks, bridges, water conservation and flood control.

According to the DPWH's 1992 Infrastruc Program, the main island of Luzon, excluding Metro Manila or the National Capital Region (NCR), will get a total of P5.851 billion appropriation, or 40.54% of the total investments of P14.431 billion.

The bulk of this amount or P3.975 billion is earmarked for the construction, rehabilitation and maintenance of Luzon's highway network.

Furthermore, a total of P874.770 million will go to the enhancement of water supply facilities and P761.729 million to flood control.

The remaining P199.431 million outlay is allocated for the construction of urban infrastructures, the DPWH said.

The NCR, which is comprised of four cities and 13 municipalities, is alloted a total of P4.135 billion under the DPWH's 1992 infrastructure program.

Of the P4.135 billion outlay for this year, 73.25% or P3.029 billion will go to the improvement and expansion of roads.

Metro Manila's flood control program will get P769.761 million, while its water supply program will be alloted P245.392 million.

The remaining P60 million will be used to finance urban infrastructures, specifically the construction of multi-purpose buildings in Mandaluyong and a gymnasium in Tatalon, Quezon City.

For this year, the DPWH is set to embark on a P2.414 billion infrastructure development program for the Visayas. As in Luzon, a big chunk of the budget amounting to P1.883 billion is intended for the construction of roads and highways.

Around P291.2 million will go to water supply projects and P96.615 million to flood control. Also, P25.85 million is allotted to ports development.

Urban infrastructures appear to be low in the Visayas' priority list if the P17.47 million allocation or 0.70% share in the total is an indication.

Mindanao is allocated a total of P2.032 billion in the DPWH's infrastructure program for this year. This amount is broken down into P1.278 for highways, P471.6 million for water supply, P222.972 million for flood control, P52.786 million for urban infrastructure and P5.91 million for port projects.

Distribution Investments
DPWH CY 1992 Infrastructure Program
(In Million Pesos)

Particulars	NCR	Luzon	Visayas	Mindanao
Highways	3.029	3,975.134	1,882.228	1,278.453
Ports	-	39.706	25.858	5.910
Flood Control	769.761	761.729	96.615	222.972
Water Supply	31.112	874.770	391.200	471.600
Urban Infra.	245.392	199.431	17.476	52.786
Others	60.00	-	-	-

Source: DPWH

Source: THE BUSINESS STAR, July 30, 1992

Lack of funds slows decentralization

LOS BAÑOS, Laguna -- "We're not being disobedient. We simply lack the money to do it," was how some Southern Tagalog officials explained their lack of enthusiasm in implementing the new Local Government Code.

The code, whose implementation started January, is aimed at granting more powers to local governments.

Dante Reyes, planning and development coordinator for Laguna, told *PNF* last week that the lack of money makes them "reluctant" to accept personnel being reassigned to local governments from the national offices.

Cavite vice-governor Luis Ferrer III told *PNF* the provincial government is "not keen" on absorbing national government employes because they had similar employes in local positions. He said they also lack funds.

Although local government income will be augmented from the internal revenue allotment (IRA), it is not sufficient, Ferrer III and Reyes said.

Laguna received P17 million to implement the code but the province would need about P74 million. Reyes said Laguna has to absorb some 200 personnel from the health, agriculture and social welfare departments alone.

Cavite, on the other hand, received P70 million from its allotment in internal revenues this year. But P72 million would be spent on health services, medicines and wages for about P700 health personnel.

"We cannot pay more than what we get," Reyes said, adding that if asked, he would reduce to the minimum personnel being passed down to him, hiring only those whose functions do not duplicate current positions. He wouldn't accept retirable personnel, he said.

Reyes heads of a provincial committee that studies ways of implementing the code. Its other members are the provincial treasurer, the legal adviser, the fiscal and the budget officer.

Laguna province's health and agriculture services are most affected by the new code, Reyes said. Some P68 million is needed to maintain and operate nine provincial hospitals and rural health units. Another P4 million to P10 million is needed for agriculture, and P2 million for social welfare, he said.

Because it lacks money, Laguna will "screen" non-government and people's organizations participating in local governance, Reyes revealed.

"We will have to give them honorarium. How can you expect these NGOs to participate in local government without compensation?" he asked. The code encourages the participation of non-government groups in local governance but does not mention compensation.

Laguna province's budget is about P80 million. The new code authorizes local officials to raise funds through local taxation, Reyes said, but this is another burden on the population. Revisions in the real property and amusement taxes are being considered instead.

Ferrer III said Cavite will not impose new taxes to avoid antagonizing investors. The province, however, is considering putting up a cooperative bank for agriculture and health. Other possible sources of taxes are being studied, Ferrer III said. *Philippine News and Features*

Source: PHILIPPINE DAILY INQUIRER, August 8, 1992

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PMS identifies 30 poorest provinces

BACOLOD CITY — The 30 poorest provinces are almost evenly distributed in Luzon, Visayas and Mindanao, with the last having an edge over the rest.

The provinces were identified following a study conducted last month by the Presidential Management Staff (PMS) to choose the provinces that will be given priority in the programs the Presidential Council for Countryside Development (PCCD) will undertake.

President Ramos created the PCCD under Executive Order No. 6 and appointed former Negros Occidental Gov. Daniel Lacson Jr. to head it.

In the PMS report Gov. Rafael Coscolluela furnished the INQUIRER yesterday, all the 73 provinces in the country were ranked from the poorest, Masbate, to the richest, Rizal.

Nine development indicators were used in determining the social and economic condition of the provinces nationwide weighted according to their significance.

These are average family income, total financial resources, unemployment rate, underemployment rate, hospital beds to population ratio, literacy rate, percentage of household energized, road density and percentage of household served by water district.

Other equally important indicators like poverty incidence and malnutrition rate were not considered in the selection due to unavailability of their provincial data.

Based on the computation, the 10 most impoverished provinces in their order are Masbate, Samar, Davao Oriental, Antique, Maguindanao, Sulu, Northern Samar, Tawi-Tawi, Zamboanga del Norte and Cotabato.

In contrast, the 10 richest provinces, also in their order, are Rizal, Batangas, Laguna, Bulacan, Bataan, Cavite, Surigao del Sur, Pangasinan, Pampanga and Benguet.

The Autonomous Region of Muslim Mindanao, Western Visayas and the Southern Tagalog region have the most number of poor provinces, while the new provinces of Sarangani, Biliran, Buena Vista and Guimaras were excluded in the evaluation there being insufficient data existing as yet.

Central Luzon provinces — Bataan, Tarlac, Pampanga and Zambales, which were devastated by the Mt. Pinatubo eruption — are not among the top 30 poorest provinces.

In fact, they are reflected as among the most progressive ones as most of the data used in the evaluation cover the 1988-1990 period. But, considering their present condition, the government has been pouring assistance for their rehabilitation, the PMS report noted.

Among the 30 poor provinces, target areas for PCCD programs will be chosen based on their development potential and the willingness of local officials to allocate a portion of their internal revenue allotment (IRA) and cooperate with PCCD's efforts. *CPG*

Source: PHILIPPINE DAILY INQUIRER, August 9, 1992

LGUs blame Congress for Local Code mess

DUMAGUETE CITY – Negros Oriental officials are blaming Congress for the problems and confusion plaguing local government units (LGUs) in the implementation of the new Local Government Code.

Gov. Emilio Macias II told the INQUIRER Friday he thought the House of Representatives, in particular, may have intended the Code not to succeed "to maintain the highly centralized government."

"Giving them (congressmen) the benefit of the doubt, they might just be incompetent, the reason why they failed to anticipate the problems in the Code's implementation," he said.

Many local officials, not only in this province, have deplored the insufficient allocation of internal revenue allotment (IRA) despite the devolution of at least four service-oriented agencies.

Macias said Negros Oriental, which ranks fourteenth among the country's poorest provinces, needs at least P130 million to absorb the operations and personnel of the departments of Health, Agriculture, Social Welfare and Development, and Environment and Natural Resources.

The governor said the problem of funding and the absence of clear-cut policies in the Code's implementation have hampered the devolution process.

"Macias said he thought the congressmen deliberately allowed the problems LGUs are now facing "so they can retain their vast powers," using their countryside development fund allocation.

It was learned that some Negros towns, among them Manjuyod, Sibulan and Bindoy, have yet to receive their IRA share for the past few months, while mayors of the other towns have complained that the amount they got fell short of what they expected.

Vallehermoso Mayor Buenaventura Olladas said his town got only P3.9 million instead of P4.5 million for the first quarter of this year.

Dumaguete City received P36 million instead of P45 million as expected for the first half of the year, according to Mayor Agustin Perdices.

Aside from the IRA problem, Negros mayors have chorused in demanding the early release of clear-cut guidelines in the devolution process as its absence is causing confusion and apprehension.

But Ranulfo Pacaldo, DILG-Negros officer-in-charge, said the Civil Service Commission has yet to release guidelines on the LGUs' staffing patterns as a result of the devolution.

The same is true with the Department of Budget and Management for rules in the utilization of IRA and other financial assistance from the national government, he added.

Without the guidelines, Alfredo Maturan, DILG officer of Bais City, told the INQUIRER his city and the provincial government are grabbing possession of an experimental fishpond in his place.

"Bais wanted to get it but the province refused," he said.

Romy G. Amarado

Source: PHILIPPINE DAILY INQUIRER, August 9, 1992

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Pre-historic coffins found in Surigao

By BOBBY TIMONERA

WHO says Filipino culture is merely a mishmash of the cultures of different colonizers or of early trading partners like the Chinese and Arabs?

With the recent discovery in Surigao del Norte of prehistoric coffins that archeologists say may date back to the late Iron Age, or about 200 A.D., yet another rich facet of the Filipino cultural heritage is about to be uncovered.

Dr. Eusebio Dizon, archaeologist at the National Museum, said the belief that we got from the Chinese the practice of burying our dead in coffins may be debunked with the find.

Dizon, who presented his findings yesterday at the mid-year meeting of the Philippine Social Science Council (PSSC) in Diliman, Quezon City, said they have unearthed "dug-out log coffins" in excavation sites in Barangay Panhutongan in the municipality of Placer, about eight kilometers southeast of Surigao City.

The coffins, Dizon said, were made from logs and carved like bancas.

The excavation team also found other artifacts -- among them Chinese porcelain from the Ming Dynasty, iron bolos, glass beads and smoking pipes -- which, the PSSC said, could help in the reconstruction of the Placer inhabitants' cultural past.

Other discoveries were "open-pit" burial sites that date back to the 16th or 17th century, or during Spanish colonial rule. They appeared to be fenced in by a "stone structure found to be compacted and solidly snug," which Dizon said must have also been built at about the same time.

In all, the team unearthed five dug-out coffins and four open-pit burial sites.

"The initial discovery was accidental," said PSSC Chairman Dr. Leslie Bauzon, history professor at the University of the Philippines and member of the excavation team.

Early in September 1990, Bauzon said, workers were digging a pit for the septic tank of the Panhutongan Elementary School's proposed toilet when they hit upon three of the coffins.

Shortly afterwards, Bauzon received a telegram informing him of the discovery from Fernando Almeda Jr., president of the Surigaonon Heritage Foundation.

Bauzon said he surveyed the area during the semestral break in November 1990. Convinced of the site's archaeological potential, he brought Dizon to Placer in March 1991.

The two men jointly conceived the excavation project and secured a P1-million grant from the Toyota Foundation and the Daiwa Bank Foundation for Asia and Oceania, both of Japan. Local donors include the National Commission for Culture and the Arts, Caltex Philippines, Ugnayang Pang-agham Tao (UGAT), and Dr. Estefania Aldaba-Lim.

The group's first "field season" was in October-November 1991, but excavation was slow because of the rains. Full-scale excavation took place only last April and May.

Their third field season, which began last month, was finished last week. Bauzon said they intend to resume work in April next year.

Of the 28 "sinkholes" (square diggings measuring four-by-four meters and averaging one meter in depth) dug, only four did not yield archaeological materials.

The team found that "there was a continuous utilization of the area probably from the prehistoric period up to the present."

They also found skeletal remains in the Amoslog cave, about four kilometers from the Panhutongan site. "It must have been used as a secondary burial site," Dizon told the INQUIRER.

Describing the country's "first full-scale excavation" as a milestone, Dizon and Bauzon said similar projects in the past were not as encompassing because of lack of funding.

The UP, Mindanao State University, and the University of Santo Tomas set up field schools in archaeology, history and anthropology during the excavations.

To preserve the find, the team has refilled the diggings and restored the site to its original state.

They expressed concern over the threat posed on the site by treasure-hunting activities that started even before they arrived and apparently involved local officials and former military men.

"Some of them have earned enough cash with the sale of gold, beads and porcelain from the Panhutongan burial site," Bauzon said.

To stop the treasure-hunting activities, the team suggested that an "on-site museum," which they said would benefit the entire community, be put up.

Source: PHILIPPINE DAILY INQUIRER, August 16, 1992

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APPENDIX G

MAJOR PROVISIONS OF THE 1991 LOCAL GOVERNMENT CODE

MAJOR PROVISIONS

OF THE 1991

LOCAL GOVERNMENT CODE

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I INTRODUCTION - POLICY & PRINCIPLES

SEC. 2. *Declaration of Policy.* - (a) It is hereby declared the policy of the State that the territorial and political subdivisions of the State shall enjoy genuine and meaningful local autonomy to enable them to attain their fullest development as self-reliant communities and make them more effective partners in the attainment of national goals. Toward this end, the State shall provide for a more responsive and accountable local government structure instituted through a system of decentralization whereby local government units shall be given more powers, authority, responsibilities, and resources. The process of decentralization shall proceed from the national government to the local government units.

(b) It is also the policy of the State to ensure the accountability of local government units through the institution of effective mechanisms of recall, initiative and referendum.

(c) It is likewise the policy of the State to require all national agencies and offices to conduct periodic consultations with appropriate local government units, nongovernmental and people's organizations, and other concerned sectors of the community before any project or program is implemented in their respective jurisdictions.

SEC. 3. *Operative Principles of Decentralization.* - The formulation and implementation of policies and measures on local autonomy shall be guided by the following operative principles:

(a) There shall be an effective allocation among the different local government units of their respective powers, functions, responsibilities, and resources;

(b) There shall be established in every local government unit an accountable, efficient, and dynamic organizational structure and operating mechanism that will meet the priority needs and service requirements of its communities;

(c) Subject to civil service law, rules and regulations, local officials and employees paid wholly or mainly from local funds shall be appointed or removed, according to merit and fitness, by the appropriate appointing authority;

(d) The vesting of duty, responsibility, and accountability in local government units shall be accompanied with provision for reasonably adequate resources to discharge their powers and effectively carry out their functions; hence, they shall have the power to create and

broaden their own sources of revenue and the right to a just share in national taxes and an equitable share in the proceeds of the utilization and development of the national wealth within their respective areas;

(e) Provinces with respect to component cities and municipalities, and cities and municipalities with respect to component barangays, shall ensure that the acts of their component units are within the scope of their prescribed powers and functions;

(f) Local government units may group themselves, consolidate or coordinate their efforts, services, and resources for purposes commonly beneficial to them;

(g) The capabilities of local government units, especially the municipalities and barangays, shall be enhanced by providing them with opportunities to participate actively in the implementation of national programs and projects;

(h) There shall be a continuing mechanism to enhance local autonomy not only by legislative enabling acts but also by administrative and organizational reforms;

(i) Local government units shall share with the national government the responsibility in the management and maintenance of ecological balance within their territorial jurisdiction, subject to the provisions of this Code and national policies;

(j) Effective mechanisms for ensuring the accountability of local government units to their respective constituents shall be strengthened in order to upgrade continually the quality of local leadership;

(k) The realization of local autonomy shall be facilitated through improved coordination of national government policies and programs and extension of adequate technical and material assistance to less developed and deserving local government units;

(l) The participation of the private sector in local governance, particularly in the delivery of basic services, shall be encouraged to ensure the viability of local autonomy as an alternative strategy for sustainable development; and

(m) The national government shall ensure that decentralization contributes to the continuing improvement of the performance of local government units and the quality of community life.

II SOME IMPORTANT POWERS AND FUNCTIONS

SEC. 18. *Power to Generate and Apply Resources.* - Local government units shall have the power and authority to establish an organization that

shall be responsible for the efficient and effective implementation of their development plans, program objectives and priorities; to create their own sources of revenue and to levy taxes, fees, and charges which shall accrue exclusively for their use and disposition and which shall be retained by them; to have a just share in national taxes which shall be automatically and directly released to them without need of any further action; to have an equitable share in the proceeds from the utilization and development of the national wealth and resources within their respective territorial jurisdictions including sharing the same with the inhabitants by way of direct benefits; to acquire, develop, lease, encumber, alienate, or otherwise dispose of real or personal property held by them in their proprietary capacity and to apply their resources and assets for productive, developmental, or welfare purposes, in the exercise or furtherance of their governmental or proprietary powers and functions and thereby ensure their development into self-reliant communities and active participants in the attainment of national goals.

SEC. 20. *Reclassification of Lands.* - (a) A city or municipality may, through an ordinance passed by the sanggunian after conducting public hearings for the purpose, authorize the reclassification of agricultural lands and provide for the manner of their utilization or disposition in the following cases: (1) when the land ceases to be economically feasible and sound for agricultural purposes as determined by the Department of Agriculture or (2) where the land shall have substantially greater economic value for residential, commercial, or industrial purposes, as determined by the sanggunian concerned: *Provided*, That such reclassification shall be limited to the following percentage of the total agricultural land area at the time of the passage of the ordinance:

(1) Highly urbanized and independent component cities, fifteen percent (15%);

(2) Component cities and first to third class municipalities, ten percent (10%); and

(3) Fourth to sixth class municipalities, five percent(5%):

Provided, further, That agricultural lands distributed to agrarian reform beneficiaries pursuant to Republic Act Numbered Sixty-six hundred fifty-seven (R.A. No. 6657), otherwise known as "The Comprehensive Agrarian Reform Law", shall not be affected by the said reclassification and the conversion of such lands into other purposes shall be governed by Section 65 of said Act.

(b) The President may, when public interest so requires and upon recommendation of the National Economic and Development Authority, authorize a city or municipality to reclassify lands in excess of the limits set in the next preceding paragraph.

(c) The local government units shall, in conformity with existing laws, continue to prepare their respective comprehensive land use plans enacted through zoning ordinances which shall be the primary and dominant bases for the future use of land resources: *Provided*, That the requirements for food production, human settlements, and

industrial expansion shall be taken into consideration in the preparation of such plans.

(d) Where approval by a national agency is required for reclassification, such approval shall not be unreasonably withheld. Failure to act on a proper and complete application for reclassification within three (3) months from receipt of the same shall be deemed as approval thereof.

(e) Nothing in this Section shall be construed as repealing, amending, or modifying in any manner the provisions of R.A. No. 6657.

SEC. 23. *Authority to Negotiate and Secure Grants.* - Local chief executives may, upon authority of the sanggunian, negotiate and secure financial grants or donations in kind, in support of the basic services or facilities enumerated under Section 17 hereof, from local and foreign assistance agencies without necessity of securing clearance or approval therefor from any department, agency, or office of the national government or from any higher local government unit: *Provided,* That projects financed by such grants or assistance with national security implications shall be approved by the national agency concerned: *Provided, further,* That when such national agency fails to act on the request for approval within thirty (30) days from receipt thereof, the same shall be deemed approved.

III. Intergovernmental Relations

SEC. 25. *National Supervision over Local Government Units.* - (a) Consistent with the basic policy on local autonomy, the President shall exercise general supervision over local government units to ensure that their acts are within the scope of their prescribed powers and functions.

The President shall exercise supervisory authority directly over provinces, highly urbanized cities, and independent component cities; through the province with respect to component cities and municipalities; and through the city and municipality with respect to barangays.

(b) National agencies and offices with project implementation functions shall coordinate with one another and with the local government units concerned in the discharge of these functions. They shall ensure the participation of local government units both in the planning and implementation of said national projects.

(c) The President may, upon request of the local government unit concerned, direct the appropriate national agency to provide financial, technical, or other forms of assistance to the local government unit. Such assistance shall be extended at no extra cost to the local government unit concerned.

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(d) National agencies and offices including government-owned or -controlled corporations with field units or branches in a province, city, or municipality shall furnish the local chief executive concerned, for his information and guidance, monthly reports including duly certified budgetary allocations and expenditures.

SEC. 27. *Prior Consultations Required.* - No project or program shall be implemented by government authorities unless the consultations mentioned in Sections 2 (c) and 26 hereof are complied with, and prior approval of the sanggunian concerned is obtained: *Provided,* That occupants in areas where such projects are to be implemented shall not be evicted unless appropriate relocation sites have been provided, in accordance with the provisions of the Constitution.

SEC. 28. - *Powers of Local Chief Executives over the Units of the Philippine National Police.* - The extent of operational supervision and control of local chief executives over the police force, fire protection unit, and jail management personnel assigned in their respective jurisdictions shall be governed by the provisions of Republic Act Numbered Sixty-nine hundred seventy-five (R.A. No. 6975), otherwise known as "The Department of the Interior and Local Government Act of 1990", and the rules and regulations issued pursuant thereto.

SEC. 33. *Cooperative Undertakings Among Local Government Units.* - Local government units may, through appropriate ordinances, group themselves, consolidate, or coordinate their efforts, services, and resources for purposes commonly beneficial to them. In support of such undertakings, the local government units involved may, upon approval by the sanggunian concerned after a public hearing conducted for the purpose, contribute funds, real estate, equipment, and other kinds of property and appoint or assign personnel under such terms and conditions as may be agreed upon by the participating local units through Memoranda of Agreement.

IV FUNCTIONS DEVOLVED TO LOCAL GOVERNMENT UNITS.

SEC. 17. *Basic Services and Facilities.* - (a) Local government units shall endeavor to be self-reliant and shall continue exercising the powers and discharging the duties and functions currently vested upon them. They shall also discharge the functions and responsibilities of national agencies and offices devolved to them pursuant to this Code. Local government units shall likewise exercise such other powers and discharge such other functions and responsibilities as are necessary, appropriate, or incidental to efficient and effective provision of the basic services and facilities enumerated herein.

(b) Such basic services and facilities include, but are not limited to, the following:

(1) For a Barangay:

(i) Agricultural support services which include planting materials distribution system and operation of farm produce collection and buying stations;

(ii) Health and social welfare services which include maintenance of barangay health center and day-care center;

(iii) Services and facilities related to general hygiene and sanitation, beautification, and solid waste collection;

(iv) Maintenance of katarungang pambarangay;

(v) Maintenance of barangay roads and bridges and water supply systems;

(vi) Infrastructure facilities such as multi-purpose hall, multipurpose pavement, plaza, sports center, and other similar facilities;

(vii) Information and reading center; and

(viii) Satellite or public market, where viable;

(2) For a Municipality:

(i) Extension and on-site research services and facilities related to agriculture and fishery activities which include dispersal of livestock and poultry, fingerlings, and other seeding materials for aquaculture; palay, corn, and vegetable seed farms; medicinal plant gardens; fruit tree, coconut, and other kinds of seedling nurseries; demonstration farms; quality control of copra and improvement and development of local distribution channels, preferably through cooperatives; interbarangay irrigation system; water and soil resource utilization and conservation projects; and enforcement of fishery laws in municipal waters including the conservation of mangroves;

(ii) Pursuant to national policies and subject to supervision, control and review of the DENR, implementation of community-based forestry projects which include integrated social forestry programs and similar projects; management and control of communal forests with an area not exceeding fifty (50) square kilometers; establishment of tree parks, greenbelts, and similar forest development projects;

(iii) Subject to the provisions of Title Five, Book I of this Code, health services which include the implementation of programs and projects on primary health care, maternal and child care, and communicable and non-communicable disease control services; access to secondary and tertiary health services; purchase of medicines,

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medical supplies, and equipment needed to carry out the services herein enumerated;

(iv) Social welfare services which include programs and projects on child and youth welfare, family and community welfare, women's welfare, welfare of the elderly and disabled persons; community-based rehabilitation programs for vagrants, beggars, street children, scavengers, juvenile delinquents, and victims of drug abuse; livelihood and other pro-poor projects; nutrition services; and family planning services;

(v) Information services which include investments and job placement information systems, tax and marketing information systems, and maintenance of a public library;

(vi) Solid waste disposal system or environmental management system and services or facilities related to general hygiene and sanitation;

(vii) Municipal buildings, cultural centers, public parks including freedom parks, playgrounds, and sports facilities and equipment, and other similar facilities;

(viii) Infrastructure facilities intended primarily to service the needs of the residents of the municipality and which are funded out of municipal funds including, but not limited to, municipal roads and bridges; school buildings and other facilities for public elementary and secondary schools; clinics, health centers and other health facilities necessary to carry out health services; communal irrigation, small water impounding projects and other similar projects; fish ports; artesian wells, spring development, rainwater collectors and water supply systems; seawalls, dikes, drainage and sewerage, and flood control; traffic signals and road signs; and similar facilities;

(ix) Public markets, slaughterhouses and other municipal enterprises;

(x) Public cemetery;

(xi) Tourism facilitie and other tourist attractions, including the acquisition of equipment, regulation and supervision of business concessions, and security services for such facilities; and

(xii) Sites for police and fire stations and substations and the municipal jail;

(3) <u>For a Province</u>:

(i) Agricultural extension and on-site research services and facilities which include the prevention and control of plant and animal pests and diseases; dairy farms, livestock markets, animal breeding stations, and artificial insemination centers; and assistance in the organization of farmers' and fishermen's cooperatives and other

collective organizations, as well as the transfer of appropriate technology;

(ii) Industrial research and development services, as well as the transfer of appropriate technology;

(iii) Pursuant to national policies and subject to supervision, control and review of the DENR, enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws on the protection of the environment; and mini-hydro electric projects for local purposes;

(iv) Subject to the provisions of Title Five, Book I of this Code, health services which include hospitals and other tertiary health services;

(v) Social welfare services which include programs and projects on rebel returnees and evacuees; relief operations; and, population development services;

(vi) Provincial buildings, provincial jails, freedom parks and other public assembly areas, and other similar facilities;

(vii) Infrastructure facilities intended to service the needs of the residents of the province and which are funded out of provincial funds including, but not limited to, provincial roads and bridges; inter-municipal waterworks, drainage and sewerage, flood control, and irrigation systems; reclamation projects; and similar facilities;

(viii) Programs and projects for low-cost housing and other mass dwellings, except those funded by the Social Security System (SSS), Government Service Insurance System (GSIS), and the Home Development Mutual Fund (HDMF): *Provided*, That national funds for these programs and projects shall be equitably allocated among the regions in proportion to the ratio of the homeless to the population;

(ix) Investment support services, including access to credit financing;

(x) Upgrading and modernization of tax information and collection services through the use of computer hardware and software and other means;

(xi) Inter-municipal telecommunications services, subject to national policy guidelines; and

(xii) Tourism development and promotion programs;

(4) <u>For a City</u>:

All the services and facilities of the municipality and province, and in addition thereto, the following:

(i) Adequate communication and transportation facilities;

(ii) Support for education, police and fire services and facilities;

(c) Notwithstanding the provisions of subsection (b) hereof, public works and infrastructure projects and other facilities, programs and services funded by the national government under the annual General Appropriations Act, other special laws, pertinent executive orders, and those wholly or partially funded from foreign sources, are not covered under this Section, except in those cases where the local government unit concerned is duly designated as the implementing agency for such projects, facilities, programs, and services.

(d) The designs, plans, specifications, testing of materials, and the procurement of equipment and materials from both foreign and local sources necessary for the provision of the foregoing services and facilities shall be undertaken by the local government unit concerned, based on national policies, standards and guidelines.

(e) National agencies or offices concerned shall devolve to local government units the responsibility for the provision of basic services and facilities enumerated in this Section within six (6) months after the effectivity of this Code.

As used in this Code, the term "devolution" refers to the act by which the national government confers power and authority upon the various local government units to perform specific functions and responsibilities.

(f) The national government or the next higher level of local government unit may provide or augment the basic services and facilities assigned to a lower level of local government unit when such services or facilities are not made available or, if made available, are inadequate to meet the requirements of its inhabitants.

(g) The basic services and facilities hereinabove enumerated shall be funded from the share of local government units in the proceeds of national taxes and other local revenues and funding support from the national government, its instrumentalities and government-owned or -controlled corporations which are tasked by law to establish and maintain such services or facilities. Any fund or resource available for the use of local government units shall be first allocated for the provision of basic services or facilities enumerated in subsection (b) hereof before applying the same for other purposes, unless otherwise provided in this Code.

(h) Regional offices of national agencies or offices whose functions are devolved to local government units as provided herein shall be phased out within one (1) year from the approval of this Code. Said national agencies and offices may establish such field units as may be necessary for monitoring purposes and providing technical assistance to local government units. The properties, equipment, and other assets of these regional offices shall be distributed to the local government

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units in the region in accordance with the rules and regulations issued by the oversight committee created under this Code.

(i) The devolution contemplated in this Code shall include the transfer to local government units of the records, equipment, and other assets and personnel of national agencies and offices corresponding to the devolved powers, functions, and responsibilities.

Personnel of said national agencies or offices shall be absorbed by the local government units to which they belong or in whose areas they are assigned to the extent that it is administratively viable as determined by the said oversight committee: *Provided*, That the rights accorded to such personnel pursuant to civil service law, rules and regulations shall not be impaired: *Provided, Further*, That regional directors who are career executive service officers and other officers of similar rank in the said regional offices who cannot be absorbed by the local government unit shall be retained by the national government, without any diminution of rank, salary or tenure.

(j) To ensure the active participation of the private sector in local governance, local government units may, by ordinance, sell, lease, encumber, or otherwise dispose of public economic enterprises owned by them in their proprietary capacity.

Costs may also be charged for the delivery of basic services or facilities enumerated in this Section.

V FINANCIAL RESOURCES BEING MADE AVAILABLE TO LOCAL GOVERNMENT UNITS

SEC. 284. *Allotment of Internal Revenue Taxes.* - Local government units shall have a share in the national internal revenue taxes based on the collection of the third fiscal year preceding the current fiscal year as follows:

(a) On the first year of this Code, thirty percent (30%);
(b) On the second year, thirty-five percent (35%);
(c) On the third year and thereafter. forty percent(40%).

Provided, That in the event that the national government incurs an unmanageable public sector deficit, the President of the Philippines is hereby authorized, upon the recommendation of Secretary of Finance, Secretary of Interior and Local Government and Secretary of Budget and Management, and subject to consultation with the presiding officers of both Houses of Congress and the presidents of the liga, to make the necessary adjustments in the internal revenue allotment of local government units but in no case shall the allotment be less than thirty percent (30%) of the collection of national internal revenue taxes of the third fiscal year preceding the current fiscal year: *Provided,*

further That in the first year of the effectivity of this Code, the local government units shall, in addition to the thirty percent (30%) internal revenue allotment which shall include the cost of devolved functions for essential public services, be entitled to receive the amount equivalent to the cost of devolved personal services.

SEC. 285. *Allocation to Local Government Units.* - The share of local government units in the internal revenue allotment shall be allocated in the following manner:

(a) Provinces - Twenty-three percent (23%);
(b) Cities - Twenty-three percent (23%);
(c) Municipalities - Thirty-four percent (34%); and
(d) Barangays - Twenty percent (20%)

Provided, however, That the share of each province, city, and municipality shall be determined on the basis of the following formula:

(a) Population - Fifty percent (50%);
(b) Land Area - Twenty-five percent (25%); and
(c) Equal sharing - Twenty-five percent (25%)

Provided, further, That the share of each barangay with a population of not less than one hundred (100) inhabitants shall not be less than Eighty thousand pesos (P=80,000.00) per annum chargeable against the twenty percent (20%) share of the barangay from the internal revenue allotment.

SEC. 287. *Local Development Projects.*- Each local government unit shall appropriate in its annual budget no less than twenty percent (20%) of its annual internal revenue allotment for development projects. Copies of the development plans of local government units shall be furnished the Department of Interior and Local Government.

SEC. 289. *Share in the Proceeds from the Development and Utilization of the National Wealth.* - Local government units shall have an equitable share in the proceeds derived from the utilization and development of the national wealth within their respective areas, including sharing the same with the inhabitants by way of direct benefits.

SEC. 290. *Amount of Share of Local Government Units.* - Local government units shall, in addition to the internal revenue allotment, have a share of forty percent (40%) of the gross collection derived by the national government from the preceding fiscal year from mining taxes, royalties, forestry and fishery charges, and such other taxes, fees, or charges, including related surcharges, interests, or fines, and from its share in any co-production, joint venture or production sharing agreement in the utilization and development of the national wealth within their territorial jurisdiction.

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SEC. 291 *Share of the Local Governments from any Government Agency or -Owned and -Controlled Corporation.* Local government units shall have a share based on the preceding fiscal year from the proceeds derived by any government agency or government-owned -controlled corporation engaged in the utilization and development of the national wealth based on the following formula whichever will produce a higher share for the local government unit:

(a) One percent (1%) of the gross sales or receipts of the preceding calendar year; or

(b) Forty percent (40%) of the mining taxes, royalties, forestry and fishery charges and such other taxes, fees or charges, including related surcharges, interests, or fines the government agency or government-owned or -controlled corporation would have paid if it were not otherwise exempt.

SEC. 292. *Allocation of Shares.* - The share in the preceding Section shall be distributed in the following manner:

(a) Where the natural resources are located in the province

(1) Province - Twenty percent (20%);
(2) Component City/Municipality - Forty-five percent (45%); and
(3) Barangay - Thirty-five percent (35%)

VI TAXING & OTHER REVENUE RAISING POWERS OF LOCAL GOVERNMENT UNITS

A. Province

1. Tax on Transfer of Real Property Ownership	- not more than 50% of 1% of the total consideration in the acquisition of the property.
2. Tax on Business of Printing and Publication	- at the rate not exceeding 50% of 1% of the gross annual business receipts for the preceding calendar year.
3. Franchise Tax	- Rate not exceeding 50% of 1% of the gross annual receipts.

4. Tax on sand, gravel and others	- not more than 10% of fair market value per cubic meter of sand, stones, gravel, earth and other quarry resources.
Distribution of Proceeds	* Province - 30% * Component or municipality where materials are extracted - 30% * Barangay where materials were extracted - 40%
5. Professional Tax	- not to exceed P300 annually
6. Amusement Tax	- not more than 30% of the gross receipts from admission fees.
7. Annual fixed tax for every delivery truck or van of manufacturers, producers, wholesales of certain products.	- at the rate not exceeding P500 annually.

B. <u>Municipalities</u>

1. On manufacturers, assemblers, processors, brewers, distillers, rectifiers, and compounders for liquors, distilled spirits or wines	- the tax rates are graduated on the basis of schedule of the values on gross receipts as provided in the Code.
2. On wholesalers, distributors, or dealers in any article of commerce of whatever kind.	- the tax rates are graduated on the basis of schedule of the values on gross receipts as provided in the Code.
3. On exporters, and on manufacturers, millers, producers, wholesalers, distributors, dealers or retailers of essential commodities.	- tax rates are graduated on the basis of a schedule provided in the Code.

4. On retailers with gross sales or receipts:

a. of P400,000 or less	- 2% per annum
b. more than P400,000	- 1% per annum

5. On contractors and other independent contractors	- the tax rates are graduated on the basis of the schedule of values of the gross receipts as provided in the Code.
6. On the banks and other financial institutions	- rate not exceeding 50% of 1% on the gross receipts of the preceding year.
7. On peddlers engaged in the sale of merchandise on articles of commerce.	- up to P50 per peddler per year

8. Levy fees for sealing and licensing of weights and measures at reasonable rates.

9. Impose rentals, fees or changes for the use municipal waters.

C. Cities

The City may levy the taxes, fees, and charges which the province or municipality may impose.

The taxes, fees, and charges levied and collected by highly urbanized and independent cities shall accrue to them.

D. Barangays

1. On stores and retailers with fixed business establishments with gross sales during the preceding year of P50,000 or less in the case of cities and P30,000 or less in the case of municipality.	- up to 1% of the gross sales
2. On service fees or charges	- reasonable fees
3. On barangay clearance	- a reasonable fee

4. Other fees may be charged or imposed:

   a. on gamecocks, breeding cocks and cockpits;
   b. on places of recreation;
   c. on billboards, signboards, neon signs.

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Common Revenue Raising Powers

1. Public utility charges operated by LGUs

2. Toll fees and charges for the use of any public road, pier or wharf, waterway, bridges, ferry or telecommunication funded and constructed by the local government.

3. Community tax by Cities or Municipalities:

   a. On the individual who is required to file an income tax return - P5.00 up to P5000.00 based on a schedule provided in the code
   b. On corporation - P500.00

VII REAL PROPERTY TAXES

SEC. 233. *Rates of Levy.* - A province or city or a municipality within the Metropolitan Manila Area shall fix a uniform rate of basic real property tax applicable to their respective localities as follows:

In the case of a province, at the rate not exceeding one percent (1%) of the assessed value of real property; and

In the case of a city or a municipality within the Metropolitan Manila Area, at the rate not exceeding two percent (2%) of the assessed value of real property.

SEC. 235. *Additional Levy on Real Property for the Special Education Fund.* - A province or city, or a municipality within the Metropolitan Manila Area, may levy and collect an annual tax of one percent (1%) on the assessed value of real property which shall be in addition to the basic real property tax. The proceeds thereof shall exclusively accrue to the Special Education Fund (SEF).

SEC. 236 *Additional Ad Valorem Tax on Idle Lands.* - A province or city, or a municipality within the Metropolitan Manila Area, may levy an annual tax on idle lands at the rate not exceeding five percent (5%) of the assessed value of the property which shall be in addition to the basic real property tax.

SEC. 240. *Special Levy by Local Government Units.* - A province, city or municipality may impose a special levy on the lands comprised within its territorial jurisdiction specially benefited by public works projects or improvements funded by the local government unit concerned: Provided, however, That the special levy shall not exceed sixty percent (60%) of the actual cost of such projects and improvements, including the costs of acquiring land and such other

real property in connection therewith: Provided, further, That the special levy shall not apply to lands exempt from basic real property tax and the remainder of the land portions of which have been donated to the local government unit concerned for the construction of such projects or improvements.

VIII CREDIT AND PRIVATE SECTOR FINANCING

SEC. 296 General Policy. - (a) It shall be the basic policy that any local government unit may create indebtedness, and avail of credit facilities to finance local infrastructure and other socio-economic developmentprojects in accordance with the approved local development plan and public investment program.

(b) A local government unit may avail of credit lines from government or private banks and lending institutions for the purpose of stabilizing local finances.

SEC. 297. *Loans, Credits, and Other Forms of Indebtedness of Local Government Units.* - (a) A local government unit may contract loans, credits, and other forms of indebtedness with any government or domestic private bank and other lending institutions to finance the construction,installation, improvement, expansion, operation, or maintenance of public facilities, infrastructure facilities,housing projects, the acquisition of real property, and the implementation of other capital investment projects, subject to such terms and conditions as may be agreed upon by the local government unit and the lender. The proceeds from such transactions shall accrue directly to the local government unit concerned.

(b) A local government unit may likewise secure from any government bank and lending institution short, medium and long-term loans and advances against security of real estate or other acceptable assets for the establishment,development, or expansion of agricultural, industrial,commercial, house financing projects, livelihood projects,and other economic enterprises.

(c) Government financial and other lending institutions are hereby authorized to grant loans, credits,and other forms of indebtedness out of their loanable funds to local government units for purposes specified above.

SEC. 298. *Deferred-Payment and other Financial Schemes.* - Provincial, city and municipal governments may likewise acquire property, plant, machinery, equipment, and such necessary accessories under a supplier's credit, deferred payment plan, or other financial scheme.

SEC. 299. *Bonds and Other Long-Term Securities.* -Subject to the rules

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and regulations of the Central Bank and the Securities and Exchange Commission, provinces, cities, and municipalities are hereby authorized to issue bonds, debentures, securities, collaterals, notes and other obligations to finance self-liquidating, income-producing development or livelihood projects pursuant to the priorities established in the approved local development plan or the public investment program. The sanggunian concerned shall, through an ordinance approved by a majority of all its members, declare and state the terms and conditions of the bonds and the purpose for which the proposed indebtedness is to be incurred.

SEC. 300. *Inter-Local Government Loans, Grants, and Subsidies.* - Provinces, cities and municipalities may, upon approval of the majority of all members of the sanggunian concerned and in amounts not exceeding their surplus funds, extend loans, grants, or subsidies to other local government units under such terms and conditions as may be agreed upon by the contracting parties.
Local government units may, upon approval of the irrespective sanggunian, jointly or severally contract loans, credits, and other forms of indebtedness for purposes mutually beneficial to them.

SEC. 302. *Financing, Construction, Maintenance, Operation, and Management of Infrastructure Projects by the Private Sector.* -

(a) Local government units may enter into contracts with any duly prequalified individual contractor, for the financing, construction, operation, and maintenance of any financially viable infrastructure facilities, under the build-operate-and-transfer agreement, subject to the applicable provisions of Republic Act Numbered Sixty-nine hundred fifty-seven (R.A. No. 6957) authorizing the financing, construction, operation and maintenance of infrastructure projects by the private sector and the rules and regulations issued thereunder and such terms and conditions provided in this Section.

(b) Local government units shall include in their respective local development plans and public investment programs priority projects that may be financed, constructed, operated and maintained by the private sector under this Section. It shall be the duty of the local government unit concerned to disclose to the public all projects eligible for financing under this Section, including official notification of duly registered contractors and publication in newspapers of general or local circulation and in conspicuous and accessible public places. Local projects under the build-operate-and-transfer agreement shall be confirmed by the local development councils.

(c) Projects implemented under this Section shall be subject to the following terms and conditions:
(1) The provincial, city, or municipal engineer, asthe case may be, upon formal request in writing by the local chief executive, shall prepare the plans and specifications for the proposed project, which shall be submitted to the sanggunian for approval.

(2) Upon approval by the sanggunian of the projectplans and specifications, the provincial, city, or municipal engineer shall, as the case may be, cause to be published once every week for two (2) consecutive weeks in at least one (1) local newspaper which is circulated in the region, province, city or municipality in which the project is to be implemented, a notice inviting all duly qualified contractors to participate in a public bidding for the projects so approved. The conduct of public bidding and award of contracts for local government projects under this Section shall be in accordance with this Code and other applicable laws, rules and regulations. In the case of a build-operate-and-transfer agreement, the contract shall be awarded to the lowest complying bidder whose offer is deemed most advantageous to the local government and based on the present value of its proposed tolls, fees, rentals, and charges over a fixed term for the facility to be constructed, operated, and maintained according to the prescribed minimum design and performance standards, plans, and specifications. For this purpose, the winning contractor shall be automatically granted by the local government unit concerned the franchise to operate and maintain the facility, including the collection of tolls, fees, rentals, and charges in accordance with subsection (c-4) hereof. In the case of a build-operate-and-transfer agreement,the contract shall be awarded to the lowest complying bidder based on the present value of its proposed schedule of amortization payments for the facility to be constructed according to the prescribed minimum design and performance standards, plans, and specifications.

(3) Any contractor who shall undertake the prosecution of any project under this Section shall post the required bonds to protect the interest of the province, city, or municipality, in such amounts as may be fixed by the sanggunian concerned and the provincial, city, or municipal engineer shall not, as the case may be, allow any contractor to initiate the prosecution of projects under this Section unless such contractor presents proof or evidence that he has posted the required bond.

(4) The contractor shall be entitled to a reasonable return of its investment in accordance with its bid proposal as accepted by the local government unit concerned.

In the case of a build-operate-and-transfer agreement,the repayment shall be made by authorizing the contractor to charge and collect reasonable tolls, fees, rentals, and charges for the use of the project facility not exceeding those proposed in the bid and incorporated in the contract:Provided, That the local government unit concerned shall,based on reasonableness and equity, approve the tolls,fees, rentals and charges: Provided, further, That the imposition and collection of tolls, fees, rentals and charges shall be for a fixed period as proposed in the bid and incorporated in the contract which shall in no case exceed fifty (50) years: Provided, finally, That during the lifetime of the contract, the contractor shall undertake the necessary maintenance and repair of the facility in accordance with standards prescribed in the bidding documents and in the contract.

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In the case of a build-operate-and-transfer agreement, the repayment shall be made through amortization payments in accordance with the schedule proposed in the bid and incorporated in the contract.

In case of land reclamation or construction of industrial estates, the repayment plan may consist of the grant of a portion or percentage of the reclaimed land or the industrial estate constructed.

(5) Every infrastructure project undertaken under this Section shall be constructed, operated, and maintained by the contractor under the technical supervision of the local government unit and in accordance with the plans, specifications, standards, and costs approved by it.

(d) The provincial, city or municipal legal officer shall, as the case may be, review the contracts executed pursuant to this Section to determine their legality, validity, enforceability and correctness of form.

SEC. 531. *Debt Relief for Local Government Units.* - (a) Unremitted national collections and statutory contributions. - All debts owed by local government units to the national government in unremitted contributions to the Integrated National Police Fund, the Special Education Fund, and other statutory contributions as well as in unremitted national government shares of taxes, charges, and fees collected by the local government units, are hereby written off in full.

(b) Program loans. - (1) Program loans secured by local government units which were relent to private persons, natural or juridical, shall likewise be written off from the books of the local government units concerned.

(2) Program loans granted to local government units by national government agencies and which were utilized by the local units for community development, livelihood, and other small-scale projects are hereby written off in full.

As incentive to debtor-local government units to increase the efficiency of their fiscal administration, the national government shall write off the debt of the local government unit concerned at the rate of five percent (5%) for every one percent (1%) increase in revenues generated by such local government unit over that of the preceding year. For this purpose, the annual increase in local revenue collection shall be computed starting from the year 1988.

IX RELATIONS WITH PEOPLE'S AND NONGOVERNMENTAL ORGANIZATIONS

SEC. 34. *Role of People's and Nongovernmental Organizations* . - Local government units shall promote the establishment and operation of people's and nongovernmental organizations to become active partners in the pursuit of local autonomy.

SEC. 35. *Linkages with People's and Nongovernmental Organizations.* - Local government units may enter into joint ventures and such other cooperative arrangements with people's and nongovernmental organizations to engage in the delivery of certain basic services, capability-building and livelihood projects, and to develop local enterprises designed to improve productivity and income, diversify agriculture, spur rural industrialization, promote ecological balance, and enhance the economic and social well-being of the people.

SEC. 36. *Assistance to People's and Nongovernmental Organizations.* - A local government unit may, through its local chief executive and with the concurrence of the sanggunian concerned, provide assistance, financial or otherwise, to such people's and nongovernmental organizations for economic, socially-oriented, environmental, or cultural projects to be implemented within its territorial jurisdiction.

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ANNEX 1

COMPOSITION OF LOCAL SPECIAL BODIES

Local Development Councils (LDCs)

Barangay Development Council (BDC)

- Punong barangay as chairman;
- Members of the sangguniang barangay;
- Representatives of nongovernmental organizations (NGOs) operating in the barangay, who shall constitute not less than 1/4 of the members of the fully organized LDC; and
- Representative of the congressman.

City or Municipal Development Council (CDC or MDC)

- City or municipal mayor as chairman;
- All punong barangays in the city or municipality;
- Chairman of the committee on appropriations of the sangguniang panlungsod or sangguniang bayan concerned;
- Congressman or his representative; and
- Representatives of NGOs operating in the city or municipality, who shall constitute not less than 1/4 of the members of the fully organized LDC.

Provincial Development Councils (PDC)

- Governor as chairman;
- All mayors of component cities and municipalities;
- Chairman of the committee on appropriations of the sangguniang panlalawigan;
- Congressman or his representative; and
- Representatives of NGOs operating in the province, who shall constitute not less than 1/4 of the members of the fully organized LDC.

Local Prequalification, Bids and Awards Committee (local PBAC)

- The governor or the city or municipal mayor as chairman;
- The chairman of the appropriations committee of the sanggunian concerned;
- A representative of the minority in the sanggunian concerned;
- A representative of the minority in the sanggunian concerned, if any, or if there be none, one chosen by said sanggunian from among its members;
- The local treasurer;
- Two representatives of NGOs that are represented in the LDC council, to be chosen by the organization themselves;
- Any practicing certified public accountant from the private sector, to be designated by the local chapter of the Philippine Institute of Certified Public Accountant, if any.

Representatives of the Commission on Audit (COA) shall observe the proceedings of such committee and shall certify that the rules and procedures for prequalification, bids and awards have been complied with.

Local School Board

Provincial School Board

- Governor as co-chairman;
- Division superintendent of schools as co-chairman;
- Chairman of the education committee of the sangguniang panlalawigan;
- Provincial treasurer;
- Representative of the pederasyon ng mga sangguniang kabataan in the sangguniang panlalawigan;
- President of the provincial federation of parents-teachers association;
- Representative of the teacher's organizations in province; and
- Representative of the non-academic personnel of public schools in the province.

City School Board

- City mayor as co-chairman
- City superintendent of schools as co-chairman;
- Chairman of the education committee of the sangguniang panlungsod;
- City treasurer;
- Representative of the pederasyon ng mga sangguniang kabataan in the sangguniang panlungsod;
- President of the city federation of parents-teachers association;
- Representative of the teacher's organizations in the city; and
- Representative of the non-academic personnel of public schools in the city;

Municipal School Board

- Municipal mayor as co-chairman;
- District supervisor of schools as co-chairman;
- Chairman of the education committee of the sangguniang bayan;
- Municipal treasurer.
- Representative of the pederasyon ng mga sangguniang kabataan in the sangguniang bayan;
- President of the municipal federation of parents-teachers associations; and
- Representative of the teacher's organization in the

municipality;
- Representative of the non-academic personnel of public schools in the municipality.

Local Health Board

Provincial Health Board
- Governor as chairman;
- Provincial health officer as vice-chairman;
- Chairman of the committee on health of the sangguniang panlalawigan;
- Representative from the private sector or nongovermental organizations involved in health services; and
- Representative of the Departhment of Health (DOH) in the province.

City Health Board
- City mayor as chairman;
- City health officer as vice-chairman;
- Chairman of the committee on health of the sangguniang panlungsod;
- Representative from the private sector or nongovernmental organizations involved in health service; and
- Representative of the DOH in the city,

Municipal Health Board

- Municipal mayor as chairman;
- Municipal health officer as vice chairman;
- Chairman of the committee on health of the sangguniang bayan;
- Representative from the private sector or nongovernmental organization involved in health services; and
- Representative of the DOH in the municipality.

Local Peace and Order Council

Provincial Peace and Order Council
- Governor as chairman;
- Vice Governor as vice chairman;
- Provincial counterparts of the following departments, offices and agencies, wherever applicable;
  - Department of Interior & Local Government
  - Department of National Defense
  - Department of Justice
  - Department of Social Welfare and Development
  - Department of Public Works and Highways
  - Department of Trade and Industry
  - Office of the Press Secretary
  - National Security Council
  - National Peace Commission

National Bureau of Investigation
Commission on Human Rights
Dangerous Drugs Board
PC - INP

- Representative of the sangguniang panlalawigan to be chosen by it from among its members;
- Three representatives of the private sector representing the academic, civic, religious, youth, labor, legal, business and media organizations to be appointed by the chairman upon consultation with the members of the PPOC; and
- Departments, offices and agencies with no regional and/or field offices may deputize their representatives on the provincial level.

City or Municipal Peace and Order Council

- City or municipal mayor as chairman;
- City or municpal vice mayor as vice chairman;
- City or municipal counterparts of the following departments, offices and agencies, wherever applicable:
- Department of Interior Local Government
- Department of National Defense
- Department of Justice
- Department of Social Welfare and Development
- Department of Public Works and Highways
- Department of Trade and Industry
- Office of the Press Secretary
- National Security Council
- National Peace Commission
- National Bureau of Investigation
- Commission on Human Rights
- Dangerous Drugs Board
- PC - INP
- Representative of the sangguniang panlungsod or sangguniang bayan to be chosen by it from among its members;
- Representative from veterans group in the locality to be appointed by the chairman of the council;
- Three representatives of the private sector representing the academic, civic, religious, youth, labor, legal, business and media organizations to be appointed by the chairman upon consultation with the members of the city or municipal POC; and
- Departments, offices and agencies with no regional and/or field offices may deputize their representatives on the city or municipal level.

MANDATORY AND OPTIONAL APPOINTIVE LOCAL OFFICIALS

PROVINCE

MANDATORY

- Secretary to the Sangguniang Panlalawigan
- Treasurer
- Assessor
- Accountant
- Engineer
- Budget Officer
- Planning & Development Coordinator
- Legal Officer
- Administrator
- Health Officer
- Social Welfare & Development Officer
- General Services Officer
- Agriculturist
- Veterinarian

OPTIONAL

- Population Officer
- Environment & Natural Resources Officer
- Cooperative Officer
- Architect
- Information Officer

CITY

MANDATORY

- Secretary to the Sangguniang Panlungsod
- Treasurer
- Assessor
- Accountant
- Engineer
- Budget Officer
- Planning & Development Coordinator
- Legal Officer
- Administrator
- Health Officer
- Civil Registrar
- Veterinarian
- Social Welfare & Development Officer
- General Services Officer

OPTIONAL

- Architect
- Information Officer
- Agriculturist
- Population Officer
- Environment & Natural Resources Officer
- Cooperatives Officer

MUNICIPALITY

MANDATORY

- Secretary to the Sangguniang Bayan
- Treasurer
- Assessor
- Accountant
- Engineer
- Budget Officer
- Planning & Development Coordinator
- Health Officer
- Civil Registrar

OPTIONAL

- Administrator
- Legal Officer
- Agriculturist
- Environment & Natural Resources Officer
- Social Welfare & Officer
- Architect
- Information Officer

BARANGAY

MANDATORY

- Secretary
- Treasurer
- Lupong Tagapamayapa

OPTIONAL

- Community Brigade

APPENDIX H
RECORDS OF PUBLIC RECOMMENDATIONS

H-1 Abbreviated Minutes of the Scoping Session (June 26, 1992)
H-2 Abbreviated Minutes of the Workshop (July 24, 1992)
H-3 Abbreviated Minutes of the Review Workshop (September 14, 1992)
H-4 Written Submissions

APPENDIX H-1

ABBREVIATED MINUTES OF THE SCOPING SESSION (June 26, 1992)

ABBREVIATED MINUTES OF THE SCOPING SESSION

Presentation - see Scoping Session Report

Open Discussion:

Johnny Volfango, Department of Interior and Local Government (DILG): How will DENR devolve environmental power to local government units (LGUs)?

Michael A. Ross, Tropical Research and Development, Inc. (TR&D): The program period of the LGIF Project is dynamic and, as proposed, will use the checklist approach to expedite the review process. This checklist will advise evaluators whether a subproject is a problem in terms of environmental concerns. In addition, we are looking at mostly exemptible projects or Project Description (PD) level projects. Through a training program, a screening method could be used by the LGUs to satisfy EMB or DENR requirements.

Linda Quiocson, Environmental Management Bureau (EMB): There is no conflict perceived for LGUs relative to DENR regulations as far as EIS system is concerned. Currently, project proponents are asked for certification from the LGU on the viability of the proposed project, which includes environmental concerns so there is already participation on the local level.

Dr. Eusebio Dizon, National Museum (NM): Cited the problem of decentralization because there will be no way to monitor archaeological sites with respect to capable manpower.

M. Ross (TR&D): The project will generally involve sites with existing public markets, schools, etc.

L. Quiocson (EMB): DENR has already adapted strict implementation of an archaeological assessment for projects of a certain magnitude. But for projects of a lesser magnitude, such as those that are exemptible or only require Project Description treatment (rather than EIA/EIS treatment), archaeological assessments are not yet a requirement.

Dr. Dizon (NM): Our concern is also on small-scale projects such as school. (He gave an example of a school project, in Surigao del Norte, where three levels of archaeological remains were found in one location of the school compound during the construction of a septic tank.

M. Ross (TR&D): An intention of the programmatic environmental assessment is to identify concerns, issues, and weaknesses of the LGUs.

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L. Quiocson (EMB): Project Description (PD) types of projects can not afford archaeological explorations. How can the National Museum assist in these projects?

Dr. Dizon (NM): During the EIA process.

M. Ross (TR&D): A purpose of proposing screening criteria is to provide a checklist and the criteria to be addressed before a subproject is approved and funds are committed. The anticipated screening process will be based on existing laws, such as those concerning archaeological resources, so that the proper procedures can be followed.

L. Quiocson (EMB): Stressed the need for mapping areas suspected of archaeological sites.

Dr. Dizon (NM): There is data available on what has been found already but nobody knows what can be found underground unless something is accidentally dug up during exploration or construction.

M. Ross (TR&D): During recent environmental assessments of USAID infrastructure projects, the National Museum database has been used extensively as a basic guide.

Dr. Helen Mendoza, Concerned Women of the Philippines (CWP): How about social soundness and economic issues? Can the project be expanded to cover these? Can the proposed manual of screening criteria be for environmental issues only and leave social aspects for other experts? An example is NEDA, where engineers and economists conflict. Will NGOs be tapped in the LGIF Project process?

John Starnes, United States Agency for International Development (USAID): Everything will pass through the screening checklist. It is envisioned that as a result of this screening, approved LGIF subprojects will not cause any significant environmental impact.

L. Quiocson (EMB): Based on a recent press release, the Regional Development Council will take care of socio-economic aspects since they have direct contact with the people and responsibility over them. If the LGU is against a project, no ECC will be issued. It is believed that there will not be much difficulty with LGIF subprojects.

J. Volfango (DILG): Does EMB have personnel at the local or provincial level, and do you require a resolution from the LGU? Who will certify LGIF subprojects?

L. Quiocson (EMB): We currently have personnel at the local and provincial levels, namely the PENROs and CENROs. Big projects, including the LGIF Project, are certified by the respective LGU council.

Teresita Felipe, Educational Projects Implementing Task Force (EDPITAF): We have large school projects at DECS. Will they require some kind of certification?

L. Quiocson (EMB): Projects are exempted based on a quantified criteria, such as the capital cost of the project.

T. Felipe (EDPITAF): There is a need to know impacts such as archaeological ones.

J. Starnes (USAID): The document will rank projects to make sure that they also meet the standards of AID/Washington Bureau Environmental Coordinator.

Jesse Mateo (EDPITAF): Will local materials be used?

Apolo Jocaban, LGIF-Project Management Office (LGIF-PMO): Maybe some materials such as cement and lumber will be imported since they may not be available locally. Some markets now use steel trusses due to the lack of available lumber.

J. Starnes (USAID): We are reviewing standard designs to allow alternative use of materials and to modify designs to meet availability of materials in the local market.

T. Felipe (EDPITAF): One of our concerns are the proposed site locations, because in school building projects, regional location is an issue. It is hoped that the LGIF Project will consider poverty alleviation as one of the criteria.

J. Starnes (USAID): There'll be a maximum budget and not every LGU will get that budget. This will be offered to LGUs that demonstrate, based on national statistics, that there is a need for such a project.

Dr. Zenaida Manalo, UP-School of Urban and Regional Planning (UP-SURP): How did the LGIF-PMO come up with their list of chartered cities. Is there a way of allocating some sort of equity of distribution nationwide instead of a screening system.

J. Starnes (USAID): Environmental screening is different from the program or project screening. Environmental screening comes later. Project screening looks at needs and capacity. The screening process of the LGIF Project is still being developed and will be finalized under the LGIF-PMO.

Dr. Manalo (UP-SURP): In addition to the environmental issues which you have identified to date and presented earlier, I would recommend that you consider the issues of land use and encroachment, as they relate to road right of ways; environmental nuisances, such as noise, dust and aesthetics; and natural hazards.

Also, I would like to ask why the LGIF Project has targeted provincial-level and chartered cities as candidate LGUs rather than smaller municipalities?

J. Starnes (USAID): The level of LGUs targeted under the LGIF Project is based on the established criteria of host country contracting and recognizes the administrative limitations of smaller municipalities.

Dr. Manalo (UP-SURP): Are privatization schemes, such as Build-Operate-Transfer (BOT), considered within the LGIF Project?

J. Starnes (USAID): At this stage, not really, but consideration and privatization schemes will be encouraged during the feasibility studies, such as for proposed public market and slaughter house facilities.

L. Quiocson (EMB): Will there be a counterpart fund to handle wastes generated by LGIF subprojects?

J. Starnes (USAID): As funded, LGIF subprojects will be essentially self-contained, with septic tanks, or as in the case of slaughterhouse subprojects, much more extensive, mini-treatment facilities.

L. Quiocson (EMB): There is a tendency for project proponents to downplay potential impacts in the environmental assessment studies that they submit. Will there be funds available within the LGIF Project for monitoring activities, such as an environmental guarantee fund? What is the purpose of the environmental assessment process if there is no follow-up in the form of project monitoring?

J. Starnes (USAID): As designed, the LGIF Project is a decentralized program of activities, with LGU responsibility for proper subproject implementation, including responsibility for over-runs in the approved cost of construction and responsibility for incidentals, such as "environmental costs".

J. Volfango (DILG): How will the private sector be involved in the selection of subprojects? Also, how can private sector benefits be better distributed to the poor majority?

J. Starnes (USAID): As previously monitored, the LGIF Project, as proposed, will use a multi-level screening process to evaluate both the need and capability of candidate LGUs.

Earl Gast (USAID): Our first objective is to rank or prioritize LGUs. If 40 LGUs are qualified, we may have only enough funding during the first year to make allocations to 20 LGUs.

T. Felipe (EDPITAF): The LGIF-PMO should coordinate with DECS so that our foreign-assisted projects will not overlap in terms of areas. Aside from the civil works component of project, what other components are involved?

J. Starnes (USAID): Other components considered under the LGIF Project are technical assistance, feasibility studies, training activities, commodities and equipment.

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LIST OF ATTENDEES

ENVIRONMENTAL SCOPING SESSION
Sulo Hotel, Quezon City
June 26, 1992

DEPARTMENT OF AGRICULTURE (DA)

National Meat Inspection Commission (NMIC) - Visayas Avenue
Quezon City
Tel. No. 97-11-89

Engr. Romeo E. Mapaye
Dr. Octavio R. Olivas

DEPARTMENT OF EDUCTION, CULTURE AND SPORTS (DECS)

Educational Projects Implementing Task Force (EDPITAF) - University of Life Complex
Pasig, Metro Manila
Tel. No. 631-6926

Mr. Jesse Mateo
Ms. Teresita Felipe

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)

Environmental Management Bureau (EMB) - Phil. Heart Center
East Ave., Quezon City
Tel. No. 98-04-21
Local (3617)

Ms. Linda Quiocson

DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT (DILG)

Local Government Academy (LDA) - Ortigas Complex
Pasig, Metro Manila
Tel. No. 631-7195

Mr. Johnny Volfango

NATIONAL MUSEUM

Archaeology Division - Executive House Bldg.
P. Burgos St., Manila
Tel. No. 47-77-97

Dr. Eusebio Z. Dizon

PROGRAM FOR ESSENTIAL MUNICIPAL INFRASTRUCTURE, UTILITIES, MAINTENANCE AND ENGINEERING DEVELOPMENT (PREMIUMED)

Mr. Apolo C. Jucaban	-	4th Floor, CLMC Bldg. 259-269 EDSA Greenhills, Mandaluyong Metro Manila Tel. No. 79-13-52

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

Office of the Capital Projects (OCP)	-	USAID Ramon Magsaysay Bldg. Roxas Boulevard, Manila Tel. No. 59-75-76
Mr. John C. Starnes Ms. Minerva C. Dacanay		

Office of Development Resources Management (ODRM)

Mr. Earl W. Gast

UNIVERSITY OF THE PHILIPPINES (UP)

School for Urban and Regional Planning (SURP)	-	Diliman, Quezon City Tel. No. 97-16-37
Dr. Zenaida Manalo		

NON GOVERNMENT ORGANIZATIONS (NGOs)

Concerned Women of the Philippines (CWP)/Green Forum	-	19 Apo Street Quezon City Tel. 731-72-09
Dr. Helen N. Mendoza		

Representatives of the Programmatic Environmental Assessment Team

Michael A. Ross Menajem M. Bessalel Butch Aragones Willy Palarca	-	c/o Dames & Moore Suite A, 5th Floor Adamson Center Bldg. 121 Alfaro Street Salcedo Village Makati, M.M. Tel. 868-036/818-6808

APPENDIX H-2

ABBREVIATED MINUTES OF THE WORKSHOP (July 24, 1992)

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ABBREVIATED MINUTES OF THE WORKSHOP

Presentation

Open Discussion:

Kenneth LuePhang, US Agency for International Development (USAID): USAID assistance was previously in the order of $450,000,000 to the Government of the Philippines (GOP). Now this is down to $180,000,000 a year. The common complaint of donors is the slow implementation of projects The purpose of this program is to get Washington to agree on a programmatic level and to get this country to move donor money.

Sixto Tolentino, Jr., Environmental Management Bureau (EMB): In the Memorandum of Agreement (MOA) that was signed recently among government agencies, one of the main functions of DENR is to identify the possibility of a programmatic ECC (environmental compliance certificate). If this is pushed through, we can use this project as a baseline to study whether a programmatic ECC can be feasible. The same was also clamored by BPI (Bank of the Philippine Islands), RIF (Rural Infrastructure Fund Project), and EPZA (Export Processing Zone Authority). However, there are some apprehensions with regard to this. There are two events that will directly affect the project. One is the signing of the DAO (DENR Administrative Order) in June 18 and which will be effective July 18. The DAO is the decentralization of the EIS system wherein projects that require a PD (Project Description) will now be processed by the regional office and the RED (Regional Executive Director) is given equal powers as the Secretary. All components of this Project are small types which the regional office will process. Second, there will be some emergency rehabilitation projects as reflected in the document. With regard to this, there is an existing internal policy of DENR that if a project is for rehab because of a natural calamity, this should be exempted and given top priority.

Michael A. Ross, Tropical Research & Development, Inc. (TRD): Is there some kind of exemption certificate that is required?

S. Tolentino, Jr. (EMB): Yes. In fact, in the overheads which you presented this is very clear. This is on how the whole system operates, on how ECCs are processed by EMB and by the region. The region is the key actor in this project assuming that the project will be located in individual areas as based on a need performance and capability. The major concern at the moment is the role of the RED which will now be imposed effective July 18.

Dr. Eusebio Dizon, National Museum (NM): In the NM, we have a database of known sites and those that have been covered by the NM. So negative sites are also recorded. But this database has been used improperly by other agencies or contractors. This means that once they get hold of the database and have a site not listed, they do not ask the NM anymore to inspect the site. It does not mean that if a site is not in the list then it is free from archaeological or historical material. If it is not in the list, the more important that the NM see the place for screening.

Use of the database is now restricted to use only to policy makers such as AIDAB (Australian International Development Assistance Bureau).

The best way to screen the site is by ocular inspection by trained archaeologists in Philippine pre-history. We have been trained abroad to conduct site inspection, including transect methods or locational chart analysis.

M. Ross (TR&D): If we have an LGU (local government unit) and if we have ten projects within that LGU, is there some way to screen those ten projects at one time?

E. Dizon (NM): There is need to conduct ocular inspection on the site especially if it is not listed in the database. The use of locational analysis forms will show also some predictability like in coastal areas. Traditionally, Philippine societies have tended to settle in coastal and riverine areas and these are the most likely sites that will be inhabited by people.

K. LuePhang (USAID): Is the inspection funded by your agency?

E. Dizon (NM): We do not have funds of our own. We ask from the proponent funds for transportation, per diems, and accommodation.

S. Tolentino, Jr. (EMB): During a consultative workshop held last May 7, EMB was instructed to expand the review committee to include archaeology so an invitation was sent to Dr. Ronquillo to become a member of the EIARC (EIA Review Committee). Given the problem at the moment, the ocular inspection can be conducted in close coordination between the NM and EMB. Perhaps a representative from the NM can join the EMB team. However, only transportation and accommodation can be provided by EMB.

M. Ross (TR&D): Included in the exemption in ENFORM I, is an ocular inspection by the regional office.

S. Tolentino, Jr. (EMB): At the moment, the region is still groping on how to do it and we have not completed our training workshop on all the regional levels on how to conduct the EIS system.

M. Ross (TR&D): Perhaps, we can do it on a case to case basis to come up with a survey criteria similar to an environmental screening criteria that will assist local government units in recognizing sensitive issues.

S. Tolentino, Jr. (EMB): That is a good strategy also because when we prepare guides for the regional office to conduct the ocular inspection, then those identified environmental concerns will be included. Normally, when we do the ocular inspection, we tell them what to look for in the project site as a result of the pre-assessment. This way, the archaeological concerns can be integrated.

M. Ross (TR&D): Within DPWH (Dept. of Public Works and Highways), standards and contract specifications that have been reviewed, if the contractor finds some archaeological materials, he has to call the NM. Unfortunately, according to the NM, that has not yet happened. There are supposed to be legal requirements during the construction. But now what DPWH is trying to do is a site assessment.

Rosario Pascasio, Housing and Land Use Regulatory Board (HLURB): Can you say outright that there are artifacts when you conduct an ocular inspection?

E. Dizon (NM): This can be determined if on the surface there are concentrations of sherds and when we interview people who have been tilling or cultivating the soil in the project site. Then we write our recommendations, do the assessment, and assess the significance of the artifacts.

For artifacts which might be located underground, we do test trenching and do auger testing to look for stratigraphic layers. The proponent provides the funds.

Most of the sites also require geological testing which we also rely upon for the stratigraphic testing for layers potentially rich in cultural deposits.

R. Pascasio (HLURB): Is there any regulation that says that if you have these kind of sites there should be no development?

E. Dizon (NM): There is Republic Act 4846 or the Cultural Properties Law. Actually all that is needed is the information for our database. There is no need to excavate the whole site unless it is really necessary. All we need are samples from the site which we can deposit in the museum as records.

A month is usually sufficient to complete the whole process once an artifact is found. And if there is construction going on, we can work with them. There is no need to stop the construction unless something significant is found.

We normally make a budget proposal which usually costs between ₱150,000-200,000 for a month for a 3-4 man team. This will include collection and a complete description of the site.

For this study, we will prepare a two-page guideline and a budget proposal for site screening in the feasibility stage.

K. LuePhang (USAID): As a preamble, the first paragraph of the guideline should state that these artifacts belong to the GOP so that contractors will be made aware that if they destroy this, they are violating the law. In addition, this is to make people aware of the environmental awareness of the GOP, part of which is the archaeological resources.

Apolo Jucaban, LGIF-Project Office (LGIF-PMO): This site assessment should be done in the feasibility stage to get clearance as early as possible.

M. Ross (TR&D): This will also eliminate poorly selected sites.

E. Dizon (NM): If people will be properly trained in using a locational analysis form or in archaeological management of resources, then this will be useful.

Accrediting universities is a big problem because very few universities are qualified such as San Carlos, Xavier, Silliman, and one campus of MSU.

M. Ross (TR&D): A checklist of these universities and institutions should be made. During the feasibility study, the LGU can tap them to provide environmental consulting.

S. Tolentino, Jr. (EMB): EMB is also interested in these universities so we can coordinate with them during ocular inspections for other projects.

Wilfrido Palarca, Dames & Moore (D&M): Are there guidelines for contractors when archaeological artifacts are found?

E. Dizon (NM): The contractor has to go directly to the NM but right now there are no specific guidelines. This means that construction has to stop until an ocular inspection has ben carried out. So the feasibility study stage of assessment is important.

Monitoring will also be important if something new should come up during the construction phase. This can be conducted by someone assigned by the contractors to be trained by the NM.

A. Jucaban (LGIF-PMO): Is there a plan to come up with a set of guidelines that we can use so that we can cope with this problem? An example is a contractor could report to NM and this will include the automatic suspension of construction. But what if the find is not of value?

M. Ross (TR&D): The resident engineer can probably get a little training from the NM to avoid this situation.

Beta Balagot,[1] CENTER FOR ECONOMIC POLICY RESEARCH (CEPR): We should clarify the various stages of the project cycle. What would be the role of the archaeological survey team during the feasibility stage? Supposing there will be no archaeological find during the feasibility stage but something came up during the construction? This should be clarified in the guidelines.

S. Tolentino, Jr. (EMB): One of the main issues that emerged during the series of workshops we conducted in terms of strengthening the permit and licensing system of regulatory agencies is to identify when each agency will participate in the entire process. Because this is a critical part of the project, we came up with a network so each agency will know how to interface with one another.

B. Balagot (CEPR): Since the LGIF Project will involve the regional level, what agency and what accredited agencies will be involved in the process of granting an ECC at the regional level. The actors should be identified at the regional level.

S. Tolentino, Jr. (EMB): Considering that the devolution will start on July 18, we gave each region six months to give us a pre-assessment on how the process will operate from the PENRO (provincial environment and natural resources officer) to the CENRO (community environment and natural resources officer).

B. Balagot (CEPR): In the case of archaeological concerns, who will handle this at the regional level considering the NM does not have regional offices.

S. Tolentino, Jr. (EMB): Maybe accredited universities with archaeological experts can be tapped.

E. Dizon (NM): That will be very difficult even with the universities mentioned due to lack of qualified personnel. Most of the training of people from these universities is in cultural anthropology and not in archaeology. So the NM will still have to be called.

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1 Former Director, EMB

A. Jucaban (LGIF-PMO): If archaeology is injected in the feasibility stage, this will save a lot of time.

How about with slaughterhouses, where we follow standards of NMIC and follow another set of standards from EMB? What if there will be conflict between NMIC and EMB with regard to design, waste disposal, etc?

S. Tolentino, Jr. (EMB): The problem will be internal between the two agencies involved.

K. LuePhang (USAID): This is an issue we cannot solve here because there will always be conflicting goals between agencies.

E. Dizon (NM): Will there be funds available for archaeological studies during the feasibility study?

M. Ross (TR&D): For new projects, there will be funding for feasibility studies that will be contracted by the LGU and it can be recommended that archaeological studies be included within the framework of these studies.

E. Dizon (NM): Without a budget, all these recommendations will be for nothing.

Minerva Dacanay (USAID): Due to USAID reductions in levels of foreign assistance, maybe this can be recommended to be incorporated in the contract. This way, the contractor will make it his obligation to report his findings so no time will be wasted.

Geoffrey T. Waite (D&M): There has been an increase of interest in the environmental guarantee fund (EGF) for project proponents. Maybe this can be used by regional offices to fund ocular inspection by the NM.

S. Tolentino, Jr. (EMB): At this moment, there is no need for an EGF. This is normally imposed based on the magnitude of the project and the number of people affected.

M. Dacanay (USAID): Maybe a contingency fund can be put up.

E. Dizon (NM): In the U.S., they set aside 1% or 2% of the budget for contingency archaeological mitigation which is also called the cultural resource fund.

K. LuePhang (USAID): Each project then will bear one small cost for an archaeological study rather than have one big cost. And if this fund will not be used, then this could be used by universities for strengthening archaeological training at the regional level.

A. Jucaban (LGIF-PMO): There may be two ways to solve this problem. (1) we may recommend line items for archaeological studies on individual contracts; and (2) since this is a program, the LGU packaging this can include funds for archaeological studies.

M. Ross (TR&D): How can we fund monitoring such as monthly visits or ocular surveys? This is a problem with DENR and the NM at the regional level. Even exemptible projects need an ocular inspection.

Engr. Lourdes Icban, Laguna Lake Development Authority (LLDA): A common complaint of project proponents and contractors is the overlapping functions of different government agencies.

S. Tolentino, Jr. (EMB): In the MOA, all departments came up with the recommendation of establishing an environmental unit. The head of the environmental unit will automatically become a representative to the Environmental Network which we are creating right now. This person will make decisions for and in behalf of the agency he is representing. Should there be overlapping of functions or questions on who issues permit first, the Environmental Network will solve the problem.

The problem on this is on the national level and not on the regional level. At any rate, I have made these recommendations: (1) The regional office should have their own environmental network especially to tap the private sector and the academe. (2) They should also have their own environmental unit within the region. (3) Establish their own EIARC because there are cases where projects are located in an environmentally critical area that normally requires a PD but which eventually require an EIA. The agreement at the moment is, if for example a PD is submitted to the region and the pre-assessment indicates that there will be significant impacts, and if the region thinks they have the expertise, then they can also issue ECC for EIS. This is only in some exceptional cases.

W. Palarca (D&M): Are there other permitting requirements on the part of HLURB which contractors may have to observe?

R. Pascasio (HLURB): We have the basic requirement which is the locational clearance issued by the Deputized Zoning Administrator (DZA) at the local level. He issues a certificate which shows that the project is conforming to the zoning ordinance. Locational viability is a pre-condition for environmental review. For projects that will fall under the scope of the EIS system, a locational viability is first required after which an ECC is issued, followed by the locational clearance.

The locational viability only states that the government is giving a go-signal (not clearance) to the proponent stating that the project is conforming to zoning ordinances (viable relative to the location). There is a criteria which states that this should not be construed as a locational clearance.

There is an understanding between DENR-EMB and HLURB, since we also require an ECC. So this means that a locational clearance is not a requirement for an ECC. The Building Officer will not issue a building permit without the locational clearance. In the previous set-up, when a locational clearance was issued first, sometime proponents immediately started construction because once a locational clearance is shown, they can by-pass the ECC.

B. Balagot (CEPR): Locational viability arose from the MOA. How will this be treated at the regional level?

R. Pascasio (HLURB): We are supposed to coordinate with our regional offices.

W. Palarca (D&M): How about those who do not have offices at the municipal level? Do they have to go to the regional office?

A. Jucaban (LGIF-PMO): We will be tapping the administrative capability of the provinces and chartered cities rather than the municipality.

B. Balagot (CEPR): If the LGU is to apply for an ECC, do you have to go to the provincial government to get the locational viability?

A. Jucaban (LGIF-PMO): If there are certain technical aspects that will require a technical person to review the proposal which the LGU does not have, then the province will take care of this because the contact person is the province and not the municipality. If it is a chartered city, then we assume that they are capable so we go directly to them. But still the locational clearance will be for the municipality.

W. Palarca (D&M): One of the concerns raised is if there will be coordination with DECS for parallel programs.

A. Jucaban (LGIF-PMO): Definitely DECS will have strong influence in the preparation of the program. Without any clearance from DECS we will not approve any proposal of the LGUs for schools.

M. Ross (TR&D): Who will be the proponent for school buildings, the LGU or DECS?

A. Jucaban (LGIF-PMO): The proponent for all projects will be the LGU.

W. Palarca (D&M): Does this mean that the LGU will spearhead the process of obtaining permits and clearances?

A. Jucaban (LGIF-PMO): They will prepare a proposal which will be submitted to the PMO and it may be a very long list of projects. This list will pass through a certain criteria which will bring down the number to a manageable level. If a school is recommended, it should be checked until a package showing the priority is arrived at.

W. Palarca (D&M): With what particular level of DECS will you clear this - region or division level?

Unidentified speaker: Central level.

W. Palarca (D&M): Won't there be problems especially for records available only at district level?

A. Jucaban (LGIF-PMO): While a school may be accepted as one of the projects, it will require a feasibility study to confirm whether there is really a need for a school.

W. Palarca (D&M): There is a plan to establish an EIS division at the regional level. However, because of the attrition law they can only hire at the regional division chief level. Clearance will still have to be made at the regional level. Since the region is big, is there any way of deputizing the function of the EIS division down to the provincial level?

S. Tolentino, Jr. (EMB): We are looking at the possibility of tapping the CENRO level, but there is a problem of resources.

W. Palarca (D&M): Most environmental officers are optional in the new local government code.

B. Balagot (CEPR): But the CENRO and PENRO belongs to the DENR office and not with the LGU.

W. Palarca (D&M): If the municipality has its own environmental officer, how does he relate to the CENRO. Who will give the clearances if ever it is devolved?

S. Tolentino, Jr. (EMB): It will be regional officer but the CENRO and PENRO can input in the assessment.

W. Palarca (D&M): It would take about 5 years to devolve regional functions?

S. Tolentino, Jr. (EMB): Perhaps in two years time. Given the PD document, they could already have proper grounding. But within 5 years, even the EIS can be devolved and EMB will go back to its original regulatory function.

A. Jucaban (LGIF-PMO): Does EMB give clearance on structural design for disposal of wastes?

S. Tolentino, Jr. (EMB): Yes. Waste disposal is already inherent in the ECC as one of the components. But given this type of project, the waste is very minimal.

For hazardous wastes, we ask the proponent to identify what kind of scheme (from handling to disposal) they will be using. We then assess the viability of the scheme. We never suggest the scheme because it will depend upon the kind of chemicals and location of the building.

B. Balagot (CEPR): It is the role of DECS to check the safety inside the buildings and there is no need to have clearance from DOH.

W. Palarca (D&M): In areas where there are social conflicts, these are cleared by the regional development council (RDC) for problems at the region. Are local issues correspondingly cleared by the LDC (local development council) or the MDC (municipal development council)?

S. Tolentino, Jr. (EMB): The cabinet resolution signed two months ago indicates that social acceptability will now be handled by the RDC on two conditions: (1) the RDC only comes in if the project is located inter-region; (2) intra-region projects will be handled by the PDC (provincial development council).

It should be made clear that the RDC position on the social acceptability is not a separate decision. It will only be inputed in the decision in the issuance of the ECC. If the RDC cannot make the decision because they need technical assessment, then they can request the EMB to conduct pre-assessment.

A. Jucaban (LGIF-PMO): For this project, the RDC will provide endorsement but not a clearance.

S. Tolentino, Jr. (EMB): The project proponent here is the LGU. But this might entail an institutional problem given the power of the LGU within the decentralization program. The issuance of the business permit has also captured the environmental consideration.

M. Ross (TR&D): How do you evaluate social soundness if the LGU is the proponent and sending the letter of support?

G. Waite (D&M): The LGU will still pass through some check and balance since it is the DENR regional office who will grant the ECC.

S. Tolentino, Jr. (EMB): The LGU will have the function of monitoring the project located within their area. If he is the proponent, he will have to monitor it definitely. The measure is to revive the lead agency.

M. Ross (TR&D): In the monitoring stages, will it still be the regional office?

S. Tolentino, Jr. (EMB): Under the decentralized form, in close coordination with the LGU. It is one of their main functions. But right now the regions are very apprehensive. One of the main reasons is the resources. The devolution is to be implemented this year but the budget will not come with the devolution. Where will they get monitoring expenses? As a stop-gap measure, maybe by imposing the EGF. If we have a problem with financial resources, then impose the EGF wherein normally a portion of that is used for monitoring purposes.

M. Ross (TR&D): One mechanism may be to increase administrative fees that are charged.

S. Tolentino, Jr. (EMB): There will be a problem if that will be imposed because this is a programmatic ECC. If that is done, there will a need for redirection of policies. It is also impractical given the magnitude of this project. To impose an EGF for a school house is very impractical.

There are also problems if we impose the threshold. Like in the mining industry, what criteria will you use to impose the EGF? You try to research on how much it will cost to rehabilitate, for example, a mined out area. There is no existing data. The technique we use is the scenario type. Then its is a mutual agreement between the proponent and DENR on how much they will put in. The first criteria used is financial capability, but this is very tricky. This money or bond will be used only for rehabilitation and monitoring and there will be two disbursing officers - one from the proponent and one from DENR. There are also basic procedures even in the withdrawal. It will never be deposited in the name of the government. However, if no damages will be incurred after the project is finished, the bond will be given back to the proponent. So it is literally and figuratively a guarantee fund. The LGU being the proponent will put up the bond.

Surveys such as that proposed for the NM is not included in this fund.

M. Ross (TR&D): How can exemptible projects be expanded?

S. Tolentino, Jr. (EMB): The three criteria are not taken separately. They are taken inclusively.

M. Ross (TR&D): In categories of expemptible projects, schools are included. And according to DECS, they do not require any environmental review.

S. Tolentino, Jr. (EMB): Except in cases where the issue is on land conversion, we have to see the land if it is no longer productive as certified by the DA (Department of Agriculture).

Our identification of exemptible projects is still very limited. We just completed the revision of PD 1151 and I was assigned to review the EIA. Two main issues were placed: (1) EIA should really be an integral part of the entire development process. (2) EIA should be a regulatory tool.

W. Palarca (D&M): Is there a time limit for the EIA to be approved?

S. Tolentino, Jr. (EMB): It takes two months for processing of PDs up to issuance of ECCs. It takes one day for exemption certificates. There are also conditions attached to this exemption certificate, like waste management and the like.

The leopold matrix attached to the PD will highlight significant impacts of a proposed activity. Then you can focus on these.

I suggest that one important criterion be addressed in the outline. This is the endorsement from the LGU because of the social acceptability of the small projects. The Barangay Council will be the lead agency of local endorsement. Should there be any social conflicts later on, then the local government (whether barangay level or not) will take the responsibility and not DENR.

P. Jucaban (LGIF-PMO): The actual lead agency and proponent will be the LGU. It is now required that the barangay concerned will have to issue the acceptability certificate.

S. Tolentino, Jr. (EMB): The social acceptability certificate can be issued by the barangay captain, if not, then the mayor. Endorsements and other letters of support can come from different levels - from the barangay captain up to the governor. If there will be problems with the LGU, endorsements can come from the parish priest, the most prominent leader in the community, or concerned NGOs based in the area, including such groups as members of a public market cooperative.

Under the decentralization process embodied in the Local Government Code, the NGOs are given a very prominent role in monitoring.

LIST OF ATTENDEES

ENVIRONMENTAL WORKSHOP
Sulo Hotel, Quezon City
July 24, 1992

CENTER FOR ECONOMIC POLICY RESEARCH

Ms. Beta Balagot	- ZETA Bldg. Salcedo Street Legaspi Village Makati Tel. No. 810-4366/ 810-3433

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)

Environmental Management Bureau (EMB)	- Phil. Heart Center East Ave., Quezon City Tel. No. 98-04-21 Local (3617) 975698/973254
Evironmental Impact Assessment Group	
Mr. Sixto Tolentino, Jr. Cesar Siador, Jr.	Local 3617

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

DPWH-CLB/CARP	- CLB CARP Offices DPWH, Reg. IV-B Comp. EDSA, Q.City Tel. No. 97-12-55
Ms. Marilyn T. Rodaje Mr. Jose Guanzon	
DPWH,PED	- 3rd Flr., DPWH Bonifacio Drive Port Area, Manila Tel. 48-94-29
Mr. Jess Averilla	

HOUSING AND LAND USE REGULATORY BOARD (HLURB)

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  Tel. No. 977798/
  985786

Mr. Rosario M. Pascasio

LAGUNA LAKE DEVELOPMENT AUTHORITY (LLDA)

- Pasig, Metro Manila
  Tel. No. 631-4157

Engr. Lourdes M. Icban

NATIONAL MUSEUM

Archaeology Division

- Executive House Bldg.
  P. Burgos St., Manila
  Tel. No. 47-77-97

Dr. Eusebio Z. Dizon

PROGRAM FOR ESSENTIAL MUNICIPAL INFRASTRUCTURE, UTILITIES, MAINTENANCE AND ENGINEERING DEVELOPMENT (PREMIUMED)

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UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

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  Ramon Magsaysay Bldg.
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  Tel. No. 521-7116
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Mr. Kenneth Lue Phang

OFFICE OF CAPITAL PROJECTS (OCP)

Tel. No. 59-75-76

Ms. Minerva C. Dacanay

NON GOVERNMENT ORGANIZATIONS (NGOs)

Quezon City Park Development Foundation Ecology Center	- 13 M. Viola St., UP Campus, Q.C. Tel. No. 97-52-31
Mrs. Elsie B. de Veyra	- Quezon City Circle Park Tel. No. 922-0830

Representatives of the Programmatic Environmental Assessment Team

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APPENDIX H-3

ABBREVIATED MINUTES OF THE REVIEW WORKSHOP (September 14, 1992)

LOCAL GOVERNMENT INFRASTRUCTURE PROJECT
Programmatic Environmental Assessment

LIST OF ATTENDEES

REVIEW WORKSHOP
Sulo Hotel, Quezon City
September 14, 1992

DEPARTMENT OF AGRICULTURE (DA)

National Meat Inspection Commission (NMIC) - Visayas Avenue
Quezon City
Tel. No. 971189

Engr. Romeo E. Mapaye
Dr. Octavio R. Olivas

DEPARTMENT OF EDUCTION, CULTURE AND SPORTS (DECS)

Educational Projects Implementing Task Force (EDPITAF) - University of Life Complex
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Mr. Achilles del Callar

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)

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Mr. Sixto Tolentino, Jr. - Environmental Impact Assessment (EIA)
Tel. No. 980421 (3617)
980224/975698

Mr. Cesar Siador, Jr.

Mr. Albert Magalang - Project Management Staff (PMS)
Tel. No. 973254

Mr. Esterlito M. Pinlac - Environmental Quality Division (EQD)
980421 (3624)

Mr. Neil Urwin - Strengthening Environment Assessment Project (SEAP)
Tel. No. 980224

DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT (DILG)

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Mr. Jess Averilla		

HOUSING AND LAND USE REGULATORY BOARD (HLURB)

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ABBREVIATED MINUTES OF THE REVIEW WORKSHOP

Presentation:

Open Discussion:

Achilles del Callar, Educational Projects Implementing Task Force (EDPITAF): Would these documents be given to EMB for distribution to LGUs or are these internal documents for the LGIF Project?

Sixto Tolentino, Jr., Environmental Management Bureau (EMB): Right now EMB has no specific guidelines for small scale infrastructure projects. If USAID will donate the output of this current study to us, I will discuss this with the DENR management and this will become an internal EMB policy. All infrastructure projects falling into this category will be using these guidelines.

Unidentified Speaker: Why is the ECC applied for in the feasibility study (FS) stage, or why it is in the middle of the implementation process/cycle?

Michael A. Ross, Tropical Research & Development, Inc. (TR&D): At FS stage, the LGU should have completed preliminary studies, sections of which are appropriate for preparing a Project Description (PD), so that when the FS document is submitted to the LGIF-PMO, it will have the attached conditions and certification that the regional office of DENR is requiring.

S. Tolentino, Jr. (EMB): Two basic supporting documents are usually required prior to the issuance of an ECC: 1) the LGU endorsement, but problem is that in this case, the LGU is the proponent. Endorsement has to come from the level of the barangay captain, any NGO, or concerned citizens of the community; 2) the proceedings of a public hearing. How will these be inputted in the process?

M. Ross (TR&D): Social soundness studies should include a certification of social acceptability. Since the LGU is now the proponent, endorsement may come from the local development council, NGOs, public market cooperatives, community organizations, etc. This will serve as supporting evidence that the project is locally supported.

S. Tolentino, Jr. (EMB): The institutional arrangement is still vague at this point because the LGU is the proponent. Will the LGU get another LGU to coordinate? This has to be resolved because previously the DENR Secretary did not sign any ECC without the LGU endorsement.

Apolo Jucaban, LGIF-Project Management Office (LGIF-PMO): Since the LGU is the proponent, can we not assume that the LGU is already endorsing this and with the public hearing, it will also be an indication of endorsement of the residents.

S. Tolentino, Jr. (EMB): This might elicit a conflict of interest on the part of the LGU and public hearings may not be applicable to small scale projects.

A. Callar (EDPITAF): The LGIF subprojects are small scale and the LGIF project management office can serve as the control mechanism to ensure that the projects are environmentally sound. On an administrative level, it may be difficult to get all the required local endorsements if this will involve numerous school building subprojects.

S. Tolentino, Jr. (EMB): In the signing of the recent Memorandum of Agreement (MOA), one condition is that the DENR should look into the practicality of programmatic EIAs. With USAID doing this current study, it is already one step forward on EMB's part.

A. Jucaban (LGIF-PMO): To secure clearance from LGUs for school building subprojects is a required procedure now. Since the proponent is the one giving the endorsement, one suggestion is to secure clearance from the barangay where the project will be sited. The barangay can endorse the project. Another alternative is endorsement from market vendors, in the case of public markets, as is done under the PREMIUMED program.

S. Tolentino, Jr. (EMB): In the past, if the proponent can not get the mayor's endorsement due to political reasons, we opted for the barangay captain. If this is still not possible, we ask any legitimate NGO located in the area, or prominent person, such as the parish priest. The problem is when the prominent person, after reading our canned certification, chooses not to endorse the project. Others just sign the endorsement without even reading it.

Rosario Pascasio, Housing and Land Use Regulatory Board (HLURB): The LGUs are required by law to prepare their comprehensive land use plans (CLUPs). In the process of preparing the CLUP, they are also required to prepare the local development investment program (LDIP). The LDIP is a listing of infrastructure projects which go hand in hand with the CLUP. Is it within these LDIPs where you get the infrastructure projects for funding by USAID? What is the relationship of USAID-funded projects with LDIPs and CLUPs?

Minerva Dacanay, United States Agency for International Development (USAID): Most of the projects that LGUs are anticipated to request are for public markets, roads and school buildings. These are major infrastructure projects among LGUs. Most of

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the infrastructure projects requested by local governments are also the ones endorsed to NEDA and the local development council. These are also the infrastructure projects requested through their regional development councils for possible funding.

Jess Averilla, DPWH, Project Evaluation Department, (DPWH-PED): We suggest that there should be a system under which the EMB will evaluate a proposed project once the feasibility study is completed, since the environmental aspect is already a part of the feasibility study.

S. Tolentino, Jr. (EMB): The impact assessment or environmental concerns should be addressed right at the point of project conception. But in some infrastructure projects, these get delayed because, in the feasibility study, the environmental concerns are dispersed all over the FS report. So what we require is a separate chapter on the EIA. But in some cases, the project proponent prepares the feasibility study and the environmental assessment becomes a post-requirement. If there will be a straightforward procedure and the proponent will follow the guidelines, there is no reason to delay issuance of ECC. The reason why the issuance of an ECC is usually delayed is because of the kind of information being submitted can not guarantee an exhaustive evaluation. We need a standard procedure similar to this proposed annotated project description. The EIA document presentation here is by project phase, which is what we want. All conditions imposed on specific projects should be phased. Before, the ECCs issued were general in nature but what we want now is detailed so that the DENR regional office, with line function and responsibility, will not be at a loss during monitoring.

Wilfrido Palarca, Dames & Moore (D&M): There are two critical agencies involved for securing permits - the EMB and HLURB.

S. Tolentino, Jr. (EMB): Before, the proponent was at a loss as to which is required first - whether the locational clearance or ECC. The MOA clarified this, the locational clearance first before the ECC. If the proponent faces a problem in securing a locational clearance, HLURB now issues an alternative clearance called a "locational viability certificate". With this certificate from the HLURB, we can then issue the ECC.

A. Callar, (EDPITAF): With this draft document, it seems that the bureaucratic pressure is on people, with no technical expertise, at the local government level. How will you expect mayors with no proper education to worry about EIS/EIA? Engineers are more likely to know more about this. It will be better for the engineer who is educated technically to make an EIS/EIA, than requiring it from the mayor.

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S. Tolentino, Jr. (EMB): Right now the Local Government Academy (LGA) is training, or educating, the mayors.

A. Jucaban (LGIF-PMO): Under the LGIF Project, the proponent is the LGU, but the technical aspects of the project will be handled by technical people. Under the PREMIUMED program, the elected officials and technical people undergo training together to equip the officials with technical knowledge. The technical staff, not the mayor, will handle most clearance requirements. He will just sign it, but there will also be authoritative people who will be signing for the projects' design, waste disposal, etc.

There will also be a technical component where local officials will be hiring, if they want, consultants, or CMES firms, who will conduct the feasibility study for them. The LGU and LGIF-PMO will just review this.

M. Dacanay (USAID): Probably for this draft Project Description (PD) document, it will be easier if it would be in a form of a checklist, following a fill-in-the-blank approach.

Nelda Leds, Local Government Academy: In case there is no land use plan in the municipality, what will be the basis of HLURB in coming up with a locational clearance?

Elvira Toribio (HLURB): We have regional offices that can conduct inspections and determine what the development trend in the area is, the existing land use in the project site, and other factors.

If the zoning ordinance or land use plan of the municipality is not yet duly approved, the LGU has a local municipal development staff whom the HLURB can coordinate with and determine the plan of the LGU in the area, the existing land uses, physical condition of the proposed project site, etc.

With the advent of the 1991 Local Government Code, the function of the HLURB in the issuance of locational clearance/locational viability will be devolved to the LGU concerned.

A. Jucaban (LGIF-PMO): It looks like the proposed PD is requiring information available only from a detailed engineering design. If this is the case, more money will be spent for this kind of information and maybe later on the project may prove to be environmentally unacceptable.

S. Tolentino, Jr. (EMB): Theoretically, the EIA should be included right at the point of the project's conception. But what if, in the end, the project will prove not to be feasible? We want environmental concerns to be an integral part of the

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development planning process to save a lot of money. Even in the design stage, you can already input environmental concerns and even location decisions. The problem is why do we need detailed engineering information at this point. Normally, within the feasibility study, you have a number of project assessment steps and only come up with detailed engineering when you are sure about the project.

A. Jucaban (LGIF-PMO): In fact, some information required in this draft PD form is already beyond the detailed engineering. This additional information is part of the bidding documents, because these questions are asked of the contractor.

S. Tolentino, Jr. (EMB): The EIA is generally conducted with an assumption that the project will be implemented. It is rarely conceived that the EIA will be conducted if the project is never to be implemented.

A. Jucaban (LGIF-PMO): How do we relax a little of the information requirement of these draft documents? Can we not just say that the proponent will do everything appropriately, according to approved engineering techniques?

S. Tolentino, Jr. (EMB): Any proponent will say that. We don't accept that anymore because the government is still hampered by efficiency in monitoring.

The DENR regional offices want a detailed document with which they can monitor a project. If these submitted documents are in general terms, they just go there and see the progress of the project, as in traditional monitoring and that's all. What we want is compliance monitoring.

A. Jucaban (LGIF-PMO): You can use the NGOs to monitor, and in case they find that the projects are not in compliance, they may write to our project management office and we will immediately respond to it and require the construction contractors to do corrective measures.

S. Tolentino, Jr. (EMB): Under the devolution of the EIA system through DENR Administrative Order (DAO) 21, the participation of NGOs has been institutionalized. They have to be accredited to avoid "fly-by-night" NGOs.

A. Jucaban (LGIF-PMO): What you need is information and to verify whether the information is reliable or not. In other words you need a third person/party to make sure that the environmental guidelines are observed. Whether this will be an NGO, or a private person, is not important if he tries to call your attention to problems related to a project.

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S. Tolentino, Jr. (EMB): If the detailed engineering information will not be included in the assessment, which is the most critical part, then where will you see the process and predict waste generation?

Can you come up with a very exhaustive environmental evaluation without the benefit of detailed engineering information in the proposal?

A. Jucaban (LGIF-PMO): Waste generation can be predicted in the preliminary engineering.

Jose Guanzon, DPWH/CLB-CARP: Many types of detailed engineering information are supposed to be kept secret until only after the bidding.

Cesar Siador, Jr. (EMB): What we do is we request a ceiling cost for the project and this is not divulged to the bidder. With the ceiling cost, you can already have a basic idea on volumes or how are things to be done on that project. What we need is the project estimate and not the exact figure, but you should estimate cost, as well as quantities of waste, that will be generated during operation.

M. Dacanay (USAID): These are small scale infrastructure projects and may be considered as not environmentally critical. Have you made evaluation on project proposals for these type of projects?

C. Siador, Jr. (EMB): We have issued exemptions for schools proposed by EDPITAF.

Esterlito Pinlac (EMB): The LGIF Project can be classified into two project types: 1) roads and bridges which are not environmentally critical, and 2) slaughterhouses and public markets expected to generate wastewater high in BOD. So maybe another set of classifications for this project is necessary so that the first type can be fast-tracked.

Neil Urwin, Strengthening Environmental Assessment Project (SEAP/EMB): Exemptibility is the "life blood" of this project. The PD is the worst case scenario and the last thing we want is an EIS. We should maximize exemptibility of projects and that is the role of the programmatic environmental assessment. Given that you have a programmatic EIS, is it feasible to have a programmatic exemption?

S. Tolentino, Jr. (EMB): At the moment, this can not still be put in place.

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This proposed document is an important input at the moment. Right now EMB's problem are the scoping guidelines, which are still not complete. What we give/impose at the moment is a general annotated outline which turns off a project proponent because they think they should follow this to the letter.

R. Pascasio (HLURB): Maintenance is also a problem, but it seems that USAID is not in the picture anymore?

John Starnes (USAID): With regards to maintenance, USAID recognizes this problem. What we can do is review our standard designs to minimize maintenance problems based on experience with similar types of infrastructure.

Under the LGIF Project, we are looking at developing maintenance manuals for use by the LGUs and try to zero in on the more responsive LGUs.

A. Jucaban (LGIF-PMO): At what stage of the process will the PD be required?

S. Tolentino, Jr. (EMB): Right at the beginning because the EIA is a predictive tool. This draft document will even expedite the review and permitting process. The cause of most delays is that the proponents do not know the kind of basic information that we need to evaluate a project, so we require additional information.

The bottom line here is the level of information to be submitted, which proponents fear. Normally, the clients complain because the kind of guidelines we give them are too general. They want very specific data so they will not be required additional information.

If we come up with a checklist, then check only relevant data and come up with a focused EIA. This document can already serve as a scoping guideline and as a screening process. There is no need to follow all of them. Maybe we can come up with different guidelines for each project.

A. Jucaban (LGIF-PMO): Can the clearance from NMIC act as clearance for EMB?

S. Tolentino, Jr. (EMB): We have to network with them and comply with their decisions and recommendations.

R. Pascasio (HLURB): Does social soundness apply to small scale projects?

S. Tolentino, Jr. (EMB): Normally the social acceptability component is only required for the EIS. Through a cabinet resolution, the social acceptability of the project will now be determined through the endorsement of the regional

development council. One of the requirements of the social soundness study is a perception survey, which is a built-in requirement of the EIS.

In this project, we do not require any perception survey in terms of acceptability. I do not think this project will create any social problems.

With regard to people empowerment, the role of NGOs is now institutionalized. Before, if a single NGO complained, we would have to conduct a public hearing. It was the policy of DENR that all EISs should undertake a public hearing. I disagreed with this policy, because it is expensive and we still lack expertise in community organizing. To avoid this, the current DENR policy is that the NGO has to submit a position paper, which should not have an emotional tone and/or political color. We also investigate their credentials/ background.

In the DAO 21, there are only two reasons that a public hearing is conducted: 1) magnitude or the scale of the project, and 2) a substantial number of people will be affected.

A. Jucaban (LGIF-PMO): Maybe what you can do is prepare a single outline/guideline with attachments to instruct proponents what is applicable to a certain project.

APPENDIX H-4

WRITTEN SUBMISSIONS

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
NEDA sa Pasig, Amber Avenue, Pasig, Metro Manila

Cable Address: NEDAPHIL
P.O. Box 419, Greenhills
Tels. 631-09-45 to 64

29 June 1992

Michael A. Ross
Tropical Research and Development, Inc.
5th Floor, Adamson Center Building
121 Alfaro Street, Salcedo Village
Makati, Metro Manila

Dear Mr. Ross:

With reference to your letter dated 22 June 1992, hereunder are our comments/suggestions on the proposed Programmatic Environmental Assessment Study:

a. The proposed environmental assessment study for schoolbuildings and health infrastructure facilities may not be necessary since these facilities have only minimum impact, if any, on the environment.

b. Unless these are new construction of roads and/or would affect agricultural/forestry areas, the environmental study for the same may not also be necessary.

c. The proposed standard stall-mix design for public markets may not be applicable to all municipalities since this usually vary depending on the socio-economic conditions/activities in a given locality.

d. The proposed standard design for classrooms and roads should be reviewed vis-a-vis the DPWH/DECS prescribed standards for purposes of compatibility.

The above notwithstanding, we understand that a similar environmental study is being undertaken under the World Bank-assisted PREMIUMED II Project of the DPWH.

Very truly yours,

RUBEN S. REINOSO, Jr.
Officer-in-Charge
Infrastructure Staff

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Republic of the Philippines
Office of the President
Housing and Urban Development Coordinating Council
HOUSING AND LAND USE REGULATORY BOARD

15 July 1992

MR. MICHAEL A. ROSS
Tropical Research and Development, Inc.
5/F Adamson Center Bldg.
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Dear Mr. Ross:

This has reference to your letter of 10 July 1992, please find attached our comments/suggestions on the Programmatic Environmental Assessment of the proposed Local Government Infrastructure Fund (LGIF) Project.

Very truly yours,

MA. ROSARIO M. PASCASIO
Head, Urban Land Reform
Standards and Rules Development Office

D & E Building, Quezon Avenue cor. Roces Avenue, Quezon City

7/16/92

COMMENTS/SUGGESTIONS: Programmatic Environmental Assessment of the Proposed Local Government Infrastructure Fund (LGIF) Project

A. Local Government Infrastructure Fund (LGIF) Project

The Decentralized Shelter and Urban Development (DSUD) Project of the USAID has as one its policy objectives (included in the DSUD policy matrix), the improvement of urban services and infrastructure delivery. GOP (DILG) commitment in this regard is the development and issuance of policy and implementation guidelines for private sector delivery of basic services such as solid waste collection, markets, roads, etc.

In which case, the guidelines which are being prepared by the DILG under DSUD should incorporate environmental concerns of the PEA of the LGIF project and vice versa, i.e., the PEA should likewise consider the guidelines being prepared by DILG.

B. Programmatic Environmental Assessment (PEA)

1. The initial question is : will these small-scale infrastructure projects fall within the scope of the EIA system? Obviously, these projects are not environmentally critical projects (ECP) but may be located in environmentally critical areas (ECA), of which a project description is required. Because of the very nature of these projects i.e., small scale, EMB parameters for project description may have to be refined.

2. Inasmuch as the PEA attempts to assess overall impacts of proposed subprojects options other than an environmmental assessment are suggested:

a. A simple "generic assessment" is one option. For example, rural roads will usually follow a pattern that can be used to predict impacats. (Source: Carpenter, Richard and Jansen Morgan, 1989, How to Assess Environmental Impacts of Tropical Islands and Coastal Areas, an ADB Report).

b. Preparation of guidelines is another option. The general application of environmental concerns may be captured by the guidelines. However, individual/per project environmental assessment may also be conducted on a case-to-case basis, if necessary.

3. Other issues which may be considered for the PEA are:

- zoning classification of project site
- accumulated pollution of developments proximal to the proposed project
- expertise/staff requirements for environmental concerns of LGIF projects
- time frame of archeological explorations
- if an environmental assessment needs to be conducted for small-scale projects as in the LGIF, what about other small-scall projects of similar nature.

4. Draft Outline for the PEA/LGIF Project needs to be more detailed for more effective evaluation . For example, in sections 2.2 - 2.4, do these imply that the existing environmental conditions vis-a-viz socio-economic parameter, the physical/biological environment and infrastructure/public services will have to be related to the very broad environmental setting at the national and regional levels? The LGIF projects are small-scale so that the environmental setting may be described within the targetted chartered city only.

Also, the outline should be simplified since a project description is all that is required.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF EDUCATION, CULTURE AND SPORTS
EDUCATIONAL DEVELOPMENT PROJECTS
IMPLEMENTING TASK FORCE

July 16, 1992

Michael A. Ross
Tropical Research and Development, Inc.
5th Floor, Adamson Center Building
121 Alfaro Street, Salcedo Village
Makati, Metro Manila

Dear Mr. Ross :

With reference to your letter dated 10 July, 1992, hereunder are the comments/suggestions on the Scoping Session Report :

1) On the schoolbuilding sub-project, we reiterate the following points raised for (a) the LGIF Project to consider not only poverty alleviation as one of the criteria in site selection but also enrolment growth, literacy rate and schoolbuilding backlogs/shortages; (b) classroom designs should be compatible with DECS standards.

2) Even if environmental assessment will not be necessary as expressed by the NEDA-Infrastructure staff, the design of the high school science buildings should include provisions for disposal of chemical wastes.

3) On the proposed draft outline for PEA (Appendix 1), the section on the Alternative Implementing Arrangements should include a discussion on institutional arrangements of the LGIF-PMO with affected agencies to avoid overlap/conflicts, thus promoting equitable distribution of assistance, from various sources.

Thank you for the opportunity of participating in the scoping session and we look forward to a harmonious coordination with the project especially on schoolbuildings.

Very truly yours,

ACHILLES B. DEL CALLAR
Executive Director

IN REPLY ADDRESS: DORM D, UNIVERSITY OF LIFE COMPLEX, MERALCO AVENUE, PASIG, M.M. FAX NO. 673-1927 TEL. NOS. 673-09-81 to 85

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TO: MICHAEL ROSS
Dames and Moore
Adamson Center Bldg.
Salcedo Village, Makati

FAX NO.: 817-9491

FROM: BETA BALAGOT

DATE: July 21,1992

SUBJECT: Programmatic EIA of LGIF Projects

==========

I am sending you by fax a two-page write-up on some of the issues raised during the scoping session for the Programmatic EIA of LGIF projects (as per the topics assigned to me).

ISSUE: How would Philippine environmental regulations an procedures be applied within the LGIF project?

The provisions in DENR Administrative Order No. 21, Series 199 and the Operations Manual for the Implementation of the Loca Government Code in the Environment and Natural Resources Secto need to be examined vis-a-vis PD 1586 and Proclamation 2146 t clarify the above issue.

The Local Government Code of 1991 (Sec.17) provides that the following functions and responsibilities of DENR will devolve t local government units:

a) For a municipality or city - implementation o community-based forestry projects which include integrated social forestry programs and similar projects; management and control of communal forest with an area not exceeding fifty square kilometers; establishment of tree parks, greenbelts, and similar forest development project.

b) For a city or province - enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws for the protection of the environment.

In response to this provision of the local government code the DENR produced an Operations Manual for the Implementation of the Local Government Code in the Environment and Natural Resources Sector. The Manual primarily was aimed at elucidating the technical and administrative details in implementing the provisions of the LGC pertaining to the protection of the environment. In so far as the administration of the EIA requirement is concerned, the Manual proposes to devolve to LGUs the issuance of ECCs of small-scale projects such as those covered by Kalakalan 20.

Since all LGIF projects do not fall within the category of Kalakalan 20, it is presumed that the EIA process for LGIF projects will not fall under the jurisdiction of the city or provincial government.

The scope of LGIF projects indicates that these are not among those identified in Proclamation 2146 as environmentally critical projects. However, these projects will fall within the EIA system if these are located in environmentally critical areas.

DENR Administrative Order 21 provides that the DENR Regional Offices shall be responsible for the processing of environmental impact assessment documents of projects within the scope of environmentally critical areas and exempted projects. On this

basis, applications for ECCs or environmental clearances for LGIF projects will be processed and evaluated at the DENR Regional Office. Legal provisions still mandate that each subproject has to be issued separate ECCs.

ISSUE: Will archaeological assessments be conducted prior to implementing a subproject?

This should be included in the programmatic EIA. Environmental assessments include not only the evaluation of impacts on the bio-physical environment but on the socio-cultural environment as well. Criteria for subproject site selection could be drawn up whereby sites of archaelogical and/or historical significance should be preserved. If a proposed subproject site is identified to be archaeologically significant as early as during the programmatic EIA stage, then alternative sites can be recommended without unduly jeopardizing the implementation of the subproject.

ISSUE: Could an environmental guarantee fund be established for the LGIF project?

Since the project proponents of LGIF projects are LGUs, there might be some legal impediments to the establishment of an environmental guarantee fund by setting aside a certain amount of the loan or grant money for this purpose. This aspect should be examined further. Another suggestion is for the LGU to provide the guarantee fund from locally sourced funds. However, all the legal and administrative implications of setting up a guarantee fund should be carefully studied in as much as the project proponent is also a government entity, subject to certain restrictions in the use of public funds.

ISSUE: How objective will proponent-based (in this case, proponents are LGUs) environmental assessments be?

The issue of objectivity in the conduct of an EIA will always be present. This is the reason why the EIS is subject to a review by an independent body, in this case the DENR, to ascertain and evaluate the validity of statements made in the EIS document.

30 July1992

HARIBON FOUNDATION

Mr. Michael A. Ross
Environmental Team Leader
5th Floor, Adamson Center Building
121 Alfaro St., Salcedo Village
Makati, Metro Manila
Fax No. 817-9491

Dear Mr. Ross,

Herewith are our comments and recommendations on the scoping session of the recently conducted PEA of the proposed LGIF projects.

1. Corresponding fund must be pumped-in for conducting environmental studies on the LGU level.

2. Local POs and NGOs involved in nature protection and management must be made part of the group on environmental monitoring and evaluation procedures and criteria.

3. A study on the recycling and waste management must be given emphasis simultaneous with the construction of public markets. LGUs must have the capability to review their waste disposal practices in view of minimizing and eventually eliminating waste discharge.

4. Social consideration must be included in the environmental impact assessment of the proposed LGIF projects.

5. Proper coordination of LGIF-PMO with the DPWH in the inspection of shoolbuildings and public markets etc., subprojects to determine their conformity with building standards and the building code.

6. Location of these infrastructure i.e., schoolbuildings,, public markets, health centers etc., must be in accordance with the approved land use and zoning ordinance of the LGUs. Public hearings

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must also be conducted to determine public acceptance. In particular, people directly affected must play a central role.

7. Determine and establish the sphere of influence of the targeted LGUs prior to the construction of any infrastructure project i.e., public market for the purpose of economic viability.

8. If the proposed sites of infrastructure projects are tenanted or with squatters, appropriate relocation sites and economic based schemes must be prepared to eliminate possible local social unrest caused by the dislocation.

9. Raw materials i.e, wood, lumber etc., to be used in the infrastructure projects must be determined as legally, certified processed lumber and not coming from illegally cut logs or woods.

10. Overall, full information about the LGIF projects and their impacts must be clearly and honesty presented and publicly discussed.

Sincerely,

Cristi C. Nozawa

CRISTI MARIE C. NOZAWA
Executive Director

GREEN FORUM - PHILIPPINES
NGO-PO-Church Forum on
Social Equity, Sustainable Development and Environment

27 July 1992

MR. MICHAEL A. ROSS
Environmental Team Leader
Tropical Research and Development Inc.
5th Floor, Adamson Center Bldg.,
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Dear Mr. Ross:

I was away on a USIA-sponsored visitor program for a month and hence was unable to respond to your request for Green Forum's participation in the environmental assessment process for the LGIF project.

Please let us know how the scoping session last June 25 proceeded and if there is still some way we can participate in the process at this time.

Very truly yours,

CMRagragio

CONCHITA M. RAGRAGIO
Executive Director

ross7-27/tita

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REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
MANILA

31 July 1992

MICHAEL A. ROSS
Tropical Research and Development, Inc.
5th Flr., Adamson Center Building
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Dear Mr. Ross :

As a result of our review made on the Scoping Session Report, Programmatic Environmental Assessment, Local Government Infrastructure. Fund Project, the following are our comments and recommendations :

a.) Inclusion of landscaping features in the construction of Medium-Size Public Market Type I, II and III. The additional features are Park (both playground and parking space for delivery trucks, garbage trucks and private vehicles including planting of ornamental trees and the like to create wholesome ambience in the area - this will provide anti-pollution measure in the said influence area.) This features will be a requirement to be provided by the beneficiary local government.

Rationale :

1. The Public Market to be environmentally sound should have the landscaping features to enhance the over-all clean and greenery surroundings and it will also avoid traffic congestion in the area with the provision of parking area.

2. Installation of drainage for solid and liquid waste - never permit drainage outlet leading to any nearby river, creeks or any body of water to pollute the water system.

3. Provisin of rest rooms for stallholders, customers and the general public.

b.) Slaughterhouse : installation of proper drainage for cleaning; provision of potable water system(deep well/pump) or connection from Municipal Water District System

In addition, provision of equipment or any other measures to minimize foul odor which will affect the residential and central business areas. Refrigeration facilities should also be provided.

4. Landscaping features/design is also an integral part in the construction of schoolbuildings, science building and health center.

a.) A separate drainage system on toxic waste or any materials use in the laboratory experiments for science building.

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We hope that the above-mentioned observations/suggestions will be a part of the Engineering design which is an integral part of the environmental concern to enhance, preserve and create a better community to the people in the influence area in particular and to the whole municipality/province as a whole.

This scheme maybe implemented to the first 20 infrastructure projects as mentioned in the study as a pilot project.

Very truly yours,

JESUS O. AVERILLA
Project Evaluation Division
Planning Service
DPWH, Port Area, Manila

EDPITAF

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF EDUCATION, CULTURE AND SPORTS
EDUCATIONAL DEVELOPMENT PROJECTS IMPLEMENTING TASK FORCE

August 28. 1992

Mr. Michael A. Ross
Team Leader
Davies and Moore
5th Floor, Adamson Center Bldg.
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Dear Mr. Ross :

With reference to the Draft Report on the Programmatic Environmental Assessment referred to us in your letter dated August 17, 1992, we are pleased to inform you that the report adequately incorporated the suggestions/comments generated during the scoping session and our subsequent follow-up letter.

However, to reiterate our earlier suggestion on the implementing arrangements, we would like to suggest the inclusion of the Department of Education, Culture and Sports (DECS) in the Implementing Review Committee (IRC) to ensure coordination in the provision of educational facilities.

We look forward to the invitation for the presentation of the draft report.

With best regards.

Very truly yours,

DR. ACHILLES B. DEL CALLAR
Executive Director
DECS-EDPITAF

9 September 1992

HARIBON FOUNDATION

Mr. Michael A. Ross
Environmental Team Leader
5th Floor, Adamson Center Bldg.,
121 Alfaro Street, Salcedo Village
Makati, Metro Manila
Fax No.: 817-9491

Dear Mr. Ross:

The recently concluded discussion of the identified environmental impacts of the LGIF project and recommended standard mitigation measures, such as design modifications and environmental management procedures typifies the new concern over the environment, since economic growth depends on finite physical necessities (i.e. food, raw materials and ecological systems).

In light of these concerns, we would like to register our suggestions in the operationalization of the LGIF project. We view the importance of requiring identified cities/municipalities to prepare an Environmental Impact Statement (EIS) for every major infrastructure development. Specifically, seven concerns must be covered:

1. The probable environmental impact of the proposed action.

2. Any adverse environmental effects that can not be avoided upon approval of the proposal.

3. Alternative to proposed action.

4. The relationship between local short-term uses of the environment and the maintenance and enhancement of long-term activity.

5. Any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented.

6. The study should include probable changes in culture, lifestyle of local people and the corresponding adjustment of the communities affected by the project.

7. The study should seriously consider in public hearings, the sentiments of the local people and therefore the acceptability of the project. This dictates the difference between token "consultation" and real local participation. The project should be transparent from concept to evaluation.

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These statements must be prepared for decision making purposes, must analyze cost-effective alternative; the proposed action must be the most beneficial action available and it must be available at a reasonable cost.

The EIS regulations must be made binding on all the identified locality. The regulation must provide uniform standards for undertaking EIS and their review.

A new "scoping" procedure must be developed to minimize paper work and costly delays. It must be prepared in advance of an EIS, since scoping identifies the more important issues i.e. what are central issues, how long the EIS shall be, and who will assume responsibility for EIS preparation and review.

We hope you find these comments worth considering.

Sincerely,

Cristi Marie C. Nozawa
Executive Director

ws5/ross/pmss6
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REPUBLIC OF THE PHILIPPINES
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11 September 1992

Mr. Michael A. Ross
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5th Floor, Adamson Center Building
121 Alfaro St., Salcedo Village
Makati, Metro Manila

Dear Mr. Ross:

This has reference to your letter of 17 August 1992 soliciting our comments on the draft report on the Programmatic Environmental Assessment for the Local Government Infrastructure Fund (LGIF) Project.

In general, we find the recommended mitigation measures (as spelled out under Table ES-1 or Table 5-1) for potential negative impacts during the construction and operation phases of the proposed LGIF subprojects to be commendable. We also noted that of all the negative impacts identified, the disruption/destruction of archaeological resources poses the highest potential during construction of subprojects. While we agree (in principle) that the National Museum, the designated national agency responsible for the preservation of archaeological resources, should assess copies of site photographs and soil profiles prior to subproject implementation, we suggest that the time required for such archaeological assessments which may be substantial be considered in determining the subprojects' planning period.

We observed that under the initial "indicative" screening of provincial government units which is based on an annual household income of less than ₱50,000, there is no province in Region V included. Clarification on this may be necessary, considering that said Region is one of the most depressed in the country.

We hope we have been of assistance in this undertaking.

Very truly yours,

RUBEN S. REINOSO, JR.
Officer-in-Charge
Infrastructure Staff

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Michael Ross
Environmental Team Leader
Tropical Research and Development. Inc.
5th Floor. Adamson Center Bldg.
121 Alfaro St. Salcedo Village
Makati. MM

Dear Mike.

I would like to confirm a number of comments I made on the LGIF Project in the workshop on Monday and afterwards.

I think that the mainstream of this project must be on exemptible projects. I would suggest that exemption from EIA requirements should be sought as a priority: both through the programmatic EA and through the planning and design of individual projects.

It should be emphasised that the most onerous bureaucratic task which most projects will need to undertake is filling out ENFORM 1.

If the appropriate authority advises that an EIS is required I note that this proposal is rejected and subject to redesign or abandonment. I would suggest that the same action should be recommended for projects requiring a PD as well. This is not to say that EIA will not be an important part of project planning - it will be. incorporating proper environmental assessment planning in the programmatic EA and the design of standard projects for the library.

These standardised designs could be very powerful because they could include all the design features and site adaptions (in the form of design options) which would ensure the project's exemptibility. (ie have four or five designs for a satellite slaughterhouse. for example. which cover all likely site adaptions and designs and all of which would qualify for exemption from EIA.)

In the unlikely event that a PD is required and that particular configuration for the proposed development cannot be modified. then the PD procedures could be made easier by:

(i) maximising the amount of information already contained in the Programmatic EA and other pre-prepared standard documentation: and.

(ii) indicating in the annotated guidelines for the PD. those sections which could be lifted entirely from the Programmatic EA. those sections which can be adapted from information in the Programmatic EA. and those area of concern which require additional. new information.

Finally. I can advise that the question of screening proposed

developments against the list of ECAs (and ECPs, although this should not involve LGIF) is being looked at as a component of my project (SEAP).

The intention of the SEAP component is to cover the selection of ECPs, ECAs and exempted projects in a comprehensive way. For ECPs it is intended that guidelines be developed which rely as much on indications of the potential for environmental impact of projects as on the definition of project types themselves. In this way a project type not strictly defined might still be screened by the guidelines. Similarly, ECAs will be treated in the guidelines not only as defined areas but also as explanations of what ecological entities and processes are put at risk by development in the areas. The guidelines will then more easily tie in with the regional ecological profiles. Finally, the list of exempted projects has the potential to become the most important document for streamlining the EIA process. Once again exemptions will be designed to explain why, in terms of environmental impact, a certain project needs no ECC - so that informed judgment can be made by the screening authority or line agency.

The regional offices will need good screening guidelines to be able to discharge their new responsibilities under DAO 21 in an efficient and consistent manner. This SEAP component is to commence in August 1992 and completion of the first draft guidelines is due at the end of September 1992. Following a three month test period, the guidelines will be computerized.

I hope that this advise will assist in finalising your report.

Warm regards,

Neil 16 Sept 92

Neil Urwin
Team Leader
Strengthening Environment Assessment Project

Department of Environment and Natural Resources

Environmental Management Bureau

Sept. 22 1992

Comments and Recommendations on the Proposed PD Outline For LGIF Project proposed by USAID/DAMES and MOORE

1. The proposed guidelines and procedures could not be ascertained properly since EMB is bereft of guidelines for infrastructure related projects. The current practice is to require proponent to follow the general EIS annotated guidelines plus the existing policies and legislations governing infrastructure related projects, e.g. Building Code, modification of structural designs due to the 1990 earthquake, etc.

2. Most LGIF projects are of small types, hence could be exempted from the EIA requirements, however general conditions are still being imposed e.g. public markets, roads, school building, slaughterhouse and community health and facilities. Further, the proposed projects also focus on expansion or upgrading which per DAO 21 series of 1992 could be exempted depending on the scale/magnitude and the number of settlements to be affected/displaced.

3. The proposal will have the LGus as proponents. As such, they have to reconcile their environmental/ecological responsibilities as stipulated in the Local Government Code of 1991.

4. Internal policy regarding rehabilitation of infra facilities due to natural calamities/disasters are also being exempted due to some sense of urgency and public welfare/interest demands.

5. Inasmuch as the proposal doesnt intend to secure a programmatic EIS and various project components would be implemented by the qualified LGU, what is then important is to provide the LGU the basic environmental guidelines so that they would be guided in the application for ECC. What is crucial therefore, is the firming up of a clear-cut set of environmental guidelines for small-infra projects which the proposal envisions to address.

6. On the overall, the proposal could be a vital input to EMB to serve as EIS guidelines for infra-related projects, assuming management adheres to implement sucg.

SIXTO E. TOLENTINO, JR.
Head, EIA Division

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
NATIONAL MEAT INSPECTION COMMISSION

September 18, 1992

MR. MICHAEL A. ROSS
Tropical Research and Dev., Inc.
5th Floor, Adamson Center Bldg.
121 Alfaro St. Salcedo Village
Makati, Metro Manila

Dear Mr. Ross:

This refers to the draft report of the Programmatic Environmental Assesment of the Local Government Infrastructure Fund Project, particularly on the abattoir plan wherein you commented on the absence of comfort room for workers. Our planners purportedly deleted this part (comfort room) within the abattoir proper and instead construct another building for this purpose because of our bad experience in maintaining hygiene and sanitation. However, office worker will be provided with comfort room for their use in the abattoir building.

Thank you for the opportunity you gave to our office to participate in this project.

Very truly yours,

MANUEL D. ROCHA
OIC, Executive Director

The production of clean, wholesome, healthy and sound meat for food is the concern of everyone.

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APPENDIX I

NMIC EVALUATION CRITERIA FOR CLASSIFICATION OF ABATTOIR AND PROCESSING PLANT

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EVALUATION CRITERIA FOR CLASSIFICATION OF ABATTOIR AND[1] PROCESSING PLANT

Items	*Points*
A. Establishment, construction and lay out	10
B. Holding facilities and spaces for special purposes	10
C. Sanitary facilities and control	10
D. Equipment and utensils	10
E. Hygiene of personnel and meat handling practice	10
F. Eviscerating practice and requirements	10
G. Transportation	10
H. Pest Control	5
I. Proper Disposal of Condemned meat	5
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(PLUS) *FOR "AA"*

1. Refrigeration facilities	5
2. Adequate facilities for boning, cut-up, etc.	5
3. Post-mortem inspection and storage	5
4. Packing facilities	5
	20
TOTAL	100

CLASS "A"—71–80 points
"B"—61–70 points
"C"—60 points and below

A. *Establishment Construction and Layout* (10) *points*

1. Location—is it free from objectionable odors, smoke, flying ash, dust, etc.? _____
2. Size—allows enough working space? _____
3. Ventillation—is it adequate? _____
4. Lighting—natural or artificial? _____
5. Layouts and equipments—facilitates sanitary control? _____
6. Edible and inedible departments—physically separated? _____
7. Floors, walls, and ceiling—non-permeable, dust-proof, easy to clean and well drained? _____
8. Insects, birds and vermin—protection *vs.* entrance? _____
9. Sewage facilities—effective? _____

[1] Minimum is seven (7) for items each carrying ten (10) points and three (3) for the rest.

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10. Catch basins, traps, sumps,—on separate drains and easy to clean? _____

B. *Holding Facilities and Spaces for Special Purpose* (10) *pts.*

1. Size and space—enough to facilitate inspection and operations? _____
2. Lairage accommodations—covered and convenient for inspection? _____
3. Materials and construction of lairage? _____
4. Water supply—adequate with enough pressure? _____
5. Isolation pen—with or without? _____
6. Slaughter and dressing rooms—separated? _____
7. Guttery and tripery sections—separated? _____
8. Hide, hoof and horn sections—area? _____
9. Casing separate section—area? _____
10. Chilling room—suitable? _____
11. Area or room for slaughter of sick or suspect animals? _____
12. Suspect meat chamber? _____
13. Inedible and condemned meat room? _____
14. Area for meat inspector's service? _____
15. Boning and cutting rooms with proper temperature? _____
16. Refrigeration facilities? _____

C. *Sanitary Facilities and Control* (10) *pts.*

1. Separation of clean and dirty operations? _____
2. Separation of slaughtering, dressing, boning and cutting areas? _____
3. Layout suitable for meat-on-the rail to prevent carcass touching the floor? _____
4. Proper bleeding? _____
5. Water potability and adequacy? _____
6. Proper disposal system of waste water with proper drainage, vents and screens? _____
7. Lighting and ventilation? _____
8. Vermin, insect and bird control? _____
9. Wash basins facilities? _____
10. Facilities for cleaning and sterilization of shipment after each working day? _____
11. Employees facilities and welfare rooms? _____
12. Equipment for proper and meat inspection control? _____

D. *Equipment and Utensils* (10) *pts.*

1. Are equipment non-permeable, non-rust, non-toxic? _____

2. Restricted use of wooden materials? _____
3. Proper identification of edible and inedible receptacles? _____
4. Edible and inedible areas not used for boning and cutting areas? _____
5. Specific containers for boning and cutting areas only? _____

E. *Hygiene of Personnel and Meat Handling Requirement* (10) *pts.*

1. Slaughter area free from vapors, steam and excess water with thorough cleaning after work days? _____
2. Equipment and utensils cleaned and sterilized after days work? _____
3. Does the inspector checks on above before work begins? _____
4. Are equipment in contact with carcass sterilized before re-used? _____
5. Splashing on meat? _____
6. Are equipment from inedible cleaned before entering edible area? _____
7. Are deleterious substances as sanitizing agents, disinfectants washed before areas and equipment used? _____
8. Paints and any cleaning ingredients harmful to meat must not be used? _____

F. *Eviscerating Practice and Requirements* (10) *pts.*

1. No slaughter without inspectors? _____
2. Delays in slaughtering? _____
3. Complete bleeding? _____
4. Coordinated stunning, sticking, bleeding with dressing procedures? _____
5. No floor contact with carcass or head? _____
6. Sterilization of pithing instruments before re-use? _____
7. Careful dressing for clean carcass or head and edible offals? _____
8. No carcass control until examined by inspectors? _____
9. Evisceration procedures? _____
   a. Tying of bladder, bungs, oesophagus, uterus and intestines? _____
   b. Offals not to contaminate carcass? _____
   c. Spermatic cord and pizzle removed? _____
10. Carcass washed with potable water? _____
11. Carcass wiped with cloth, paper or brush? _____
12. Meat inflated with water or air? _____

13. Hide defleshing in slaughter floor? _____
14. Offals and intestines in floor contact? _____
15. Gutteries and triperies areas? _____
16. Cleaning of brisket and carcass splitting equipment? _____
17. Fecal matter trimmings on carcass? _____
18. Manner of cleanliness, standards of production and standards of inspection? _____
19. Post-mortem inspection? _____

G. *Transportation* (10) *pts.*

1. Sanitary standards for vehicles transporting meat? _____
2. Are meat and edible offals transported together? _____
3. Vehicles are cleaned before loading meat? _____
4. Carcasses, quarters and sides are wrapped and frozen and hang before transport? _____
5. Transport requirements—
   a. Vehicle designed to maintain temperature throughout the period of transit? _____
   b. Sides of transport non-corrosive, smooth and easy to clean? _____
   c. Are floor sealed effectively to prevent leakage during transport? _____
   d. Loading and unloading devices designed for each cleaning disinfection and no meat contact on floor and personnel? _____
   e. With racks and hangers to avoid floor contact? _____
   f. Special compartment for unrapped offals? _____
   g. Is frozen meat when thawed re-inspected by authorized inspectors? _____

H. *Pest Control* (5) *points*

1. Vermin proofed (rodents, birds, flies, cockroaches, etc.)
2. Are condemned or retained meat removed from the slaughterhouse without the knowledge of the inspector? _____
3. When flies are inside the establishment are insecticidal and germicidal steps undertaken for proper control? _____

I. *Proper Disposal of Condemned Meat* (5) *pts.*

1. Is there any specific container for condemned meat? _____
2. Are condemned or retained meat removed from the slaughterhouse without the knowledge of the inspector? _____
3. Are condemned meat, offals, and carcass properly disposed of to the satisfaction of the inspector? _____

APPENDIX J
CONSTRUCTION DOCUMENT REFERENCES

J-1 INSTRUCTIONS TO BIDDERS
Mt. Pinatubo Emergency-Project
Management Office (MPE-PMO)

J-2 CONDITIONS OF CONTRACT OF PARTICULAR APPLICATION
Rural Infrastructure Fund (RIF) Project

APPENDIX J-1

INSTRUCTIONS TO BIDDERS
Mt. Pinatubo Emergency-Project Management Office (MPE-PMO)

INSTRUCTIONS TO BIDDERS[1]

IB-01 INTRODUCTION

..... Among the major activities included under the ESF Program are the construction of secondary schools, public markets, rural roads, river control works, slaughterhouses and drainage works and other infrastructure projects.

This particular project for which selected qualified bidders are invited to bid calls for the CONSTRUCTION OF THE GORDON HEIGHTS II ELEMENTARY SCHOOL.

IB-03 APPLICABLE LAWS, STATUTES, ORDINANCES AND REGULATIONS

Prior to submittal of their offers, the prospective offerors are considered to have become familiar with all laws, decrees, executive orders, local ordinances, acts and regulations of the Philippines, which may affect or apply to the operations and activities of Contractors.

IB-04 SITE VISIT

..... It shall be the sole responsibility of the prospective bidder to determine and to satisfy himself by such means as he considers necessary or desirable as to all matters pertaining to the project such as: the location and the nature of the work; climatic conditions; the nature and conditions of the terrain; geological conditions at the site; transportation and communication facilities; the requirements and the availability of materials, labor, water, electric power and roads; the locations and extent of aggregate source; special requirements to avoid damages to public and private property; and other factors that may affect the cost, duration and method of construction of the work. The prospective bidder by the act of submitting his bid, acknowledges that he has inspected the Site and determined the general characteristics of the Project and the conditions indicated above. The bidder is required to submit with his bid an affidavit of site inspection.

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1 Excerpts from Invitation to Bid, Package No. OC-11, dated Sept. 24, 1991, Mt. Pinatubo Emergency-Project Management Office (MPE-PMO)

GC-06 PRECONSTRUCTION REQUIREMENTS

4) Pre-Construction Conference

Before the start of construction or immediately thereafter a pre-construction conference should be held for the purpose of setting up the guidelines and procedures for the smooth execution of the project.

1. Project organization set-ups, with definition of the lines of authority

   a) Contractor's Table of Organization
   b) Engineer's Table of Organization

2. Agreed PERT/CPM and construction schedule
3. Joint survey schedule
4. Sources of materials
5. Testing of materials
6. Right-of-way problems
7. Coordination meetings, schedule and frequency
8. Accomplishment estimates & cut-off dates
9. Reporting and monitoring
10. Clarification on application of laws like P.D. 1594 and its amendments
14. Other matters/problems of specific nature to the project that could affect construction progress

The conference should include the following:

1. Engineer's representative - Project Manager, Resident Manager

2. Owner's (MPE-PMO's) representative

3. Contractor or Contractor's representative - Project Manager

Results of the pre-construction conference shall be recorded for future reference for compliance or follow-up activities.

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GC-08 STATUES, ORDINANCES, LAWS, DECREES, AND EXECUTIVE ORDERS

The Contractor shall comply in all respects to the statutes, ordinances, laws, decrees, and executive orders which are applicable to the execution of the Contract, including the Implementing Rules and Regulations or PD 1594, as amended, and shall indemnify the Owner against all penalties and liabilities of every kind for the Contractor's breach of such statutes, ordinances, laws, decrees, executive orders, rules and regulations.

GC-10 PERMITS, LICENSES, FEES AND OTHER CHARGES

The Contractor shall secure for his account all necessary permits and licenses in connection with the Contract and bear all costs, duties, fees and other charges thereof.

The Contractor shall give all notices and pay all fees required to be given or paid to any National, Provincial, Municipal or City statute or ordinance or any local or other duly constituted authority in relation to the execution of the Permanent and Temporary Works and shall abide by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by said Works.

GC-13 FOSSILS AND OBJECTS OF VALUE

All fossils, coins, articles of value or antiquity, structures, and other remains or paleonthological, geological or archaeological findings discovered at the site shall be deemed to be the absolute property of the Government of the Republic of the Philippines without exception. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or object and shall immediately, upon discovery thereof and before removal, inform the Engineer of such discovery and carry out, at the expense of the Government, the Engineer's orders as to the treatment and disposal of the same.

GC-20 CONDUCT OF CONTRACTOR'S EMPLOYEES

The Contractor shall at all times take all reasonable precautions and steps to prevent any unlawful, riotous or disorderly conduct by or among his employees for the preservation of peace and protection of persons and property in the neighborhood of the Works. The Contractor shall comply with the Government laws, regulations and orders being enforced as regards to the use of drugs. The Contractor shall

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not allow any of his employees to work when said employees are under the influence of alcoholic drinks or drugs.

GC-21 FORCE MAJEURE AND SPECIAL RISKS

..... Rain, windstorm, or other natural phenomena of normal intensity, based on the official weather reports for the particular season of the year in which the Works are being prosecuted, shall not be construed as Force Majeure.

GC-22 SAFETY, PROTECTION, AND SECURITY

Except for the "special risks", the Contractor is solely responsible for the safety, protection and security of his personnel, third parties, the public at large, the works, equipment, installations, and the like. Accordingly, the Contractor shall comply faithfully with any and all pertinent laws, decrees, regulations, and ordinances and shall take all necessary safeguards to the end of preventing the occurrence of accidents, loss, or damage of any kind during the execution of the Works.

He shall provide, erect, and maintain all necessary and suitable barricades and sufficient warning lights, danger signals, and other signs and shall take all necessary precautions for the protection of the Works and the safety of his personnel and the public. Roads closed to traffic shall be provided with effective barricades and shall be properly illuminated at night. The Contractor shall adopt or apply these protections in accordance with the standards set by the Safety Organization of the Philippines, Inc. and the Bureau of Labor Standards. Detours shall be provided with detour signs conspicuous to motorist and the public.

Unfinished excavations, open holes, and others which may pose as dangers to the public shall be posted with warning signs and illuminated at night.

In connection with this clause, the Contractor shall, at his own expense, obtain and maintain for the duration of the Contract the following insurance coverage:

a) All Risks Builder's Risk Insurance to cover the entire works (permanent or temporary) from any and all kinds of damages and losses arising out of any cause whatsoever. This insurance shall be in the joint names of the Contractors and the Owner.

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b) Third Party Liability Insurance to cover injury or death to persons or damages to property caused by the works or by the Contractor's vehicles, tools and/or equipment or personnel. This insurance shall be in the joint names of the Contractor and the Owner.

c) Workmen's Compensation Insurance as required under the Social Security Law.

d) Other forms of insurance the Contractor may deem necessary to protect his interest and that of the Owner in connection with the contract work.

..... In addition, the Contractor shall cooperate with the Engineer in all matters pertaining to prevention of accidents. In this regard, the Contractor shall fully acquaint himself with all regulations and instructions which the Engineer may, from time to time, issue during the performance of the Contract and shall closely coordinate with the Safety Inspector or related personnel of the Engineer in order to develop an effective program to promote safety practices and procedures in the execution of the Works.

GC-23 DAMAGE TO PERSONS AND PROPERTY

The Contractor shall render harmless and indemnify the Engineer/Owner in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such matters insofar as the Contractor is responsible therefor. All operations necessary for the execution of the Works and for the construction of any temporary works shall, in so far as compliance with the requirements of the Contract permits, be carried out in order not to interfere unnecessarily or inconvenience the public in the use or access to public or private roads and footpaths or properties, whether in the possession of the Owner or of any other person.

GC-24 TRANSPORT TO AND FROM SITE

The Contractor shall inspect all possible routes to the Site with the purpose of ascertaining the safety of transporting his construction equipment and materials over public roads, bridges, culverts and other structures at the least inconvenience and discomfort to the public. If necessary, he shall strengthen these bridges and culverts and protect the roadways from possible damage during transit of his vehicles to and from the site. Where necessary, he shall construct detour roads; also, if it is necessary to cross private properties to gain entry to the Site or to the sources

of aggregates and/or other construction materials, it is the responsibility of the Contractor to negotiate with the landowners for permission to pass through.

The Contractor shall repair and maintain these temporary roads, bridges, culverts and other structures throughout the duration of the Contract or for as long as they are used by the Contractor and the Engineer/Owner. All permanent works shall be restored to their original condition upon completion of the contract.

All costs pertinent to the above shall be at the expense of the Contractor and is understood to have been included in the Total Bid Price.

Any claim or claims arising due to neglect, carelessness or failure of the Contractor to provide adequate measures for the protection, maintenance, and safety of these roads, bridges, culverts and other structures, the Contractor shall indemnify the claimants at no cost to the Owner.

GC-40 SUSPENSION OF WORKS

The Engineer through the Owner shall have the authority to suspend the Works wholly or partly by written order for such period as may be deemed necessary, due to unfavorable weather or other conditions considered unfavorable for the prosecution of the Works, or for failure on the part of the Contractor to correct work conditions which are unsafe for workers or the general public, or failure or refusal to carry out valid orders, or due to change of plans to suit field conditions as found necessary during construction, or to other factors or causes which, in the opinion of the Engineer, is necessary in the interest of the Works and to the Owner. The Contractor shall immediately comply with such order to suspend the work wholly or partly directed. .....

GC-42 CONTRACTOR'S RIGHT TO SUSPEND WORK OR TERMINATE THE CONTRACT

The Contractor shall have the right to suspend work on the Project by written notice to the Owner/Engineer if any of the following circumstances arise through no fault of the Contractor or anyone under his employ:

a. Occurrence of "Special Risks" as stated in GC-21 FORCE MAJEURE AND SPECIAL RISKS;

b. Work on the Project has to be stopped by order of higher authorities; and

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c. The Owner or Engineer fails to comply with their commitments and obligations under the Contract through no fault of the Contractor. .....

GC-43 OWNER'S RIGHT TO SUSPEND WORK OR TERMINATE THE CONTRACT

(1) Due to Contractor's Fault

The Owner at any time may terminate or merely suspend the works if the following circumstances occur: .....

c. Contractor's willful violation of any of the Contract provisions, covenants, and other conditions agreed upon.

GC-47 CLEAN-UP OF SITE UPON COMPLETION OF WORKS

Upon completion of the Works, the Contractor shall clear away and remove from the site all construction plant, supplies, materials, rubbish and temporary works of every kind and leave the site and works clean and in a workmanlike condition to the satisfaction of the Engineer.

GC-61 ENGINEER'S RESPONSIBILITIES

As provided in GC-60, the Engineer acts as the technical representative of the Owner in supervising the Contract work. The Engineer's responsibilities include the following:

1. Act in the capacity of the Works Engineer and authorized technical representative of the Owner to inspect and supervise Contractor's compliance with the terms of the Contract. .....

7. Inspect construction and ascertain that the construction conforms with the plans and technical specifications. ...

11. Furnish assistance to the Contractor in interpreting the plans or contract documents.

12. Observe and report any adverse implications and effects of construction on the natural environment and instruct the Contractor to rectify them.

13. Inspect the safety aspects of the construction works and instruct Contractor to correct any deficiencies thereof.....

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17. When appropriate under the terms of the contract, instruct the Contractor to suspend construction work.....

TECHNICAL SPECIFICATIONS

SECTION 1.0 GENERAL REQUIREMENTS

1.2.2 Demobilization

Demobilization shall include dismantlement and removal from the site of Contractor's plant, materials and equipment and all Temporary Facilities. Demobilization shall also include clean up of the site after completion of the Contract Work as approved by the Engineer and transportation from the site of Contractor's employees.

1.2.3 Temporary Facilities

Temporary facilities shall include but not be limited to the following items: .....

2) Workshops, warehouse, stockpile areas, and storage areas for materials, equipment, spares, fuel and oil. .....

4) Community facilities including potable water supply, electrical power requirements, drainage, sewerage disposal, sanitation, first aid, refuse collection, temporary fences and barricades, and fire protection facilities.

1.2.5 Safety Assurance

The Contractor shall maintain, adequate safety measures that shall prevent undue damage, injury or loss of life and property. Safety regulations of Rule XV of the National Building Code (P.D. 1096) shall at all times be observed.

SECTION 2.0 SITE WORK

2.2 Soils Investigations Work

2.2.2 Scope of Work

a) Soils investigation as called for in this specification shall be limited to test pits two (2) meters in depth with a minimum dimension of 2.0 x 1.5 meter. .....

Representative soil sampling shall be taken as directed by the Engineer from each soil layer for possible laboratory testing. Samples shall be preserved and stored in tightly sealed durable plastic bags. .....

2.3.2.2 Grubbing shall consist of the removal of tree stumps, forest growth, brush and rubbish from the work areas to be occupied by permanent structures and from other areas within the indicated clearing limits as directed by the Engineer.

1) Trees and shrubs to be retained shall be protected properly from damage. .....

2.3.3.2 Requirements .....

3) Fill and backfill. Fill and backfill material shall consist of suitable materials from excavation or from approved borrow areas .....

6) Grading. ..... Finish grading shall be accomplished so as to readily drain into the drainage facilities or adjacent natural drainage areas, without the formation of pockets in which water will stand. .....

9) Disposal of surplus excavated materials. Any surplus material from excavation and grading operations shall be disposed of and spread in spoil areas designated by the Engineer except for materials classed as rubbish and debris, which shall be disposed of in dumps and in burning areas. Excavated material deposited in the spoil area shall be graded to a reasonably uniform surface.

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2.3.6 Soil Poisoning

The work includes furnishing and applying soil treatment for termite control.

2.3.6.1 Material. The material to be used in the application of soil treatment shall be "Chlordane", 2% concentration of any approved equivalent.

2.3.6.2 Application. Mixing and application of termite control solution shall be in accordance with the manufacturer's recommendation subject to the approval of the Engineer.

1) Under slab on fill - 12 liters per square meter.

2) Along perimeter of slabs and under expansion joints - 12 liters per linear meter of 0.30 meter wide strip.

3) Foundations and Footings - 36 liters per linear meter per meter of depth from finish grade.

TECHNICAL SPECIFICATIONS

3.2.5 Fine Aggregates

..... The use of beach sand shall be prohibited. .....

15.10 Septic Tank

The Contractor shall construct the septic tank in such like manner, size and dimension based on the detailed plans. Septic tank shall be constructed into two chambers; the primary sedimentation chamber which serves as a digestion chamber and the final sedimentation chamber which receives the overflow water from the digestion chamber. The effluent from the final sedimentation chamber shall be discharged to the nearest catch basin of storm drainage system. In some cases/or as shown on the detailed plans, the final sedimentation chamber will be designed as leaching chamber (i.e. with open bottom/flooring and provided with gravel for leaching.

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APPENDIX J-2

CONDITIONS OF CONTRACT OF PARTICULAR APPLICATION
Rural Infrastructure Fund (RIF) Project

CONDITIONS OF CONTRACT OF PARTICULAR APPLICATION[1]

INTRODUCTION

These Conditions of Contract of Particular Application, shall be read in conjunction with the DPWH Standard Specification, Series of 1988, Volume I - Requirements and Conditions of Contract for Works for Civil Engineering Construction, the clauses of which shall apply unless amended or otherwise modified by addition and/or deletion or substitution, as summarized in the following provisions.

PART J - PROSECUTION AND PROGRESS

Add the following new clause:

Clause 120, Dangerous Materials

The Contractor and his subcontractors shall convey, store and make use of all explosives, petroleum, acetylene, carbide or calcium and other similar dangerous materials provided by them for use in or on the Works in strict accordance with the provision of all laws, Orders and Regulations that are in force at the Site or may be issued from time to time by the Government.

SPECIAL TECHNICAL SPECIFICATIONS

INTRODUCTION

These **SPECIAL TECHNICAL SPECIFICATIONS**, shall be read in conjunction with the DPWH Standard Specifications, series of 1988 Volume II - Highways, Bridges and Airports, the clauses of which shall apply unless amended or otherwise modified by addition and/or deletion or substitution, as summarized in the following provisions.

The numbering of items follows the numbering used in the above referenced Standard Specifications that is from Part A through Part I.

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1 DPWH, 1991. Rural Infrastructure Fund (RIF) Project, Volume III Special Provisions: Conditions of Particular Application, Special Technical Specifications. Prepared by Louis Berger International, Inc. and TCGI Engineers (USAID Project No. 492-0420)

2.4 TEMPORARY UTILITIES AND SERVICES

2.4.3 Waste and Rubbish

2.4.3.1 Provide regular daily cleanup and removal of trash, waste, construction debris, etc. from Site and Temporary Work Yard.

2.4.3.2 Disposal of waste and rubbish to disposal areas shall be arranged by the Contractor.

2.6 CONSTRUCTION SAFEGUARD

2.6.1 Trenches intersecting thoroughfares shall be provided with bridges or other crossings suitable for safety carrying the type of traffic involved with railings as necessary.

2.6.2 Open shafts, opening in floors, ramps, platforms and other such conditions shall be protected by sturdy barricades or railings.

2.6.3 Scaffolds, ladders, ramps, hoists, and other facilities shall be provided, maintained and operated as necessary.

2.6.4 Storage and shop areas shall be provided, arranged and maintained at approved locations as necessary to properly store, handle and fabricate the various materials and equipment required.

2.10 DEMOLITION OF EXISTING STRUCTURES

2.10.1 Temporary Work shall include demolition or removal of existing curb structures to ground level, legal disposal of debris and materials, including the following requirements:

2.10.1.1 During time of work, Contractor shall not interfere with shipping and navigation or other traffic.

2.10.1.2 Keep all pavements and areas leading to and from the site clean and free of mud, dirt and debris at all times and sufficiently passable to vehicles and pedestrians.

2.10.2 Temporary Works, however, do not include removal of shanties or relocation of squatters dwellings as this matter is under the responsibility of the Government (Department of Public Works and Highways).

8.0 FOSSILS AND OBJECTS OF VALUE

All fossils, ruins, relics, coins and artistic or antique object of any nature and value discovered during the performance of the Contract Works belong to the Republic of the Philippines. The Contractor upon delivery of such objects, shall immediately inform the Engineer, and pending such action on his part, shall take all indicated measures, including suspension of any affected part of the Contract Work, for preserving instant and guarding said objects. No rights whatsoever shall accrue to the Contractor and no compensation of any nature shall be due to him for the discoverer shall devolve exclusively to DPWH.

9.0 CONTRACTOR'S CAMP

The Contractor shall make provisions for the housing, feeding and welfare of his employee, by maintaining a Camp Site on the Sites approved by the Engineer or by other approved means.

The accommodations shall comply with the appropriate Government regulations. All buildings shall adequately be equipped and furnished. The Contractors shall also construct and maintain adequate roads or paths to all the buildings.

The Camp shall be ran and maintained in accordance with the Standards of the appropriate Authority. All buildings must be opened for inspection of officers of Public health Authorities and any instruction given for the proper cleaning, disinfection and general maintenance in a sanitary and hygienic conditions must forthwith be carried out by the Contractor. The Contractor shall provide transport for his employees between his camp and the Site, as necessary.

10.0 SANITATION AND MEDICAL ARRANGEMENTS

The Contractor shall maintain a high Standard of Sanitation in the Camp and the Works. He shall construct and maintain at his own cost a system of surface drainage and waste disposal. Sanitary conveniences for the use of persons employed in the Works shall be provided and maintained by the Contractor at his own cost in accordance with regulations enforced in the Philippines to the extent and in such manner and at such places as may be approved by the Engineer, and all persons connected with the Works shall be obliged to use them.

B.3 Mobilization and Demobilization

b) Demobilization shall include the removal of all Construction plant and equipment from the Site and the Cleaning up of all areas of work as provided by the Contract.

.. .. It shall include the legal removal and disposal of debris and materials not incorporated with the contract work prior to Contractor's moving out from the project.

PART C - EARTHWORK

100.2.4 **Grubbing**

..... Materials not used as topsoil or sodding shall be disposed of at locations as directed by the Engineer.

..... All unsuitable materials shall be wasted and respread at locations specified and in a neat and orderly way as agreed by the Engineer.

ITEM 102 - EXCAVATION

102.1.2 **Borrow Excavation**

..... No borrow will be allowed inside the right-of-way in the following areas:

> Areas of small village, groups of buildings, near schools, churches or government offices which would produce an undesirable appearance. .....

The Contractor shall make arrangements for obtaining any material outside the right of way and he will be fully and solely responsible for the expenses incurred and any legal consequences resulting from the use of these borrow areas.

The Contractor shall take all necessary precautions to prevent erosion or other damages that may affect of endanger the embankment and any ground neighboring borrow pits or side borrow.

..... On completion of the excavation of borrow pit material, the Contractor shall leave the borrow pit in a neat and tidy condition. Where borrow pits are required to be drained, the Contractor shall complete this work at his own expense in a manner approved by the Engineer.

102.2.9 **Removal of Unsuitable Material**

Add the following to this Clause:

Materials below the natural ground surface in embankment areas, basement materials below the grading plane in excavation areas, material obtained from excavation of ditches and temporary channel excavation and material from any other excavations within the limits of earthworks that is unsuitable for the planned use shall be excavated and disposed of as directed by the Engineer.

The disposal of unsuitable material may include, but not necessarily be limited to the following.

a) Used for filling-in ditches and channels not required in the works outside of the earthwork limits.

b) Filling-in of holes, depressions, ponds, etc. outside of the earthwork limits.

c) Spread evenly in layers which shall not exceed 30 cms. at locations where so directed by the Engineer.

d) Removal and haulage to disposal sites outside of the right-of-way.

The Contractor shall take all necessary precautions to prevent any interference with natural drainage or irrigation flow during the disposal of unsuitable material.

When any excess materials including unsuitable material from excavation are to disposed of outside the right of way, the Contractor shall first obtain a written permit from the property owner of the proposed disposal site. He shall submit to the Engineer the said permit or a certified copy thereof together with a written release of the property owner absolving the Employer from and all responsibility in connection with the disposal of materials on his property.

APPENDIX K

NATIONAL MUSEUM ARCHAEOLOGICAL RESOURCE MANAGEMENT MANUAL

NATIONAL MUSEUM ARCHAEOLOGICAL RESOURCE MANAGEMENT MANUAL
NATIONAL MUSEUM, MANILA, PHILIPPINES

ARCHAEOLOGICAL RESOURCES

Archaeological resources consist of the physical remains of past human activity. These resources may be of regional, provincial, national or international significance. The scientific study of these remains, through the methods and techniques employed in the discipline of archaeology, is essential to the understanding and appreciation of prehistoric and historic cultural developments in the Philippines.

Some examples of archaeological rersources include:a 500 000 year old kill site in Cagayan Valley, a 10th century habitation site in Butuan City and an 18th century shipwreck in the waters off Basilan Island.

INTRODUCTION

This MANUAL is an outline of the National Museum's Archaeological Impact Assessment Policy envisioned to apply principally to development projects which, by virtue of their scale, location, extent of impact, administrative or jurisdictional complexity, or other factors, are subject to the Philippines'Environmental Policy (P.D.1151).

An important characteristic envisioned for the Guidelines is their flexibility. They will not be intended to be used as a "cookbook" approach to all development projects. Although certain categories of information are needed for decision making, each archaeological study must be adapted to meet specific project characteristics and needs.

The extent of work, particularly in the preliminary stages of project planning, needs to be coordinated with the proponent's level of commitment to the project. Depending on the project, considerable flexibility can be expected in the staging of impact assessment and management studies, the level of detail at which these studies are undertaken, and the reporting requirements.

Archaeological assessment and review procedures are under continual evaluation, and may be modified or altered as the national government's overall environmental impact assessment and review process evolves.

LEGISLATION AND ADMINISTRATION

Republic Act 4846, as amended by P.D. 374, otherwise known as the "Cultural Properties Preservation and Protection Act" provides for the protection of archaeological resources of the Philippines. This legislation applies to archaeological sites whether they are located on public or private land. Underwater archaeological sites are, likewise, protected by the Act.

In accordance with the Act (Section 12) archaeological sites may not be explored, excavated or altered without the prior written authority from the Director of the National Museum. All explorations, excavations, or diggings on government and private property for archaeological and historical purposes shall be undertaken only by the National Museum, or any institution duly authorized by the Director of the National Museum.

"Site surveys" or "site investigations" are undertaken on land/seabed which may contain archaeological sites that are in danger of being damaged or destroyed. The purpose of a site survey is to assess the archaeological significance of land or other property. Site survey determines the presence of archaeological sites which warrant protection, or are already protected under the Act. A site investigation is undertaken in order to recover information which might otherwise be lost as a result of site alteration or destruction.

NATIONAL MUSEUM

Management of the country's archaeological resources is vested by law (R.A. 4846; P.D. 374) in the National Museum.

Archaeological sites are valuable national resources, as are mineral deposits, arable land, forests, and fish and wildlife. In addition to their scientific and public value, archaeological sites may also have economic value to the country's recreation and tourism industries The protection of significant archaeological sites so that their intrinsic values may be realized is important. However, the use of land for this purpose must often be compared with other viable uses the land base is capable of supporting.

OBJECTIVES

The role of the National Museum is not to prohibit or impede land use and development, but rather to assist the development industry, the regional and provincial authorities, and municipalities in making decisions which will ensure rational land use and development.

When the benefit of a project are sufficient to outweigh the benefits of archaeological preservation, the National Museum's primary concern is to work with the proponent in determining how the project may be implemented with minimal archaeological resource loss and minimal effect on the devlopment. Where the loss of significant archaeological values cannot be avoided, the role of the Museum is to ensure that appropriate compensatory measures are implemented.

The following objectives reflect archaeological resource management policy in the Philippines:

- to ensure that potential impacts on archaeological resources are assessed and managed through active participation in review and approval processes of environmental impact statement;

- to assist public and private sector management and development agencies in the design and implementation of effective integrated resource management plans;

- to manage archaeological resources through administration of the "Cultural Properties Preservation and Protection Act";

- to assist other resource Departments and non-governmental orgahizations in promoting the conservation, development and public appreciation of archaeological resources;

In managing archaeological resources, the National Museum endeavours to develop a cooperative relationship with project proponents.

ARCHAEOLOGICAL IMPACT ASSESSMENT AND REVIEW PROCESS

INTRODUCTION

Archaeological impact assessments are initiated in response to proposed development projects which will disturb or alter the landscape, thereby potentially endangering archaeological sites. Major development projects of this nature normally proceed through four general stages of project planning: pre-feasibility or prospectus; feasibility or preliminary planning and design; final design, licensing and approval; and project implementation and operation. At each stage in this general planning process, a particular type of archaeological investigation is undertaken to meet specific project objectives and needs.

The archaeological assessment process is comprised of two principal components: assessment and impact management. Assessment is primarily concerned with the location and evaluation of archaeological resources, and the assessment of impacts during the initial stages of project planning. Impact management follows directly from assessment and is primarily concerned with managing unavoidable adverse impacts as well as unanticipated impacts. It is important to recognize that the assessment and impact management stages are approached sequentially in association with specific levels of project planning. Moreover, each new stage in the process is highly dependent upon results and recommendations made in the preceding stage.

ROLES AND RESPONSIBILITIES

The main participants on the archaeological assessment process include:

- project proponents;
- EIA consultants;
- the National Museum (DECS)
- the Environmental Management Bureau (DENR).

Project Proponents and Consultants

Proponents are encouraged to consider archaeological concerns in their project planning and design from the outset.

This will minimize scheduling and budget difficulties at later stages. As participants in the archaeological assessment process, proponents are responsible for:

- complying with all orders and permits under the "Cultural Properties Preservation and Protection Act";

- implementing assessment and impact management studies; and

- reporting the results of these studies to the National Museum.

Archaeological assessment and management studies are conducted at all stages of project planning. The proponents should contract the services of a professional archaeologist/ archaeological consultant.

Qualified consultants should be concerned with designing research strategies, conducting archaeological impact assessment and management studies, and recommending courses of action. The responsibility for final decisions concerning the management of archaeological resources is vested with the National Museum.

NATIONAL MUSEUM

The National Museum exercises various responsibilities that include:

- establishing impact assessment and management guidelines, professional standards, and reporting requirements;

- preparation of exploration/excavation permits, clearances for projects pursuant to the "Cultural Properties Preservation and Protection Act";

- reviewing development proposals to determine the proponent's required level of involvement in the archaeological assessment process;

- providing guidance or direction to the proponent throughout the archaeological assessment process;

- monitoring field aspects of archaeological impact assessment and management studies for compliance with terms and conditions of RA 4846 and PD 374;

- reviewing reports and research proposals for relevance, completeness and objectivity; and

- establishing terms and conditions for project approval.

THE ENVIRONMENTAL MANAGEMENT BUREAU (DENR)

This office provides general direction and coordination of the country's overall environmental assessment and review process. This office works directly with the proponent and the National Museum to clarify requirements or provide general advice on assessment and review procedures at various stages in the approval process. They also coordinate review comments, advice or queries the Museum may have regarding a proponent's archaeological assessment and management studies.

Small-scale developments, such as residential subdivisions and oil and gas exploration, are often directly referred to the Museum by approving officers for agencies such as the Department of Public Works and Highways, the Bureau of Mines and Geo-Sciences and the Department of Energy.

REVIEW PROCEDURES

The Museum may conduct three or four formal reviews for major project developments. The first involves an examination of the proponent's inital development proposal or "prospectus" to determine whether further involvement in the archaeological assessment process is required. Therefore, the "prospectus" should include an archaeological overview. The second, third and fourth reviews, if necessary, are to evaluate the overview (where not covered in the prospectus), inventory, and impact assessment reports.

Archaeological assessment reports should be received by the Museum as early as possible in the project planning process. Early Museum review will provide maximum lead time for correcting report deficiencies and planning and implementing subsequent archaeological investigations, and will also minimize possible expense and delay to the proponent. Where report deficiencies are identified, the Museum may request that these be rectified immediately or, depending on the nature of the deficiency, in a following stage of the assesment process.

Unless the proponent demonstrates otherwise, final reports received by the National Museum are considered public information.

OVERVIEW

The archaeological overview report is intended to identify and assess archaeological resource potential or sensitivity within a proposed development area. Identification of options concerning the appropriate methodology and scope of work for inventory and/or impact assessment studies is also expected.

Overview studies should include:

- a backgbround library and records search of archaeological and historical documents pertinent to the study area;
- a statement of archaeological resource potential and distribution in the study area;
- a judgmental assessment of anticipated impacts in light of proposed development plans; and
- identification of a "preferred" project alternative (where applicable), as well as recommendations for further archaeological impact assessment studies.

Overview studies are particularly important with respect to large-scale development projects such as hydro-electric dams, transmission lines, pipelines, open-pit mines, etc. More site-specific projects such as residential subdivisions, manufacturing plants, port facilities, etc., may effectively combine the overview with an inventory study.

INVENTORY

The inventory study involves a program of in-field identification and recording of archaeological resources within a proposed development area. The nature and scope of this type of study is defined primarily by the results of the overview. In the case of site-specific developments, direct implementation of an inventory study may preclude the need for an overview.

There are a number of different methodologies which may be utilized in conducting inventory studies. The proponent and/or his archaeological consultant must develop an appropriate study plan for the proposed inventory. The Museum will review and comment upon the proposed methodological approach prior to implementation.

SURVEILLANCE/MONITORING

Surveillance and/or monitoring programs are generally necessary when impact assessment studies have recommended the implementation of resource management measures designed to protect archaeological resources during project construction. These programs are also implemented where archaeological resources are considered to have a high probability of occurring in a proposed development zone, but are not likely to be identified through an inventory study (e.g. deeply buried sites). Therefore, surveillance and monitoring are designed to ensure compliance with impact management requirements, as well as the implementation of emergency management measures should archaeological resources be unexpectedly uncovered during the course of the development process.

IMPACT ASSESSMENT

Impact assessment studies are only required where potential conflicts have been identified between archaeological resources and a proposed development. These studies require a detailed description of the particular archaeological resource to be adversely affected, as well as an assessment of the nature and extent of the impacts expected. The purpose of the assessment is to provide recommendations as to the most appropriate manner in which the resource may be managed in light of the identified impacts.

Management options may include:

- alteration of proposed development plans to avoid resource impact;
- mitigative studies directed at retrieving resource values prior to impact; or
- compensation for the unavoidable loss of resource values.

There are a variety of procedures which may be useful in performing an impact assessment. The proponent and/or his archaeological consultant must develop an appropriate assessment proposal to be submitted to the Museum for review prior to implementation.

MITIGATION/COMPENSATION

Studies involving mitigation and/or compensation are only undertaken in situations where unavoidable conflicts between archaeological resources and a proposed development are identified. The nature and extent of these studies would have been determined in the impact assessment.

In the case of mitigative management, some form of systematic data recovery, analysis and interpretation of specific archaeological resources will be involved. The proponent and/or his archaeological consultant will be required to submit a detailed research proposal to the Museum prior to initiating these studies.

APPENDIX L

PROPOSED ANNOTATED PROJECT DESCRIPTION OUTLINE

PROPOSED ANNOTATED PROJECT DESCRIPTION OUTLINE
(Small Scale Public Infrastructure Projects)

Important: All information in this document shall serve as the basis of the Environmental Compliance Certificate (ECC) conditions.

1.0 NAME AND ADDRESS OF PROJECT PROPONENT

Name of Project Proponent _____
Address _____
Telephone Number _____ Fax Number _____

Name of Contact Person _____

2.0 TYPE AND PURPOSE OF THE PROJECT

2.1 Title of the project _____

2.2 Address/location of project

_____
_____
_____

2.3 Type of project

	Building Area (m^2)	Alignment Length/Width (m)
public market	_____	_____
slaughterhouse	_____	_____
school building	_____	_____
road, street, or bridge	_____	_____
other: (specify) _____	_____	_____

2.4 Is the proposed project considered as a replacement or an upgrade of an existing facility or alignment?

____ Yes ____ No

2.5 Does the proposed project involve a new location or alignment?

____ Yes ____ No

2.6 What is the estimated cost of the proposed project?
₱_____

2.7 Please provide a brief narrative of the need for the project and the anticipated benefits to be realized as a result of the project's implementation.

_____
_____
_____
_____

3.0 LOCATION AND AREA TO BE COVERED BY THE PROJECT

3.1 Identify the existing land use of the project site/alignment

____ agricultural
____ residential, human settlement
____ commercial, industrial
____ underdeveloped (e.g. forest, brush/cogonal, wetland areas)

3.2 What is the official land use zoning of the project site/alignment

____ agricultural
____ residential, human settlement
____ commercial, industrial
____ other, please identify _____
____ no land use zoning currently exists for the area

3.3 Identify the general topography of the project site/alignment

____ level
____ gently sloping
____ steeply sloping
____ mountainous

3.4 What is the common soil type(s) of the project site/alignment

____ rocky
____ sandy
____ loam
____ clay

3.5 Identify the nearest waterbodies (swamps, rivers, lakes, coastal areas) and approximate distance(s) from the project site/alignment.

Name of waterbody	:	Approximate distance (m)
_____	:	_____
_____	:	_____
_____	:	_____
_____	:	_____

3.6 Attach the following to this Project Description:

3.6.1 A Vicinity Map indicating the location of the project site and showing existing land-uses and zoning classifications of the site and its surrounding. The vicinity map should cover a minimum 100 meter radius/distance from the project site/alignment. The Vicinity Map should also show the location of noise-sensitive facilities (e.g., hospitals, schools, churches, etc.).

3.6.2 A proposed Site Development Plan showing the project lot area boundaries and dimensions of proposed improvements within the project site. The proposed Site Development Plan should be drawn to scale and include colored photographs of the site or alignment.

3.6.3 The Locational Clearance (LC)/Certificate of Zoning Compliance (CZC)/Locational Viability (LV) from the Deputized Zoning Administrator (DZA) or from the regional office of the Housing and Land-use Regulatory Board (HLURB).

3.6.4 Endorsements from the Local Development Council and affected community organizations/ individuals to indicate the level of social acceptability of the proposed project.

4.0 PROJECT CYCLE

Provide a schedule (such as a bar chart) indicating the type and time frame of proposed construction activities to be undertaken by the project proponent.

5.0 IDENTIFICATION OF ENVIRONMENTAL IMPACTS

Construction

5.1 Will soil excavation/earthworks be involved during the proposed project?

____ Yes ____ No

If yes, what is the estimated volume of required soil excavation/earthworks of the proposed project?

____ less than 100 m^3
____ between 100 m^3 and 1000 m^3
____ more than 1000 m^3

5.2 Based on available information, including interviews with key informants (e.g., long-term residents, local officials, research institutions and museums), is the project site/alignment considered a potential archaeological and/or culturally sensitive area?

____ Yes ____ No ___ No information available

5.3 Will the proposed project involve the demolition of existing structures within and/or around the immediate vicinity of the project site/alignment?

____ Yes ____ No

5.4 Will the construction of the proposed project involve any <u>temporary</u> dislocation of present occupants and/or livelihoods?

____ Yes ____ No

If yes, state estimated number of dislocatees

____ residences
____ total number of residents
____ business establishments
____ total number of employees

Operations

5.5 Will solid wastes be generated during the operation of the proposed project?

____ Yes ____ No

If yes, describe the types of solid wastes

_____

_____

Estimated quantity of solid wastes (kg/day)_____

5.6 Will liquid wastes (effluents) be generated during the operation of the proposed project?

____ Yes ____ No

If yes, describe the types of liquid wastes/effluents.

_____

_____

Estimated volume of liquid wastes (liters/day)_____

5.7 Will the proposed project <u>permanently</u> dislocate existing occupants and/or livelihoods?

____ Yes ____ No

If yes, state estimated number of dislocatees

____ residences
____ total number of residents
____ business establishments
____ total number of employees

6.0 ENVIRONMENTAL MANAGEMENT MEASURES

Construction

6.1 Will spoils (excess soil materials and debris) be generated during construction?

____ Yes ____ No ____ Maybe

6.2 Will erosion control measures, silt containment and/or slope stabilization measures be included in the project?

____ Yes ____ No ____ Not applicable

6.3 Will a relocation and/or compensation program be provided potential dislocates affected during construction?

____ Yes ____ No ____ Not applicable

6.4 Will areas disturbed during construction, such as cut slopes and borrow sites, be rehabilitated?

____ Yes ____ No ____ Not applicable

Operations

6.5 Will a solid waste management program be provided to dispose of solid wastes generated during the project's operation?

____ Yes ____ No ____ Not applicable

6.6 Where will the generated wastewaters be discharged?

____ into a local drainage system (canal, storm drains)
____ directly into a nearby waterbody (river, lake, coast)
____ into a septic tank
____ into a wastewater treatment pond

6.7 Will a relocation and/or compensation program be provided to persons and/or livelihoods which will be permanently dislocated as a result of the project?

____ Yes ____ No ____ Not applicable

7.0 SIGNATURE OF PROJECT PROPONENT OR PERSON(S) PREPARING THE PROJECT DESCRIPTION

Attach a notarized statement of the person(s) who prepared the project description together with their corresponding signatures and qualifications, and signify therein that the information provided are factual and true. Any discovery of misrepresentation of information can be a basis for the rejection of the PD or nonissuance of the ECC.

Note: Submit four (4) copies of this document to the DENR.

APPENDIX M

LIST OF PREPARERS

NANIEL V. ARAGONES, ENVIRONMENTAL SPECIALIST

Mr. Aragones holds master degrees in Fisheries Biology from the University of the Philippines, Diliman and in Tropical Coastal Zone Management from the University of Newcastle upon Tyne, United Kingdom. He has completed research on reef fishes and related coastal resources with an emphasis on the impacts of development projects on the coastal zone. He has been extensively involved in environmental impact assessments within the Philippines, involving activities as varied as an agro-processing facility and fish port in General Santos City, South Cotabato; the mining operations of the Atlas Consolidated Mining and Development Corporation in Toledo City, Cebu; coastal zone management, pollution management appraisal, and risk assessment for the urban and industrial environmental management project, and a report on the environmental profile of the Philippines.

MITO M. BESSALEL, PE, ENVIRONMENTAL ENGINEER

Mr. Bessalel holds a degree in Civil Engineering from the University of Buenos Aires, Argentina. He is a registered Civil Engineer in the US states of Maryland, New Jersey and Pennsylvania. His most recent work included the preparation and delivery of a series of workshops on Solid Waste Management for managers in Quito, Ecuador, and the sanitation studies for five cities of the Ivory Coast, Africa. In a previous assignment to the Philippines, Mr. Bessalel served as a consultant on the project identification document for the USAID-funded Industrial Environmental Management Project (IEMP).

WILFRIDO C. PALARCA, ENVIRONMENTAL PLANNER

Mr. Palarca has a master's degree in Environmental and Urban/Regional Planning and a B.A. in Sociology-Anthropology. He has over 10 years of consulting experience in area of planning, resource development, land policy and program monitoring and evaluation. His latest assignments include the preparation of a coastal area management plan for ICLARM and an agro-industrial development area study in Western Pampangas, both USAID-funded. Mr. Palarca is co-author of the book Pathways to Decentralization and contributed an article on project sustainability in the Journal of Countryside Development (Development Academy of the Philippines).

METODIO PALAYPAY, MD, PUBLIC HEALTH SPECIALIST

Dr. Palaypay has a degree in Medicine from the University of the East, Ramon Magsaysay Memorial Medical Center and is an Associate Professor and medical staff member of the University of the Philippines Health Service. He has 25 years of extensive work on

sanitation as community health practitioner and has been a trainor/consultant for various private and government units on environmental sanitation, pest management, waste management and zero-waste technology training seminars. He is at present chairman of the Waste Recycling Experiment of the University of the Philippines. He has also been the recipient of various awards on community health and sanitation.

MICHAEL A. ROSS, ENVIRONMENTAL TEAM LEADER

A resident of the Philippines for over ten years, Michael Ross holds a B.A. in Aquatic Biology from the University of California, Santa Barbara, and has contributed to the study of coral reefs and related coastal resources of the country. His publications range from coral taxonomy and community structure, to coral fisheries and environmental assessment of development impact on coastal zones. In a management role, he has implemented projects as varied as Small Island Community Development Project (USAID-A.Soriano Foundation funded; Cuyo, Palawan) to operation of the privately-owned Bohol Beach Club, in Bohol. Recent environmental assessment assignments include the Rural Infrastructure Fund (RIF) Project and the Philippine Assistance Program Support (PAPS) program, both USAID-funded.

ROGER E. WELLNER

Mr. Wellner holds a Certificate in Mechanical Engineering and has 18 years of experience in the design, fabrication, project management, installation of equipment and systems, commissioning in the fields of water and wastewater treatment and all other facets of liquid/solids separation in general process industries. He has also been involved in technical training in sewage treatment and industrial wastewater treatment of endusers and equipment representatives. As Vice President for operations of Elwe Trade Services Inc., he has done extensive consulting services on mechanical and sanitary design services for both private and government sectors, and projects involving design, supervision, and planning of special water and wastewater systems.