

FINAL REPORT

CONSULTING SERVICES
FOR THE STUDY ON PROBLEM ALERT INDICATORS

AND

SETTING-UP A SYSTEM TO TRACK ON-GOING PROJECTS
INCURRING COST / TIME OVERRUNS AND
CHANGES IN CONFIGURATION

PROJECT MONITORING STAFF
TECHNICAL RESOURCES PROJECT
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

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CEST, INC.
CONSULTANTS FOR ENGINEERING, SCIENCE & TECHNOLOGY, INC.
10th FLOOR, STRATA 200 BLDG. EMERALD AVE., PASIG BAY

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SECTION 1

INTRODUCTION

1.1 Background

CEST, Inc. has been commissioned by NEDA, through the Project Monitoring Staff (PMS), to undertake a study on: (a) problem alert indicators for ongoing projects; and (b) setting up of a system to track ongoing projects incurring cost/time overruns and changes in configuration. The study, including the installation of the system and preparation of an operations manual, is expected to be finished within a period of five months. The detailed activities and major outputs of the Consultant are shown in the study work plan (FIGURE 1-1).

As indicated in the Terms of Reference for the consultancy engagement, the study is made up of two major phases, i.e., (1) Development of Framework and Model and (2) Design, Development and Implementation of the System.

FIGURE 1.1
 WORK PLAN (Adjusted Schedule)
 STUDY ON ALERT INDICATORS AND SETTING UP OF
 MONITORING/TRACKING SYSTEM

| TASK NO. | ACTIVITIES | July | | | | | | | | | | | | | |
|----------|---|------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | E. SYSTEM INSTALLATION AND TESTING | | | | | | | | | | | | | | |
| E-1 | Install the system and train users on its use and maintenance. | | | | | | | | | | | | | | |
| E-2 | Ensure that the installed system is workable and should be tested for at least three (3) reporting cycles before final documentation. | | | | | | | | | | | | | | |
| E-3 | Document all steps of the system development process and prepare operations manual and Prepare Final Report | | | | | | | | | | | | | | |

LEGEND:
 Schedule 
 Actual 

Phase I is composed of the following major tasks:

- a. Review of the present project administration, management, monitoring and evaluation for ongoing projects of PMS, oversight agencies and selected implementing agencies;**
- b. Prepare recommendations on needed policy reforms, modification or design of new system, training needs, equipment requirement, organizational structure, etc. based on findings of the review and in consultation with PMS personnel;**
- c. Recommend appropriate alert indicators concerning financial, physical and other aspects of implementation for each project type, together with acceptable level for identifying problematic projects, to include frequency of reporting/data generation; and**
- d. Formulate, in consultation with PMS staff, the framework, method and guidelines for tracking the progress of project implementation that includes a mechanism for early detection of implementation-related problems, i.e., cost/time overruns, delays due to procurement of goods and services, procedures in**

ROW acquisition, contract bidding, disbursement of funds and other related issues using the identified set of alert indicators.

Phase II consists of the following major tasks:

- a. Identify and recommend areas for modification and improvement in the present monitoring and evaluation system (both hardware and software);**
- b. Design a computer-based system for tracking projects incurring cost/time overruns and changes in configuration;**
- c. Determine functional requirements of the system, define inputs and outputs, data requirements and processing functions, determine resource requirements and prepare an implementation schedule;**
- d. Develop, test and debug an appropriate computer program preferably using FOXPRO 2 to run under the LAN environment;**
- e. Install the system and train users on its operation and maintenance;**

- f. Document all steps of the systems development process and prepare an operations manual.

In pursuit of the above tasks and the objectives of the study, a review of the existing organizational arrangements and systems and procedures for project monitoring and evaluation was undertaken. The review also dwelt on new requirements for monitoring in the light of recent developments such as the need to come up with problem alert indicators useful in the early detection of critical issues and problems so that timely corrective actions are instituted. This is primarily aimed at averting costly implementation delays and ensuring the realization of expected benefits.

1.2 Objective and Scope of Review

The Review sought to assess the overall effectiveness of NEDA's project monitoring and evaluation system as a tool that can contribute in effecting a general improvement in the management and implementation of development programs and projects, in the process, optimize the utilization of loans and GOP funds. This is to be attained through the continuous feedback of timely and accurate information on the progress of project implementation, highlighting actual and anticipated bottlenecks that need the intervention of concerned higher

authorities.

More specifically, the Review has the following objectives:

- 1. Analyze the strengths and weaknesses of the present NEDA's organizational set up for project monitoring and evaluation;**
- 2. Assess the responsiveness of the existing monitoring system in meeting the information requirements of its major users such as the ICC, NEDA Board and donor agencies;**
- 3. Analyze the PMS' linkages with other monitoring bodies and oversight agencies;**
- 4. Identify developments and issues that necessitate modifications and/or reorientation in the existing project monitoring and evaluation system; and**
- 5. Recommend measures to strengthen the present organizational set up as well as the present system for project monitoring and evaluation, including the formulation of problem alert indicators and tracking of project cost/time overruns.**

1.3 Methodology

The study made use of both primary and secondary data. Major sources of secondary data include progress reports submitted by implementing agencies, studies conducted by PMS, Aide Memoire prepared by PMS for implementation reviews, reports of CCPAP, monitoring system manuals, laws and other issuances relevant to project monitoring, and communications to and from NEDA relative to project implementation issues. APPENDIX A shows a list of secondary data sources.

Primary data gathering consisted mainly of interviews with key staff of PMS and other NEDA units, key people from selected implementing agencies, senior staff of CCPAP, OECF consultants in NEDA, and officials of donor agencies such as USAID and ADB. APPENDIX B shows a list of people interviewed by the Project Team.

SECTION 2

MAJOR FINDINGS

2.1 Nature of Implementation Problems

The range of problems encountered in the implementation of development programs and projects of various sectors in the Philippines has been adequately documented. TABLE 2.1 is one such list of implementation problems. They range from problems which are within the capacity of project management to resolve, to those problems whose solutions are beyond the control of project management and the resolution of which involve actions of other agencies or higher level authorities including the NEDA Board, Cabinet and the President.

Over time, there has been a decline in the number and magnitude of major implementation problems as a result of policy measures and improvement in bureaucratic procedures instituted in response to issues/problems that have been raised to policymakers. For instance, the authority to approve contracts in various line departments have been decentralized, NEDA waived its authority to review consultancy contracts, procedures in the release of funds were simplified, and COA lifted its pre-audit of government transactions.

TABLE 2.1
LIST OF COMMON PROJECT IMPLEMENTATION PROBLEMS

| STAGE | DESCRIPTION |
|--|--|
| 1. Loan Effectivity | <ul style="list-style-type: none"> (a) Delay in preparation of legal opinion necessary to make the loan effective. (b) Delay in obtaining approval from the ratifying agency. (c) Delay in complying with special conditions for loan effectiveness such as organization of a project office, appointment of a Project Manager, and acquisition of land or rights of way. |
| 2. Organization and Staffing of Project Office | <ul style="list-style-type: none"> (a) Delay in obtaining approval of an organization structure (b) Lack of qualified technical personnel (c) Difficulty in recruiting qualified personnel due to poor pay or absence of proper incentives. (d) Political interference in the appointment of project staff (e) Weak or inappropriate organization structure (f) Staff appointed for project implementation not being involved in the preparation or appraisal of the project. |
| 3. Procurement of Services | <ul style="list-style-type: none"> (a) Difficulty in establishing qualifications and terms of reference (b) Inadequate response from consultants due to unfavorable local work conditions. (c) Difficulty in assessing actual capabilities of consultants through curriculum vitae or proposals. (d) Cumbersome, stringent or restrictive government procedures and requirements for recruiting foreign consultants. (e) High cost of foreign consultants compared with local consultants. (f) Settlement problems on the part of the consultant. (g) Inability of the government to provide adequate logistical support to the consultants (h) Disagreements between the executing agency and the consultant. |

| STAGE | DESCRIPTION |
|-----------------------------------|--|
| 4. Procurement of Goods and Works | <ul style="list-style-type: none"> (a) Lack of suitable expertise for procurement in the executing agency. (b) Complex and cumbersome procurement procedures. (c) Problems in understanding or adhering to the Bank's requirements/guidelines. (d) Difficulties or delays in obtaining approvals from higher authorities. (e) Rigid government procurement regulations/rules. (f) Lack of counterpart funds for local procurement or delay in release of such funds. (g) Failure of supplier to comply with the provisions of contract. (h) Cost overruns. |
| 5. Construction Management | <ul style="list-style-type: none"> (a) Delay in providing engineering designs (b) Changes in work specifications/contract conditions (c) Poor quality of contractor's work (d) Financial problems on the part of contractor (e) Right-of-way problems (f) Security problems at project site (g) Technical problems (h) Poor working conditions at project site (i) Labor problems (i) Delay in reimbursing contractor's expenditures |
| 6. Withdrawal of Loan Funds | <ul style="list-style-type: none"> (a) Cumbersome government procedures for submission of withdrawal applications. (b) Lack of familiarity with the Bank's disbursement practices and procedures. |

Among the major causes of implementation delays in the past which have been significantly minimized include lack of local counterpart, centralized approval/tedious process of awarding contracts, lack or shortage of construction materials and awarding of contracts to poor performing contractors.

Notwithstanding the corrective measures that have been instituted so far, major problems still continue to beset project implementation. Interviews with key informants in the various implementing agencies and in central monitoring bodies such as NEDA-PMS and CCPAP indicate the major types of bottlenecks currently accounting for implementation delays. These include: right-of-way problems, delayed issuance of ECC, delay in bidding, delays in procurement of equipment, problem in the selection of consultants, poor performance of contractors, negative response of beneficiaries, and delayed fund release.

A PMS report on the Outcomes of the Second Annual Official Development Assistance (ODA) Portfolio Performance Review conducted on February 23, 1993 identified the major problem areas which are contributory to implementation delays or poor performance. These include budget issues particularly on the adequacy of programmed amount relative to scheduled project requirements and timeliness of budget releases (both AA and NCA); right-of-way acquisition; bidding and contracting;

documentation float; and other issues such as delays in securing ECC clearance by agencies.

The Consultant also looked into three separate consolidated reports made available by PMS on the status of projects financed by the World Bank, ADB and OECF to get insights on the nature and incidence of major implementation problems. It also examined the 1993 Annual Report of the CCPAP which identified problematic projects which it assisted during the year. A report from the NEDA Regional Office IV on projects visited as part of its RPMES activities also provided a glimpse of the range of problems besetting major ongoing development projects in the various provinces comprising the Southern Luzon Region. Moreover a PMS 1992 document summarized major issues/problems encountered in the implementation of foreign-assisted projects. TABLE 2.2 shows the typology of implementation problems identified in the aforesaid six documents and their frequency of occurrence. The ADB report covered 34 ongoing projects; the World Bank report had 28 projects; the OECF report had 60 projects; the CCPAP and NRO IV reports covering a mix of donors had 42 and 36 projects, respectively; and the PMS summary report on issues/problems covered 68 projects. APPENDIX C shows a list of projects covered by the Review.

TABLE 2.2
FREQUENCY OF OCCURRENCE OF PROBLEMS
DURING PROJECT IMPLEMENTATION

| TYPE OF PROBLEMS | Source Document - Reports of: | | | | | |
|---|-------------------------------|----|------|--------|-------|-----|
| | ADB | WB | OECF | NRO IV | CCPAP | PMS |
| Procurement | 5 | 6 | 8 | 2 | 9 | 11 |
| Management | 7 | 8 | 9 | 10 | 8 | 21 |
| Financial | 6 | 15 | 4 | 9 | 14 | 18 |
| Legal/Procedural | | | | | | |
| • Right-of-Way | 1 | 3 | 25 | 9 | 8 | 17 |
| • ECC | w - | - | 8 | - | 2 | 3 |
| Others (Peace & Order, Force Majeure, Project Design) | 7 | 8 | 17 | 10 | 4 | 17 |

In the order of magnitude, financial problems top the list, followed by right-of-way problems, management related problems and procurement problems. It could be seen that right-of-way problem is most frequent in OECF-assisted projects while for World Bank-assisted projects, most frequent are financial problems. For ADB-assisted projects, financial, management and procurement problems are almost equally encountered. A more detailed breakdown of the nature of the problems is shown in TABLE 2.3.

TABLE 2.3
MAJOR IMPLEMENTATION PROBLEMS/CAUSES OF DELAYS IN 1993*

1/2

| TYPE OF PROBLEM | DESCRIPTION |
|-----------------|---|
| Procurement | delay in the award of contracts delays in delivery of equipment delay in procurement of materials and equipment finalization of re-lending agreement and contract with the consultants slow bidding process contract suspended because of pending cases questions on the role of consultants and costs involved delayed rebidding of civil works contract delayed payment to contractors |
| Management | frequent change of staff inadequate authority of Project Director lack of staff high percentage of non-revenue water difficulty of consultants in ensuring that works are implemented according to design and construction standards slow project implementation slow progress of contract overdisbursement made for terminated contract change of implementation arrangement lack of coordination between DPWH and PLDT/MWSS institutional setup for operation not yet established bridge being constructed with two rejected girders deferment of main civil works slow progress of disbursements slow documentation of expenditures delayed submission of audit reports |
| Financial | funding/budget constraints significant cost overrun due to higher costs of completing balance of work on terminated contracts delay in release of funds insufficient funds to complete Project due to increase in construction costs slow disbursement of funds possible cost overrun due to additional work and change/variation orders limited funding delayed release of Imprest Fund untimely and inadequate release of funds slow utilization of counterpart fund |

* Drawn from ADB, IBRD, OECF and CCPAP Reports

| TYPE OF PROBLEM | DESCRIPTION |
|-----------------|--|
| Right-of-Way | <p>land acquisition and resettlement slow completion of remaining ROW acquisition expropriation case squatters paid but could not move as they could not find place to move suspension of work due to unavailability of ROW 240 squatter families need to be relocated expropriation cases filed for remaining 30% of ROW ROW problems for arterial roads construction uncomplete ROW acquisition along Pioneer St. squatter relocation problem not clear who has responsibility to acquire site (LWUA or WD)</p> |
| ECC | <p>ECC pending approval by Secretary contract suspended because of ECC problem ECC has not been acquired</p> |
| Other Problems | <p>peace and order damages to constructed facilities by earthquake and typhoon no adequate open and denuded lands available for reforestation non-availability of labor from the communities underutilization of loan due to oversupply of fund to the SMI market slow release of Project funds to NGOs and sub-borrowers due to slowdown in loan applications original resettlement site and part of road at risk from changes in the pattern of lahar flows design changes road sections damaged during typhoons evaluation of validity of current designs shortages of materials conflict between military and rebels design conflict</p> |

2.2 Organization for Project Monitoring

2.2.1 Legal Bases/Mandates

The PMS derives its mandates from a number of executive issuances. Executive Order No. 230 issued on July 22, 1987, reorganizing the National Economic and Development Authority, mandates the NEDA Secretariat to provide technical staff support and assistance, among others, on the various aspects of the substantive functions of development planning and policy formulation, and coordination, evaluation and monitoring of plan implementation. As one of the mechanisms to monitor plan implementation, it was deemed necessary to track the progress of major development programs and projects.

The creation of the Project Monitoring Staff is in response to this need. In pursuit of its major mandates, PMS is vested with the following specific functions:

- a. Monitor the progress of implementation of approved development programs, based on reports from the central offices of line agencies and the NEDA Regional Offices;
- b. Identify bottlenecks and propose solutions to problems of implementation;

- c. Prepare integrated reports on the status of approved development projects;
- d. Monitor the implementation of ongoing projects, including the utilization of foreign exchange proceeds by these projects;
- e. Provide technical assistance to the NEDA regional offices in project monitoring and assessment; and
- f. Conduct post project evaluation and impact analyses.

Executive Order No. 376, issued in 1989 established the Regional Project Monitoring and Evaluation System (RPMES). This seeks to facilitate project implementation, and devolve project facilitation, problem-solving, monitoring and evaluation to the regional, provincial/city and municipal levels. PMS serves as the technical secretariat of the National Project Monitoring Committee.

Memorandum Circular No. 31 tasked the NEDA to monitor the pump-priming program of the Government. The monitoring encompassed programs/projects covered by the 1993 budget approved by the President for the Pump-Priming Program.

Some additional functions were assigned to PMS in 1991 and 1992 as necessitated by new developments.

The Director-General issued Special Order Nos. 333-91, 166-92 and 164-92 (APPENDIX D) vesting PMS additional substantive functions in line with the need to further strengthen the internal investment programming process and to effect the needed interface between investment programming and PMS monitoring activities. PMS assumed the post-programming responsibility from the Public Investment Staff (PIS). Post-programming activities include, among others, the evaluation of requests for reallocation of loan/grant proceeds, change in project scope, realignment across categories/components, extension of loan/grant closing date, extension of validity of exchange of notes of grant projects and expert dispatch have been using up a substantial amount of staff time and effort. In addition, the Procurement and Disbursement Unit (PDU) was reactivated and placed under PMS.

Another new function lodged on PMS is the following up of compliance by implementing agencies of NEDA Board conditionalities for loan effectivity such as RDC Resolution and ECC. This is intended to shorten the time lag from ICC approval to implementation.

Most recently, PMS was made secretariat of the Committee chaired by Presidential Adviser Emilio Osmena tasked with overseeing the development and implementation of the Administration's "Flagship" projects.

The foregoing measures have provided PMS broad mandates providing it greater flexibility to undertake activities covering the various phases of the project cycle. Its taking over of post-programming and PDU functions, if carried out properly, could be a source of PMS' clout and influence over the implementing agencies. Additional functions which have been vested on PMS such as following up on compliance with conditionalities for loan effectiveness and serving as secretariat of the newly-created "Flagship" Committee are major challenges that have to be faced in the context of the existing resource constraints of the Staff.

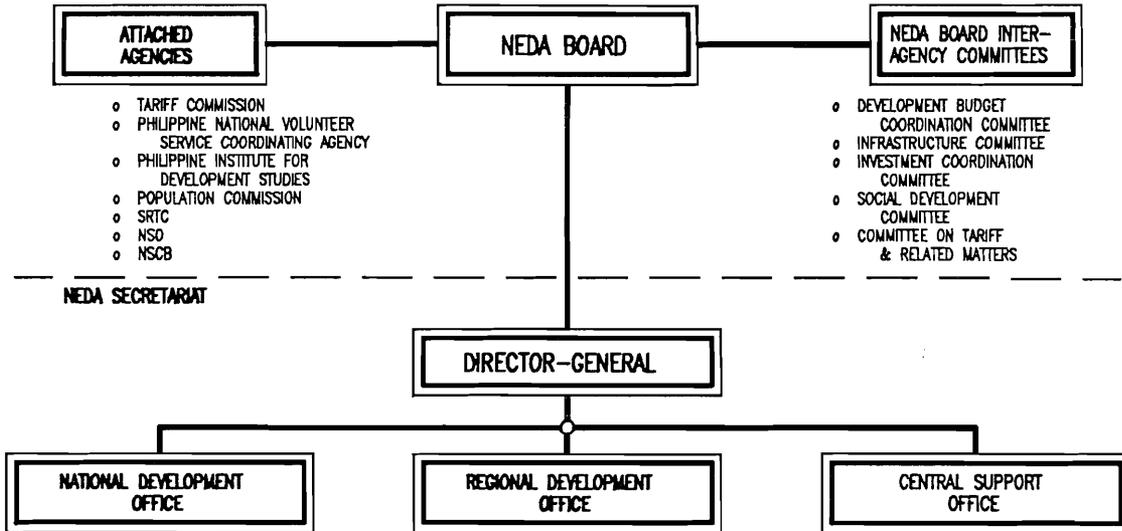
2.2.2 Organizational Structure

While Executive Order No. 230 placed the PMS under the Regional Development Office (RDO), an internal arrangement transferred the PMS and placed it under the National Development Office (NDO).

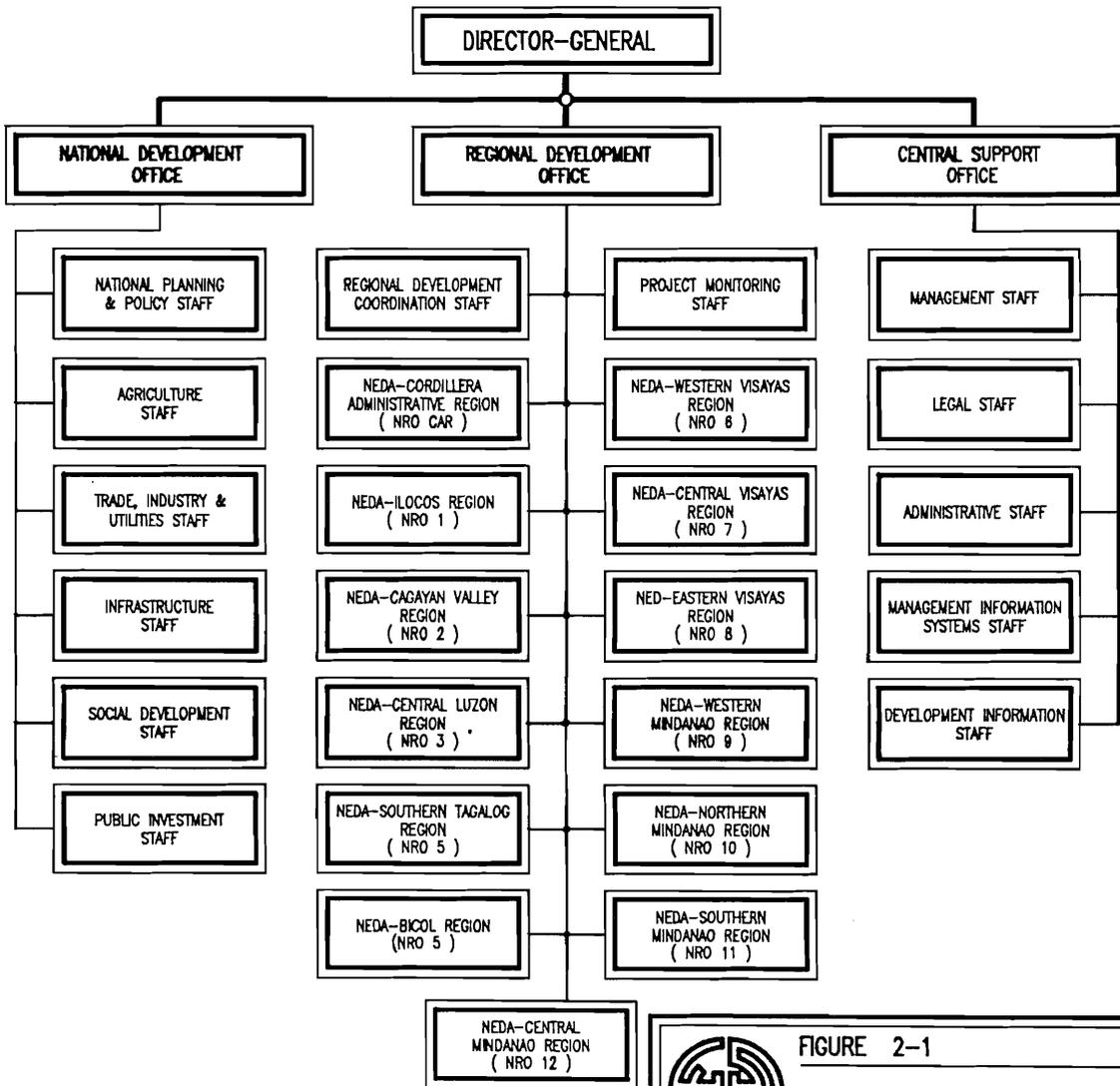
Under EO 230, the PMS is one of the major units under the Regional Development Office, along with the Regional Development Coordination Staff and the 13 NEDA Regional Offices. Please refer to the NEDA Organization Chart (FIGURE 2.1). PMS operated under the RDO since NEDA's reorganization in 1987. Through Special Order No. 333-91, issued in 1991, management transferred the staff and placed it under the direct functional and administrative supervision of the Assistant Director-General for Investment Programming, NDO. The main reason for the realignment was to put the PMS in the mainstream of NDO's efforts to improve ODA disbursement performance and "to bring about the desired interaction between investment programming and monitoring".

It may be mentioned that the formal PMS organizational structure is used only for budgetary purposes. It actually operates under a modified structure with two of five divisions organized according to source of funding of projects (multilateral and bilateral donors) and another division in support of the two as against the formal structure which has three sectoral divisions (i.e., economic, social and infrastructure and other support sectors). FIGURE 2-2 shows the PMS formal structure while FIGURE 2-3 presents the actual operating structure of PMS.

THE NEDA ORGANIZATION



THE NEDA SECRETARIAT ORGANIZATIONAL STRUCTURE PER EO 230



o AS AN INTERNAL ARRANGEMENT THE PMS PRESENTLY REPORTS TO THE DEPUTY DIRECTOR GENERAL, NATIONAL DEVELOPMENT OFFICE (NDO).



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FIGURE 2-1

NEDA ORGANIZATIONAL CHART

| |
|--------------|
| DIRECTOR IV |
| DIRECTOR III |

| |
|--------------------------|
| 1 ECO. DEV SPEC. I * |
| 1 SECRETARY |
| 1 CLERK IV |
| 1 ARTIST ILLUSTRATOR II |
| 1 ARTIST ILLUSTRATOR I * |
| 1 COMPUTER OPERATOR |
| 1 CLERK II |
| 2 CLERK II * |
| 1 REP. MACH. OPER II |
| 1 DRIVER II |

| |
|------------------------|
| SOCIAL SECTOR |
| 1 CHIEF ECO DEV SPEC. |
| 1 SUP'G. ECO DEV SPEC. |
| 4 SR. ECO DEV SPEC. |
| 1 ECO DEV SPEC. II |
| 1 ECO DEV SPEC. I |

TOTAL : 8

| |
|------------------------|
| ECONOMIC SECTOR |
| 1 CHIEF ECO DEV SPEC. |
| 1 SUP'G. ECO DEV SPEC. |
| 3 SR. ECO DEV SPEC. |
| 1 ECO DEV SPEC. II |
| 1 ECO DEV SPEC. I |

TOTAL : 7

| |
|------------------------|
| INFRA & OTHER SUPPORT |
| 1 CHIEF ECO DEV SPEC. |
| 1 SUP'G. ECO DEV SPEC. |
| 4 SR. ECO DEV SPEC. |
| 2 ECO DEV SPEC. II * |

TOTAL : 8

| |
|--------------------------|
| SYSTEM & DATA PROCESSING |
| 1 CHIEF ECO DEV SPEC. |
| 1 SUP'G. ECO DEV SPEC. |
| 1 SR. ECO DEV SPEC. * |
| 1 ECO DEV SPEC. II |
| 2 ECO DEV SPEC. I * |

TOTAL : 6

| |
|-------------------------|
| POST PROJECT EVALUATION |
| 1 CHIEF ECO DEV SPEC. |
| 1 SUP'G. ECO DEV SPEC. |
| 3 SR. ECO DEV SPEC. |
| 1 ECO DEV SPEC. II |
| 1 ECO DEV SPEC. I * |

TOTAL : 7



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FIGURE 2-2
 PROJECT MONITORING STAFF
ORGANIZATION CHART
 (FORMAL)

2-14

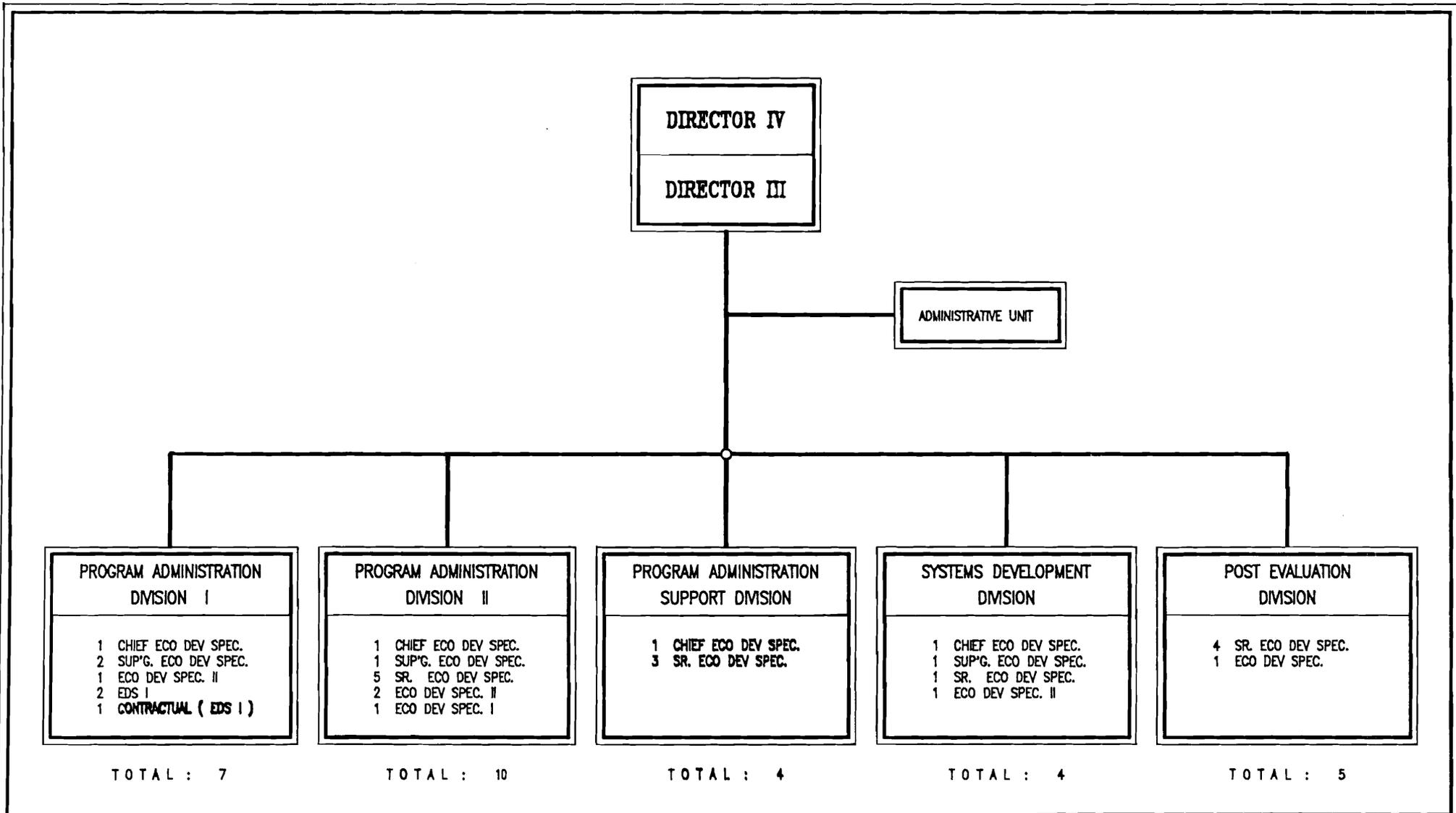


FIGURE 2-3
**PROJECT MONITORING STAFF
 ORGANIZATION CHART**
 (ACTUAL)



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There seems to be unequal distribution of workload among divisions and personnel based on the number of projects assigned to each and the outputs required on them. The Program Administration Division II (PAD II) which handles bilateral projects appears to have the heaviest workload on account of the big number of projects covered, numerous post-programming requirements and the extent of preparations for bilateral consultations. The number of ongoing Japanese loan and grant-assisted projects alone approximates the combined total number of projects funded by the World Bank, ADB and UN System. Being monitored by PAD II are some 76 OECF-assisted projects, 33 projects under JICA, about 68 projects funded by the European Community, 23 by AIDAB, 20 by USAID, 10 by CIDA, and a few other projects assisted by the Governments of The Netherlands, New Zealand, South Korea, and Denmark. On the other hand, the Post Evaluation Division appears to have relatively lighter load mainly in view of the nature of most of its activities (i.e., often not subject to short response time or short deadlines) and in view of the absence of an ongoing post evaluation activity for completed projects directly undertaken by it.

As earlier mentioned, the PDU was recently revived and incorporated in the function of PMS. The absorption by the Staff of these functions, however, was not matched by

corresponding transfer of resources. While PDU is not yet fully operational, this additional function will entail more workload for the staff and reduced working time spent for the regular monitoring activities.

The informal PMS organizational set-up based on donors' desks ensures close monitoring of the financial status of projects by funding source. This however, makes difficult a sectoral assessment of projects for purposes of evaluating plan implementation performance due to the downplaying of sectoral specialization in monitoring activities. The recent designation of sectoral pointmen to serve as sectoral coordinators within PMS hopefully can adequately meet sectoral monitoring demands.

The greater focus on donor-oriented project monitoring however, appears to be more urgent and relevant under the present situation where policymakers have trained their sights on the implementing agencies' demonstrated capacity to absorb loan funds.

There is need to clearly delineate the functions and responsibilities of two divisions. Presently, The Program Administration Support Division and Systems Development Division both get to be involved in conceptualizing new systems and revision of forms and system operationalization. It is not

clear what types of assignments should logically be given to each one. The Systems Development Division is getting to be loaded with non-technical activities such as printing and reproduction of reports and data encoding.

While evaluation is part and parcel of the functions of PMS, this has been given lesser importance as compared to the monitoring function. The Consultant believes that the output of the monitoring function should be an input to the evaluation function. For example, projects encountering delays in implementation experience cost overruns in most cases, thus requiring additional funding. A decision should logically have to be made whether (a) the additional funding has to be approved, (b) the subsequent component of the project has to be redesigned, (c) other complementary projects have to be implemented to enhance the project benefits, and (d) other options. In addition, to be of more value to ICC, there may be a need to build into the existing monitoring system, a scheme for re-estimating expected cost benefit as a result of cost overruns through a comparison of the original feasibility indicators of projects. This could be useful inputs for ICC consideration of request for additional loan financing for ongoing projects.

2.2.3 Staffing

The Staff's multi-disciplinary academic background capacitates the staff for the effective monitoring and evaluation of development projects in the various sectors. This will just have to be complemented by hands-on or practical-oriented types of capability building programs.

Based on the information provided by 27 technical personnel who responded to the staff profile survey questionnaire, 5 personnel have baccalaureate degrees in the field of agriculture, 6 in engineering, 4 in economics, 3 in business, 2 in mathematics, 4 in social sciences and 1 in statistics.

A significant number of personnel have graduate credits. Six have obtained masteral degrees: 2 in MA in Urban and Regional Planning and one each in MS Irrigation Engineering, MS Social Work, MA Resource Management and MA Development Studies. In addition, 15 personnel have earned graduate units in various fields such as business administration, urban and regional planning, public administration, engineering, and economics. TABLE 2.4 shows the staff's educational profile.

Most personnel have sufficient familiarity with their present jobs having occupied their present positions for an average of 2.6 years. Majority have been with PMS for over 5 years.

TABLE 2.4
EDUCATIONAL PROFILE OF PMS STAFF

| COURSE | PAD I | PAD II | PASD | SDD | PED | TOTAL |
|---------------------------------|--------------|---------------|-------------|------------|------------|--------------|
| <u>Bachelor's Degree</u> | | | | | | |
| BS Agriculture | - | - | 1 | - | 1 | 2 |
| BS Agricultural Economics | 1 | 1 | - | - | - | 2 |
| BS Agric. Engineering | - | 1 | 1 | - | - | 2 |
| BS Agribusiness | 1 | - | - | - | - | 1 |
| BS Chemical Engineering | - | 1 | - | - | - | 1 |
| BS Civil Engineering | 1 | - | - | - | - | 1 |
| BS Mechanical Engineering | - | - | - | 1 | - | 1 |
| BS Electronics & Comm. Engg | - | 1 | - | - | - | 1 |
| BS Mathematics | - | - | 1 | 1 | - | 2 |
| BSBA/Commerce (Economics) | 1 | - | - | - | 2 | 3 |
| BS Statistics | 1 | - | - | - | - | 1 |
| AB Economics | - | 1 | 1 | - | 2 | 4 |
| BS Industrial Psychology | 1 | - | - | - | - | 1 |
| BA Public Administration | - | 1 | - | - | - | 1 |
| AB Criminology | - | 1 | - | - | - | 1 |
| BS Social Work | 1 | - | - | - | - | 1 |
| <u>Master's Degree</u> | | | | | | |
| MA Urban & Regl. Planning | - | 1 | - | 1 | - | 2 |
| MS Irrigation Engineering | - | 1 | - | - | - | 1 |
| MS Social Work | 1 | - | - | - | - | 1 |
| MA Resource Management | - | - | - | - | 1 | 1 |
| MA Dev. Studies (Agric/RD) | - | - | 1 | - | - | 1 |
| <u>Masteral Units</u> | | | | | | |
| MS Agricultural Economics | - | - | 1 | - | - | 1 |
| MA Urban & Regl. Planning | 1 | - | - | - | 1 | 2 |
| Master in Accountancy | - | - | - | - | 1 | 1 |
| MS Economics | - | - | - | - | 1 | 1 |
| Masters in Business Admin. | - | 1 | 2 | 1 | 1 | 5 |
| MA Public Administration | 1 | 1 | - | - | - | 2 |
| MS Engineering | 1 | 1 | - | - | - | 2 |
| Masters in Intl. Studies | - | 1 | - | - | - | 1 |

In terms of the level of proficiency in various functions relevant to their job, majority consider themselves quite proficient in monitoring and evaluation and in the use of computer softwares notably Lotus, Wordstar and Wordperfect. Majority have either moderate or low level of proficiency in project preparation, project appraisal, project management, post project/impact evaluation, and in the use of excel and foxpro softwares. TABLE 2.5 shows the level of staff proficiency on relevant major functions.

**TABLE 2.5
LEVEL OF PROFICIENCY**

| FUNCTIONAL AREA | 1 | 2 | 3 | 4 | 5 |
|---------------------------------|----|----|----|----|---|
| Project Preparation | 6 | 9 | 5 | 6 | - |
| Project Appraisal | 5 | 11 | 6 | 4 | - |
| Project Management | 6 | 5 | 9 | 5 | 1 |
| Project Monitoring & Evaluation | - | 1 | 4 | 16 | 5 |
| Post Project/Impact Evaluation | 2 | 10 | 6 | 5 | 2 |
| Use of Computer | | | | | |
| Lotus | - | 2 | 8 | 11 | 6 |
| Excel | 19 | 4 | 2 | - | - |
| Word Perfect | - | 1 | 10 | 11 | 6 |
| Wordstar | 2 | - | 7 | 10 | 6 |
| Fox pro | 12 | 6 | 5 | 3 | - |

A good number of personnel have undergone training, mostly of the short-term types in fields relevant to project monitoring and evaluation. Seven staff members have completed courses in monitoring and evaluation methods, 6 in post-evaluation, 5 in project implementation management, 4 in project development, 2 in applied statistics, 4 on procurement, 4 on loan/disbursement procedures, 2 on use of consulting services, and over half of total personnel on the use of computers. TABLE 2.6 presents the relevant training programs completed.

Staff capability needs to be further upgraded through a continuing training involving relevant advanced types of courses for senior personnel and basic courses for the junior staff. Among the types of training for which a strong need has been expressed by PMS personnel are project preparation, post project/impact evaluation, project management, project appraisal, project monitoring and evaluation, software training, financial and economic analysis, and technical writing. TABLE 2.7 shows the staff's view on training needs.

TABLE 2.6
RELEVANT TRAINING PROGRAMS COMPLETED

| TITLE OF TRAINING | PAD I | PAD II | PASD | SDD | PED | TOTAL |
|--|-------|--------|------|-----|-----|-------|
| Seminar on BOT | - | - | 2 | - | - | 2 |
| WB Seminar on Disbursement | - | 1 | 1 | - | - | 2 |
| RPMES Training | - | - | 1 | - | - | 1 |
| Intl Funding Inst. Requirements | - | - | 1 | - | - | 1 |
| Monitoring and Evaluation Methods | 1 | 3 | 1 | 1 | 1 | 7 |
| Managerial Skills Dev. Course | - | 1 | 1 | - | 1 | 3 |
| Proj. Imp. Management Seminar | 1 | 1 | 2 | - | 1 | 5 |
| OECD Loan Procedure | - | 1 | 1 | - | - | 2 |
| Effective Oral Communication | 1 | - | 1 | - | - | 2 |
| Development Economics | - | - | 2 | 2 | - | 4 |
| Procurement Seminar | - | 1 | 1 | - | - | 2 |
| Course on Population & Development | - | 1 | 1 | - | 1 | 3 |
| Nihongo I & II | 1 | - | - | - | - | 1 |
| Seminar on use of Consulting Svs. | 1 | - | - | - | 1 | 2 |
| Project Financial Management | 1 | - | - | - | - | 1 |
| Computerized Project Management | - | 1 | - | - | - | 1 |
| Training for Supervisor | 1 | - | - | - | - | 1 |
| Seminar on Social Indicators | 1 | - | - | - | - | 1 |
| Strengthening Post Eval. Capability | - | 2 | - | 1 | 3 | 6 |
| Planning & Appraisal of Invl. Investment | - | 1 | - | - | - | 1 |
| Course on Development Planning | - | 1 | - | - | - | 1 |
| Project Development & Eval. Course | - | 2 | - | 1 | 1 | 4 |
| Integrated Course on Dev. Planning, Policy Analysis, Proj. Dev. | - | 1 | - | - | 1 | 2 |
| Local Resource Management | - | - | - | - | 1 | 1 |
| Com. Information & Planning Sys. | - | - | - | - | 1 | 1 |
| Gen. Course on Applied Statistics | - | 2 | - | - | - | 2 |
| Transportation Planning | 1 | - | - | - | - | 1 |
| <u>Computer-related Training</u> | | | | | | |
| Introd. to EDP, WS, Supercal | - | - | 1 | - | - | 1 |
| EDP, TRS-DOS, Dbase II | - | 2 | 1 | 2 | - | 5 |
| EDP Concepts & Basic Programming | - | - | 1 | - | - | 1 |
| FOxpro II Programming | 1 | - | - | 3 | 2 | 6 |
| Program Logic Formulation | - | 1 | - | 1 | 1 | 3 |
| Cobol/Basic C-Language | - | - | - | 3 | - | 3 |
| MS Word & Lotus 123 | - | 1 | - | - | - | 1 |
| Info System for Sub-Natl Dev. Planning | - | 1 | - | - | 1 | 2 |
| Use of Microcomputers for Research | - | 1 | - | - | - | 1 |
| Symphony Training Program | - | - | - | - | 1 | 1 |
| Comp. Application in Social Research | - | - | - | - | 1 | 1 |
| Apple 2 Plus System | - | - | - | 1 | - | 1 |

**TABLE 2.7
TRAINING NEEDS OF PMS STAFF**

| TYPE OF TRAINING | Number of Personnel | | | | | |
|--|---------------------|--------|------|-----|-----|-------|
| | PAD I | PAD II | PASD | SDD | PED | TOTAL |
| Project Preparation | 3 | 4 | 4 | - | 1 | 12 |
| Project Appraisal | 1 | 3 | 4 | - | | 8 |
| Project Management | 2 | 4 | 2 | - | 2 | 10 |
| Project Monitoring and Evaluation | 3 | 2 | 1 | 1 | - | 7 |
| Post Project/Impact Evaluation | 2 | 2 | 2 | - | 4 | 10 |
| Financial/Eco. Analysis | 1 | - | - | - | 3 | 4 |
| Technical Writing | - | - | - | 1 | 1 | 2 |
| Software Training | - | - | - | 3 | 2 | 5 |
| Computer based project monitoring system | - | 1 | - | - | - | 1 |
| Loan/Grant Procedure | - | 1 | - | - | - | 1 |
| Procurement & Disbursement Proc. | - | 1 | - | - | - | 1 |
| Leadership Training | - | | - | 1 | - | 1 |

2.2.4 Resources

Equipment and Supplies

PMS has an adequate number of computers to meet its data processing needs. Most of these hardware were acquired as part of technical assistance programs of donor agencies such as

the ADB and JICA. APPENDIX E is an inventory of the existing computer hardware of PMS.

The CCPAP has provided NEDA two microcomputers as part of the Project Monitoring System (PROMS) it developed through a grant from a private foundation and USAID. Considering the need for closer interface among the major oversight agencies for comprehensive monitoring, the system is composed of three modules namely, CCPAP, DBM and NEDA modules. Complementation of monitoring activities and sharing of information are expected benefits that can be derived from the system. However, the limited interface between NEDA and CCPAP has been identified as one major stumbling block in the operationalization of the system.

The Staff has three motor vehicles of which two are assigned to the Director and Assistant Director. The availability of the vehicles is not much a problem as visits to implementing agencies are done only occasionally. Communications with the regional offices is facilitated with the availability of a fax machine.

Office supplies are generally adequate for the needs of the Staff although the requisitioning procedure could be strengthened with an improved inventory control system which makes automatic a re-ordering whenever the stock of a particular item

reaches a predetermined critical level.

Budget

The present budget of PMS is inadequate to enable the Staff to take a more pro-active monitoring and facilitating role. Travels to validate project status reports are hardly possible with the current budget limitations. The Staff's total operating budget has not appreciably increased over the years.

2.3 The Existing NEDA Project Monitoring Systems

2.3.1 Present Systems

PMS currently operates, in parallel runs, a number of project monitoring systems. These include: (a) Medium-Term Public Investment Program Monitoring System; (b) Official Development Assistance Monitoring System; and (c) Regional Project Monitoring and Evaluation System. In 1993, a system for monitoring the Pump-Priming Program of the Government was operated also in parallel with the abovesited systems. Presently under development is a monitoring system for the "flagship" projects of the Administration, the BOT projects monitoring system, and the integrated project monitoring system.

Medium-Term Public Investment Program Monitoring System (MTPIPMS)

The System keeps track of the progress of implementation of capital investment programs/projects funded by the annual national budget and corporate budgets of government owned or controlled corporations. It provides information on the financial and physical status of projects as well as problems/issues of implementation. Its major output is a quarterly report that provides a total picture of public investment budget allocation, releases, expenditures and physical status. Data are disaggregated by agency, sector, subsector and region. A subsystem of the MTPIPMS is the Core Public Investment Program (CPIP) monitoring system which covers good performing projects that need to be fully supported by the national budget. The process flow for the MTPIPMS is shown in FIGURE 2-4.

Official Development Assistance Monitoring System (ODAMS)

The System is mainly concerned with the monitoring of loan/grant availment of foreign-assisted projects implemented by line agencies, GOCCs and LGUs. Its main output is a monthly report showing a total picture of loan availment and GOP disbursements, loan availment and utilization rates; total grant

rates. Availment status is disaggregated by funding agency, program/project, implementor, sector/subsector, region, and status (i.e. completed, ongoing or new). Overall physical status in percentage terms is also provided. The process flow is shown in FIGURE 2-5.

Regional Project Monitoring and Evaluation System (RPMES)

The RPMES seeks to facilitate project implementation and devolve project facilitation, problem-solving, monitoring and evaluation to regional, provincial/city and municipal levels. It is comprehensive in scope as it covers all development projects undertaken by national line agencies, LGUs, state colleges and universities and GOCCs at the regional, provincial/city and municipal levels. Reporting is quarterly at the national level and monthly at sub-national levels, both showing the physical and financial status of projects as well as problems/issues in implementation. The process flow is shown in FIGURE 2-6.

Pumping Priming Program Monitoring System (PPPMS)

The System which operated for the whole of CY 1993 provides for a monthly reporting of the physical progress and financial status of projects funded under the 1993 budget and included in the Pump Priming Program. The output of the

**SOURCE
OF INFORMATION**

**MONITORING AND
EVALUATION**

**COORDINATION OF
M / E ACTIVITY /
DECISION MAKING**

CREDITORS / DONORS
(IBRD, ADB, OECF, OTHERS)

IMPLEMENTORS
(GOCCs, IAs, LGUs)

**ODA MONITORING SYSTEM
DATABASE**

**OTHER NEDA UNITS,
DBM, DOF
LEGISLATIVE,
GENERAL PUBLIC,
OTHER AGENCIES**

PROJECT MONITORING STAFF
(ANALYSIS, VALIDATION,
GENERATION OF OUTPUT REPORTS)

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FIGURE 2-5

**OFFICIAL DEVELOPMENT
ASSISTANCE MONITORING
SYSTEM - PROCESS FLOW**

CEST, Inc.

ph

2-30

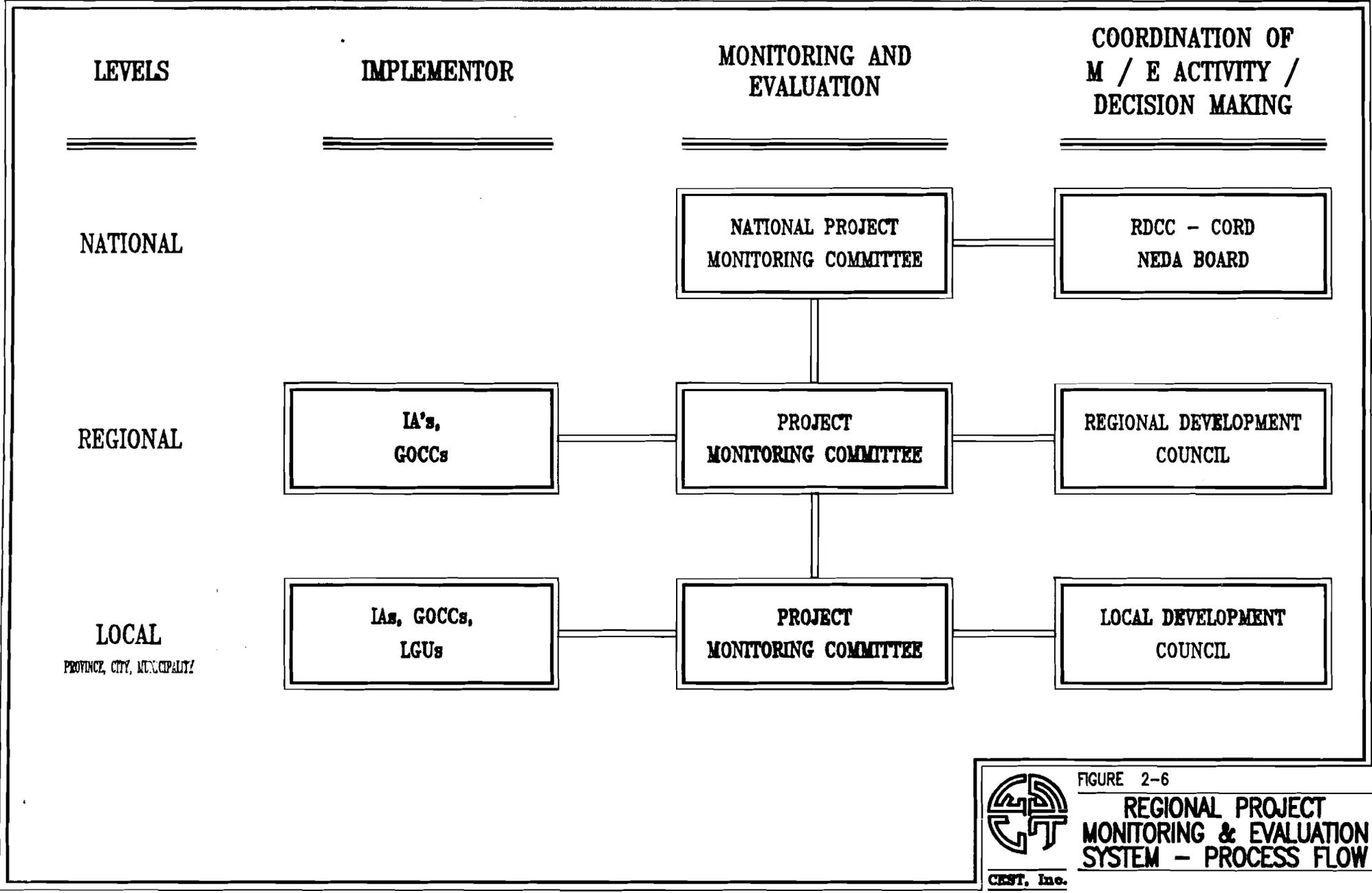


FIGURE 2-6
REGIONAL PROJECT MONITORING & EVALUATION SYSTEM - PROCESS FLOW

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system included a consolidated report on the financial and physical status of the Pump Priming Program, detailed project profile and status reports of FAPs, and physical and financial status by agency, sector, region, fund source, etc.

Integrated Project Monitoring System (IPMS)

In the developmental stage is a system that will unify the various stand alone but overlapping systems administered by PMS. The installation of a common data base will result in substantial savings in time, effort and resources of the staff. The PMS is being backstopped by the Management Information Systems Staff (MISS) in this effort.

The Consultant strongly supports current initiative to integrate the disparate systems currently in place. An integrated data base system will effectively address the diffusion in resources, time and efforts of the staff.

2.3.2 Monitoring Problems

More positive actions on the part of NEDA to major implementation problems is constrained by deficiencies in the existing reporting system. In addition to late reporting, the existing periodic monitoring reports submitted by implementing

agencies do not adequately capture and document implementation problems. In many instances, problems get to be reported when they have already reached an advanced stage. Moreover, the existing monitoring systems of PMS are not designed to capture at an early stage implementation problems and to continuously track changes in project configuration and cost/time overruns. This is mainly on account of the late reporting by agencies and the fact that reporting forms are also not designed to capture changes in project configuration and cost overruns. TABLE 2.8 shows the time lag in the submission of reports by various implementing agencies.

It is also noted that the abovementioned monitoring systems generate a lot of common information for the same projects that are being monitored. The generation of reports eats up additional time, effort and resources which could otherwise be devoted to other productive uses had there been an operational data base. The wasteful duplication of data generation efforts is shown in the redundancy matrix (TABLE 2.9).

TABLE 2.8 PHYSICAL AND FINANCIAL REPORT TIMETABLE

| AGENCY/UNIT RESPONSIBLE | Reporting Month | | | | Month 1 | | | | Month 2 | | | | Month 3 | | | | ACTIVITIES/REMARKS |
|--|-----------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---|
| | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | |
| DPWH. * Proj. Monitoring Office * Office of USec Mir | | | | | | | | | | | | | | | | | * Report preparation/validation and consolidation. Report cut-off date is every 25th of the month. * Report submitted for consolidation. * Submission to NEDA. |
| NIA * Project/Field Office * Const'n. Mgmt. Dept./ Central Office * CORPLAN | | | | | | | | | | | | | | | | | * Report preparation. * CO deadline for field/project offices to submit their reports is on the 20th of the month after the reporting period. * Evaluation/validation and consolidation. * Consolidation/reconciliation of physical and financial reports. * For signature of the Administrator. * Submission to NEDA. |
| MWSS * Field Office * Proj. Mgmt. Office * Proj. Monitoring Staff/ Office of the Dep. Adm. for Construction Mgmt. | | | | | | | | | | | | | | | | | * Data gathering of Office Engineers from the field. * Report preparation. * Review/validation/preparation of over-all report. * Consolidation/reconciliation of physical and financial reports. * Submission to NEDA. |

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| AGENCY/UNIT RESPONSIBLE | Reporting Month | | | | Month 1 | | | | Month 2 | | | | Month 3 | | | | ACTIVITIES/REMARKS | | |
|--|-----------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--------------------|--|--|
| | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | | | |
| LWUA * Water Districts * Division Managers * Department Managers * Offices of the Dep. Adm. for Finance and Eng'g./ CORPLAN * Dep. Adm./ Engineering * Administrator | | | | | ■ | | | | | ■ | | | | | | | | | * Data gathering of action officers from the various water districts. * Preparation and submission of report. * Preparation and submission of report. * Validation/revision of report. * Validation/revision of report. * Revisions/signature. * Submission to NEDA. |
| NEDA * Proj. Monitoring Staff | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | | * Report validation, processing, inputting. * Sectoral write-ups/analysis. * Report submission/presentation to Management. |

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FINANCIAL REPORT TIMETABLE

| AGENCY/ UNIT | REPORTING MONTH | | | | Month 1 | | | | Month 2 | | | | ACTIVITIES/REMARKS |
|-----------------|-----------------|----|----|----|---------|----|----|----|---------|----|----|----|---|
| | Month 0 | | | | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | |
| | W1 | W2 | W3 | W4 | | | | | | | | | |
| DPWH | | | | | | | | | | | | | * Financial report submission. |
| NIA | | | | | | | | | | | | | * Financial report submission. |
| MWSS | | | | | | | | | | | | | * Financial report submission. |
| LWUA | | | | | | | | | | | | | * Financial report submission. |
| PMS-NEDA | | | | | | | | | | | | | * Report validation, processing and inputting. * Analysis/Write-up. * Report submission/presentation to management. |

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Table 2.9 Data Redundancy Matrix

| | RPMES | ODAMS | PPMS | MTPIPMS |
|--------------------------|-------|-------|------|---------|
| Profile (Description) | • | • | • | |
| Project Cost | | • | • | |
| Funding Source | • | • | • | • |
| Loan Details | | • | • | |
| Project Duration | • | • | • | |
| Physical Targets | • | | • | • |
| Financial Targets | • | | • | • |
| Physical Accomplishment | • | • | • | • |
| Financial Accomplishment | • | • | • | • |

The effectiveness of the aforesaid systems is also hampered by the slow response of the implementing agencies in providing the systems' information needs. Most agencies are unable to meet the prescribed reporting deadlines. In addition, report transmission to NEDA is not automatically done by most agencies. PMS desk officers have to constantly follow up with agency monitoring officers to get the needed reports. The problem is compounded whenever a new reporting format is introduced to the agencies. Experience shows that compliance is good only for a short period of time, e.g., one quarter. Thereafter, submission of reports in the new format gradually wanes until it is completely ignored by the agencies. This has

been the experience even when the PMS installed a computer program and trained users in several agencies.

In most cases, PMS has to rely on the existing reporting formats of the agencies and do the laborious task of extracting from these documents the information it needs for its regular outputs. PMS also has to contend with the problem of getting conflicting figures for the same project from different reporting units of a department.

In addition, the absence of a standard reporting system for grant-assisted projects leaves out many projects in PMS' monitoring function. Regular reporting on financial status is made difficult in view of different fiscal years among donors and reluctance of some donors to provide financial reports.

On financial monitoring, PMS concentrates on tracking of loan drawdowns and less on total project cost. In the process, it is unable to track the extent to which an agency has drawn from GOP to meet funding deficiencies as a result of change orders, price escalation or implementation delays. It is noted that agencies are not compelled to report on cost overruns funded out of agency/GOP budget. A PMS study has shown that all cost overruns are borne by GOP.

Implementation and investment (ODA) portfolio reviews conducted by PMS have proved to be effective mechanisms for periodically bringing out implementation problems. These exercise should be continuously pursued. To be more effective however, these need to be supplemented by follow through activities to ensure resolution of identified implementation problems.

There is need to examine the utility of monitoring reports generated by PMS. The periodic reports it produces are not conducive to action-oriented or problem-solving interventions because of the time lag from the occurrence of the problem to its elevation to oversight bodies. While there is a mechanism for exception reporting, this is rarely applied due to pre-occupation of the staff with other pressing assignments.

2.4 Interface With Other Central Monitoring Bodies

Of the major central oversight/monitoring agencies such as NEDA-PMS, DBM, CCPAP and DOF, some similarity in monitoring activities is observed between NEDA-PMS and CCPAP.

Per Memorandum Order No. 91-001, issued by the Chairman of CCPAP (Sec. Jesus P. Estanislao), CCPAP is

vested with the following major functions:

- 1) Strengthen inter-agency cooperation in handling ODA and PAP matters;
- 2) Facilitate and monitor implementation of foreign assisted projects;
- 3) Liaise with donor community, legislative body and private sector;
- 4) Maintain computer data base (PROMS) for all ODA operations;
- 5) Facilitate and coordinate program/project initiatives as directed by the Council.

Both CCPAP and NEDA-PMS closely keep tab of availment of foreign-assisted projects and do problem-solving and facilitating roles in project implementation. The DBM asks for more detailed items of expenditures from implementing agencies. The DOF through its International Finance Group has also the mandate to regularly monitor loan availments for every loan obtained by the government but is presently unable to do this for lack of personnel.

NEDA-PMS and CCPAP could complement each other in their monitoring and facilitating roles for greater synergistic effects but lack of regular communication between the two obviates realization of this benefit. There is presently little interaction between CCPAP and PMS. There is also no formal and regular exchange of information between the two. Both get their monitoring data directly from the agencies and donors. While at the start, CCPAP relied on NEDA for its monitoring of loan availments, its alleged difficulty in accessing NEDA's reports resulted in CCPAP's efforts to gradually build up its capability such that it is now self-reliant in its reporting function.

In so far as problem-solving and facilitation is concerned, CCPAP apparently is better equipped and more credible, based on feedbacks from key informants in several line agencies. Cited as testimonies to CCPAP's effectiveness are the following:

- its problem-solving action is immediate once its help is sought by an agency**
- CCPAP will not stop following up until a particular problem is resolved**
- direct link with key decision points in agencies**

- **regular monthly one on one meetings with agencies having problem projects**
- **less bureaucracy within CCPAP, three-man Project Facilitation Group does its function without need to course action documents to top management.**
- **accessible to agencies - can be reached anytime through its several direct telephone lines. CCPAP cannot shirk from its present monitoring roles as these are explicit in its mandate.**

SECTION 3

PROBLEM ALERT INDICATORS

The Consultant has identified major implementation issues/problems that hamper timely and successful project completion. A lot of problems got to be known to NEDA and key decisionmakers only when these have already reached an advanced stage or have already been resolved. A lot of damage have already been inflicted and waste of scarce resources incurred for failure to pin down and resolve problems at an early stage.

Given the list of recurring major problems, particularly those that need action by other agencies or higher authorities, certain indicators have been looked at by the Project Team, which could make possible early detection and identification of potential implementation bottlenecks so that remedial actions are immediately taken.

These alert indicators were identified, in consultation with key staff of PMS, taking into consideration a set of criteria, as follows:

- Should cover all selected objectives relating to investment, institution-building and other aspects of

implementation

- **Be action oriented**
- **Be transparent**
- **Be relatively easy to collect and can be calculated on a regular basis**
- **Be comparable, to the extent possible, across all project types, sectors, funding sources as well as at different time periods**
- **Be easily understood by decision-makers and can easily be adopted at different levels of monitoring**
- **Be comparable against a set of mutually agreed standards**
- **Be adapted to the resources of the agency and the project, ensuring that local staff can carry out monitoring and at a reasonable cost on a continuous basis.**

It is assumed that, along with the identified set of indicators, standards will be formulated in coordination with PMOs and other concerned officials to indicate tolerable duration (time allowance) to complete identified milestones or critical activities. It is also expected that new indicators may be identified and added on to the current list in the course of tracking and analyzing implementation problems.

Following are the recommended 14 problem alert indicators. In the succeeding section (Alert Indicators Data Card) shown are the indicators profiles including a summary description of these indicators, their advantages and disadvantages, users, data sources and formula on how to compute them. The indicators are grouped into five categories, namely: Pre-Implementation, Procurement, Management, Financial and Physical.

Pre-Implementation alert Indicators

- Percentage variance in ICC approved cost and estimated cost based on D/E
- Time variance for loan effectivity
- Time to fulfill ICC requirements

Management alert Indicator

- Establishment of PMO

Procurement Alert Indicators

- Time variance on bidding/award of contract
- Time variance on the mobilization of major equipment for the project

Financial Alert Indicators

- Time variance in fund release (NCA)
- Percentage variance in actual release of programmed fund
- Loan utilization rate (cumulative) vs. time elapsed
- Loan availment rate (cumulative)
- GOP utilization rate (cumulative)
- Variance in programmed fund (approved budget) and project requirements (budget request)
- Funding mix ratio

Physical Alert Indicator

- **Percentage of physical accomplishment (based on original and revised targets, cumulative basis)**

Alert Indicators Data Card

The Consultant, in consultation with key staff of PMS, is recommending the adoption of the set of indicators herein described as part of the overall efforts to improve NEDA's project monitoring.

1. **INDICATOR: Percentage variance in ICC approved cost and estimated cost based on D/E**

| | |
|--------------------------------|---|
| CATEGORY | Pre-implementation |
| DESCRIPTION | Cost difference between the ICC approved cost (normally based on the original appraisal cost) and the revised estimated cost in preliminary Detailed Engineering (D/E) stage |
| ADVANTAGES | This will alert PMO of possible cost overrun or "savings" in project implementation |
| LIMITATIONS | Does not capture any change in project scope or change in project configuration |
| USERS | PMO |
| DATA SOURCES | ICC Evaluation report, Appraisal report, D/E report |
| FORMULA | $(RC-AC)/AC < = .20$ <p>where: RC - revised cost based on D/E AC-ICC approved cost</p> |
| INTER- PRETATION | <p>If the percentage variance is greater than 20 percent, the project will have to be re-evaluated by the ICC.</p> <p>A negative value indicates possible savings in project implementation (for possible loan cancellation) while a positive value indicates a potential cost overrun in the project.</p> <p>(Assumption - same project scope)</p> |
| OTHER RELATED INDICATORS | Percentage of variance to total ICC approved cost |
| REMARKS | Can further be refined by disaggregating the cost components into local and foreign costs |

2. **INDICATOR: Time variance for loan effectivity**

| | |
|--------------------------------|---|
| CATEGORY | Pre-implementation |
| DESCRIPTION | Time difference between the scheduled vs. actual date for loan effectivity |
| ADVANTAGES | Indicates possible delay in actual project implementation particularly in the release of funds if there is a delay in the effectivity of the loan. |
| LIMITATIONS | |
| USERS | PMO, central agency, NEDA (PMS and PIS) |
| DATA SOURCES | Funding agency, Department of Finance |
| FORMULA | Variance in terms of number of days between the scheduled date and the actual date for loan effectivity. |
| INTER- PRETATION | Positive value indicates that the project funds are made available at an earlier period while negative value indicates that project may experience delay in the release of foreign funds. |
| ACTION TO BE TAKEN | Request update on the status of conditionalities for loan effectivity two and a half weeks before scheduled date. Normally scheduled date of loan effectivity is three months after loan signing. |
| OTHER RELATED INDICATORS | No. of conditionalities for loan effectivity Variance between scheduled and actual compliance with conditionalities |
| REMARKS | Applicable for foreign-assisted projects Loan effectivity normally takes three months after loan signing Delays may also be attributed to the internal bureaucracy of the funding agency |

3. **INDICATOR:** Time to fulfill pending ICC requirements

| | |
|--------------------------------|---|
| CATEGORY | Pre-implementation |
| DESCRIPTION | Overall timetable to fulfill the requirements set by the ICC before project implementation |
| ADVANTAGES | Alerts PMO on possible delays in project implementation |
| LIMITATIONS | Difficulty in setting standards; depending on the complexities of ICC requirements |
| USERS | Central agency, DOF, PMO, ICC, NEDA |
| DATA SOURCES | NEDA, DOF, other agencies |
| FORMULA | The difference between the scheduled date and the actual date to fulfill the ICC requirements |
| INTER- PRETATION | Inability to comply with ICC requirements on scheduled date with result in delay in project start up and consequently implementation. |
| OTHER RELATED INDICATORS | None |
| REMARKS | Depends also on the number of ICC requirements Typical ICC requirements are ROW and Environmental Clearance Certificate |

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4. **INDICATOR: Time variance on bidding/award contract**

| | |
|--------------------------------|---|
| CATEGORY | Procurement |
| DESCRIPTION | Variance between scheduled dates and actual dates on the activities related to bidding and award of contract |
| ADVANTAGES | Alerts PMO on possible delay in actual mobilization of contracted activities |
| LIMITATIONS | Difficulty in setting milestones (depending on the complexities of the bid/contract) |
| USERS | PMO |
| DATA SOURCES | PMO, BidCom |
| FORMULA | Variance in terms of number of days (scheduled date vs. actual date) based on the identified milestone related to bidding/award of contract |
| INTER- PRETATION | Positive value implies earlier mobilization of contracted activities while a negative value implies the opposite. |
| ACTION TO BE TAKEN | Alerts PMO if expected variance is beyond the agreed number of days |
| OTHER RELATED INDICATORS | None |
| REMARKS | The indicator is applicable for contracts of both goods and services/civil works. The bidding and award of contracts normally take on the average xxx months. PMS to check status of bidding/award stage at around 60-70% of the elapsed time. There is need to set standard/average duration for services/civil works and equipment procurement. |

5. **INDICATOR:** Time variance on the mobilization of major equipment for the project

| | |
|--------------------------------|---|
| CATEGORY | Procurement |
| DESCRIPTION | Variance between scheduled dates and actual dates on the activities related to the mobilization of major equipment |
| ADVANTAGES | Alerts PMO on possible delay in actual project implementation |
| LIMITATIONS | Relevant if the activity is part of the critical path of the project |
| USERS | PMO |
| DATA SOURCES | PMO |
| FORMULA | Variance in terms of number of days (scheduled date vs. actual date) based on the identified milestone related to the mobilization of major equipment |
| INTER- PRETATION | Negative value implies potential delay in project implementation |
| OTHER RELATED INDICATORS | Variance in actual release of programmed funds |
| REMARKS | The mobilization of major equipment can include both delivery and installation This indicator may not be applicable for some projects. |

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6. *INDICATOR: Time variance in fund release (NCA)*

| | |
|--------------------------------|---|
| CATEGORY | Financial |
| DESCRIPTION | The difference between the scheduled and actual timetable for fund release (issuance of Notice of Cash Allocation [NCA]) |
| ADVANTAGES | Alert problems in the timely release of funds for project implementation |
| LIMITATIONS | Does not indicate the amount of releases |
| USERS | PMO, DBM, NEDA |
| DATA SOURCES | PMO, DBM |
| FORMULA | The difference (in terms of number of days) between the scheduled and the actual dates of fund release of NCA |
| INTER- PRETATION | Negative value implies potential delays in payment of contracted activities. A one-month delay in the release of funds is already critical to project implementation. |
| OTHER RELATED INDICATORS | Variance in actual release of programmed funds |
| REMARKS | Normally applicable to local funds |

7. **INDICATOR: Percentage variance in actual release of programmed fund**

| | |
|--------------------------------|--|
| CATEGORY | Financial |
| DESCRIPTION | Rate of fund release based on the maximum achievable level of programmed funds |
| ADVANTAGES | Rates project performance based on a realistic level of programmed fund |
| LIMITATIONS | Does not capture overall project shortfall |
| USERS | NEDA |
| DATA SOURCES | DBM, PMO |
| FORMULA | The percentage difference between the programmed amount (Advice of Allotment) and actual released (Notice of Cash Allocation) |
| INTER- PRETATION | Can be compared with set standards like 60% fund release by the first quarter, 80% by the third quarter and 100% by the fourth quarter |
| OTHER RELATED INDICATORS | Loan utilization rate (cumulative) Loan availment rate (cumulative) GOP utilization rate |
| REMARKS | Can further be refined by having separate indicators for loan proceeds and GOP counterpart Can be expressed in absolute terms to reflect the remaining funds to be released |

8. **INDICATOR:** Loan utilization rate (cumulative) vs. time elapsed

| | |
|--------------------------------|---|
| CATEGORY | Financial |
| DESCRIPTION | Percentage of the loan utilized |
| ADVANTAGES | Monitors activities in loan disbursement |
| LIMITATIONS | Hides the effect of cost overrun and other financial inefficiencies Is not necessarily consistent with physical accomplishment |
| USERS | PMO, NEDA |
| DATA SOURCES | Funding agency |
| FORMULA | Percentage of cumulative actual disbursement to loan amount net of cancellation |
| INTER- PRETATION | As a rough guide, the loan utilization rate should be related to time elapsed. This can then be compared with set standard such as those in the project's S-curve Minimal change in the rate implies potential problem in loan disbursement (i.e., document float for reimbursement) |
| OTHER RELATED INDICATORS | Loan availment rate |
| REMARKS | This indicator can be more meaningful if compared with other indicators This can be used to justify possible loan cancellation or time extension of project loan. |

9. **INDICATOR: Loan availment rate (cumulative)**

| | |
|---|--|
| CATEGORY | Financial |
| DESCRIPTION | Rate of disbursement based on the actual disbursement vs. loan disbursement schedule |
| ADVANTAGES | Indicates the financial performance vs. time |
| LIMITATIONS | Does not capture financial performance on an annual basis; may not be consistent with physical performance |
| USERS | NEDA, PMO, funding agency |
| DATA SOURCES | Funding agency |
| FORMULA | Percentage of actual cumulative disbursement to scheduled cumulative disbursement |
| INTER- PRETATION | Continued decline in the rate implies potential problem in loan disbursement |
| OTHER RELATED INDICATORS | Loan utilization rate |
| REMARKS | Difficulty in revising the scheduled cumulative disbursement This can be used to justify possible loan cancellation or time extension of project loan |

10. INDICATOR: GOP utilization rate (cumulative)

| | |
|---|---|
| CATEGORY | Financial |
| DESCRIPTION | Percentage of GOP amount expended vs. total GOP counterpart requirements (original and revised) |
| ADVANTAGES | Monitor management of GOP counterpart funds |
| LIMITATIONS | Difficulty in gathering data particularly on non-cash GOP contribution; does not capture performance on an annual basis; not an indicator of physical performance |
| USERS | PMO, NEDA |
| DATA SOURCES | DBM, PMO |
| FORMULA | Percentage of actual GOP releases to total GOP counterpart requirements (both for original and revised estimates) |
| INTER- PRETATION | A relatively high percentage compared to overall physical accomplishment reflects a probable problem on loan utilization |
| OTHER RELATED INDICATORS | Loan availment rate, variance in programmed fund and project requirement |
| REMARKS | Can be applied to both original and revised estimates |

11. INDICATOR: Variance in programmed fund (approved budget) and project requirements (budget request)

| | |
|---|--|
| CATEGORY | Financial |
| DESCRIPTION | Determine the extent of funding support from DBM |
| ADVANTAGES | Indicates the degree of inadequacy of funds for project implementation |
| LIMITATIONS | Only on an annual basis |
| USERS | NEDA, PMO |
| DATA SOURCES | DBM, PMO |
| FORMULA | Difference between budget request and approved budget |
| INTER- PRETATION | Positive value implies shortfall in funding the requirements of the project for a given year |
| OTHER RELATED INDICATORS | Can also be expressed as a percentage of approved budget to total budget request Percentage variance in actual release of programmed fund |
| REMARKS | The difference between budget request and approved budget can be computed upon the President's signing of the General Appropriations Act |

12. **INDICATOR:** Funding mix ratio

| | |
|--------------------------------|---|
| CATEGORY | Financial |
| DESCRIPTION | The ratio of GOP counterpart funds to loan disbursement; indicates how project is being financed |
| ADVANTAGES | Monitors management of both GOP funds and loan proceeds |
| LIMITATIONS | No uniform standard; based on the approved funding mix on a per project basis |
| USERS | NEDA, PMO |
| DATA SOURCES | NEDA, PMO |
| FORMULA | Ratio of cumulative GOP funds expended to loan (cash and non-cash)disbursement |
| INTER- PRETATION | Potential problems in loan disbursement (such as document float for processing reimbursements) if the rate is steadily increasing |
| OTHER RELATED INDICATORS | Loan availment rate GOP utilization rate |
| REMARKS | Loan/grant agreement will show baseline funding mix ratio Problems in monitoring loan disbursements if the project involves special accounts |

13. **INDICATOR:** Establishment of PMO

| | |
|--------------------------------|---|
| CATEGORY | Management |
| DESCRIPTION | Qualitative indicator to monitor the establishment of the PMO. Includes the appointment of PM and key staff |
| ADVANTAGES | Establishment of PMO is a critical activity in mobilizing the project |
| LIMITATIONS | May have difficulty in evaluating the qualifications of PM and key staff |
| USERS | Central line agency, NEDA |
| DATA SOURCES | Central line agency |
| FORMULA | Monitor milestones in the establishment of PMO particularly the appointment of PM and key staff |
| INTER- PRETATION | For instance, delayed appointment of PM and key staff means delays in the succeeding phases of project implementation |
| OTHER RELATED INDICATORS | Time to fulfill ICC requirements |
| REMARKS | Particularly important for projects being implemented by different agencies (e.g., multisectoral projects) |

14. INDICATOR: Percentage of physical accomplishment (based on original and revised targets on a cumulative basis)

| | |
|--------------------------------|--|
| CATEGORY | Physical |
| DESCRIPTION | Indicator to monitor the physical accomplishment of the project |
| ADVANTAGES | Show how much work has been done on the project |
| LIMITATIONS | Difficulty in quantifying the targets and actual accomplishment (normally based on the value of work) |
| USERS | NEDA |
| DATA SOURCES | PMO, consultant's report |
| FORMULA | Percentage of actual value of work to target value of work (based on original target and revised targets) |
| INTER- PRETATION | Steady decline in rate reflects potential problems in project implementation; widening gap between original target and revised target implies possible project extension. |
| OTHER RELATED INDICATORS | Financial indicators |
| REMARKS | Can be compared with the financial indicators to reveal possible problems (such as funding shortfall and/or cost overrun) Target setting should be jointly done by agencies concerned |

Seven (7) of these indicators should constitute the minimum number to be maintained. These include the following:

Time variance for loan effectivity. This is simply the difference in terms of number of days between the scheduled date and actual date of loan effectivity. A negative value may indicate failure to meet on time the conditionalities for loan effectivity. This could set back the schedule of project implementation as well as release of loans.

Time variance on bidding/award of contract. This is defined as the difference in terms of number of days (scheduled date vs. actual date) based on the identified milestones related to bidding/award of contract. A negative value implies delay in the mobilization and execution of contracted activities. PMS should check status of bidding process at around 60-70% of the elapsed time. It is expected that standard/average duration will be established for procurement of services/civil works and equipment.

Time variance in fund release (NCA). This refers to the difference in terms of number of days between the scheduled and actual date of release of NCA by DBM. Delayed release of funds often results in corresponding delay in project implementation.

Percentage variance in actual release of programmed fund.

This is simply the percentage difference between the programmed amount (per Advice of Allotment) and actual releases (NCA). Low percentage of actual releases will, in most probability, result in low physical accomplishment.

Loan utilization rate (cumulative) vs. time elapsed. This refers to the percentage of cumulative actual disbursement to loan amount net of cancellation and related to time elapsed. Minimal change in the rate will most likely result in request for time extension of the loan.

Funding mix ratio. This refers to the proportion of GOP counterpart funds expended to loan disbursement. Each project has an approved funding mix (no uniform standard). If the rate is steadily increasing, this implies potential problem in loan disbursement e.g., document float for processing reimbursements.

Percentage of physical accomplishment (cumulative based on original and revised targets). This refers to the percentage of actual value of work to target value of work. A declining rate indicates problems in project implementation while a widening gap between original target and revised target implies possible project extension.

To operationalize the application of the problem alert indicators, the Consultant recommends that PMS consider as operating guides the sequence of activities as identified in the process flowchart shown in FIGURE 3-1. The process starts with PMS gathering needed basic data on projects to be monitored such as (a) schedules of critical activities and fund releases; (b) estimated project cost at various stages, i.e., FS, ICC approved cost, appraisal cost, loan amount, D/E revised cost estimate and contract price; (c) conditionalities for loan effectivity; (d) physical targets (original and revised) based on value of work. The data are then stored in the corresponding alert indicators files and extracted periodically to serve as reference for monitoring activities. Based on the monitoring of progress of critical milestones, PMS evaluates whether the project can meet target dates or not, in which case it sends the signal to concerned authorities. Depending on the gravity of the problem, resolution can be done at the agency level or this may need intervention by external agencies such as oversight and funding agencies. A meeting may be convened by PMS among the implementing agency, oversight and other agencies concerned as well as with the funding agency to thresh out the problem or to initiate the conduct of a policy research if the nature and magnitude of the problem requires policy measures.

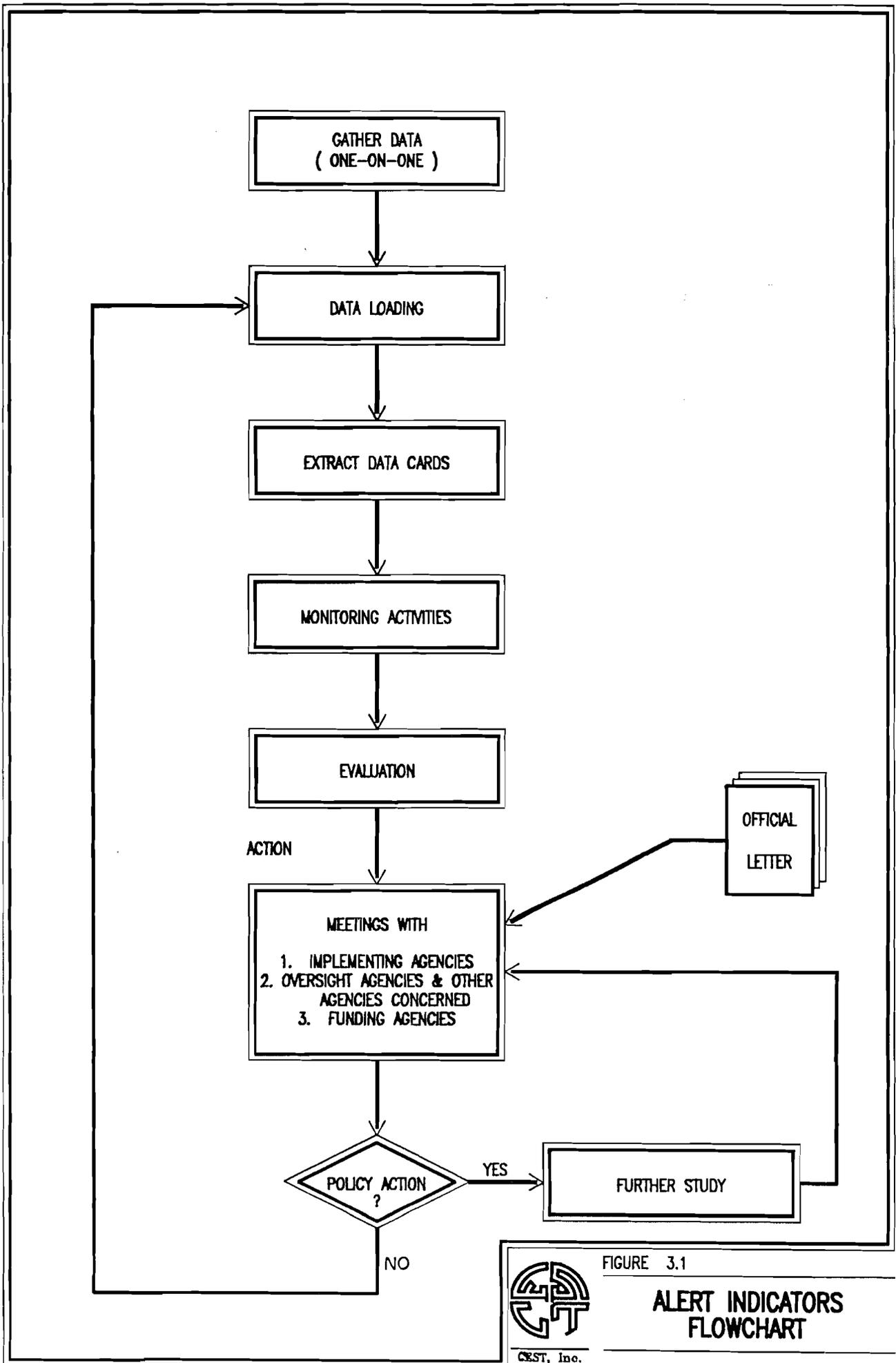


FIGURE 3.1

**ALERT INDICATORS
FLOWCHART**



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SECTION 4

CONCLUSIONS AND RECOMMENDATIONS

The responsibilities of PMS have significantly expanded over the last three years. The reasons include the need for intensified efforts to further enhance the absorptive capacity of implementing agencies for externally-sourced funds and to effect the needed interface between investment programming and project monitoring activities. Of late, PMS was tapped to backstop the Flagship Committee of the Office of the President in its monitoring and facilitation activities.

No additional infusion of resources to PMS were made to support the additional assignments. On the contrary, there has been a decline in the number of technical personnel available as well as in the budget for current operating expenditures. Fortunately, there are other internal NEDA resources which PMS can draw on to enable it to discharge its responsibilities, specifically the services of the sector staffs and the NROs. But a good working relationship needs to be established considering that these units also have other concerns to attend to.

PMS could make a further impact in improving the pace of implementation of major programs and projects by taking a more proactive role in addressing implementation problems/issues.

However, its current involvement in other aspects of monitoring delimits the time and resources that can be devoted to this activity. There is need for a clear policy statement that project facilitation and problem-solving are among the top priority activities of PMS and hence deserving of commitment of additional resources. Under this arrangement, the formulation and operationalization of problem alert indicators become more relevant.

The Consultants believes that the ideal arrangement is for only one agency to be made responsible for project facilitation and for acting on problems which are beyond the control of project management and/or implementing agency. This could either be NEDA-PMS or CCPAP, as may be decided at the policy level. If this is not practicable at the moment, a clearer delineation of functions/coverage of the two monitoring agencies should be drawn up or a scheme for collaboration of the two be formulated. The following recommendations are offered on the premise that a policy initiative to assign project facilitation and problem-solving to only one agency is not yet forthcoming.

To enhance its overall efficiency and effectiveness, correction of certain deficiencies and further strengthening of some aspects of the organization and operations of PMS are called for. The following are some suggested measures for

improvement.

1. **Adopt key problem alert indicators.** PMS should commit to operationalize the problem alert indicators herein recommended once it is decided that it shall pursue a more active problem solving/facilitating role. The mechanics for operationalizing the problem alert indicators have to be worked out in collaboration with implementing agencies who should be able to provide timely data for the identified alert indicators.

For manageability and operational viability, the Consultant is recommending just a minimum set of indicators but which are deemed sufficient in alerting top decisionmakers to take immediate action to prevent costly implementation delays. These indicators, by making possible the early detection of problems which have been persistently identified as the primary causes of poor implementation performance, can make a dent in further improving the country's ODA absorptive capacity. It is however, assumed that authorities concerned who have been so alerted will do their part with dispatch and sense of urgency.

2. Give priority to the development of the integrated system for PMS. Considering the burden imposed by operating several parallel systems, there is need to give priority to the development of the Integrated Project Monitoring System to reduce current work load of the staff and allow them more time for other substantive activities such as post programming, project facilitation and following through the recommendations in ODA portfolio and sector reviews.

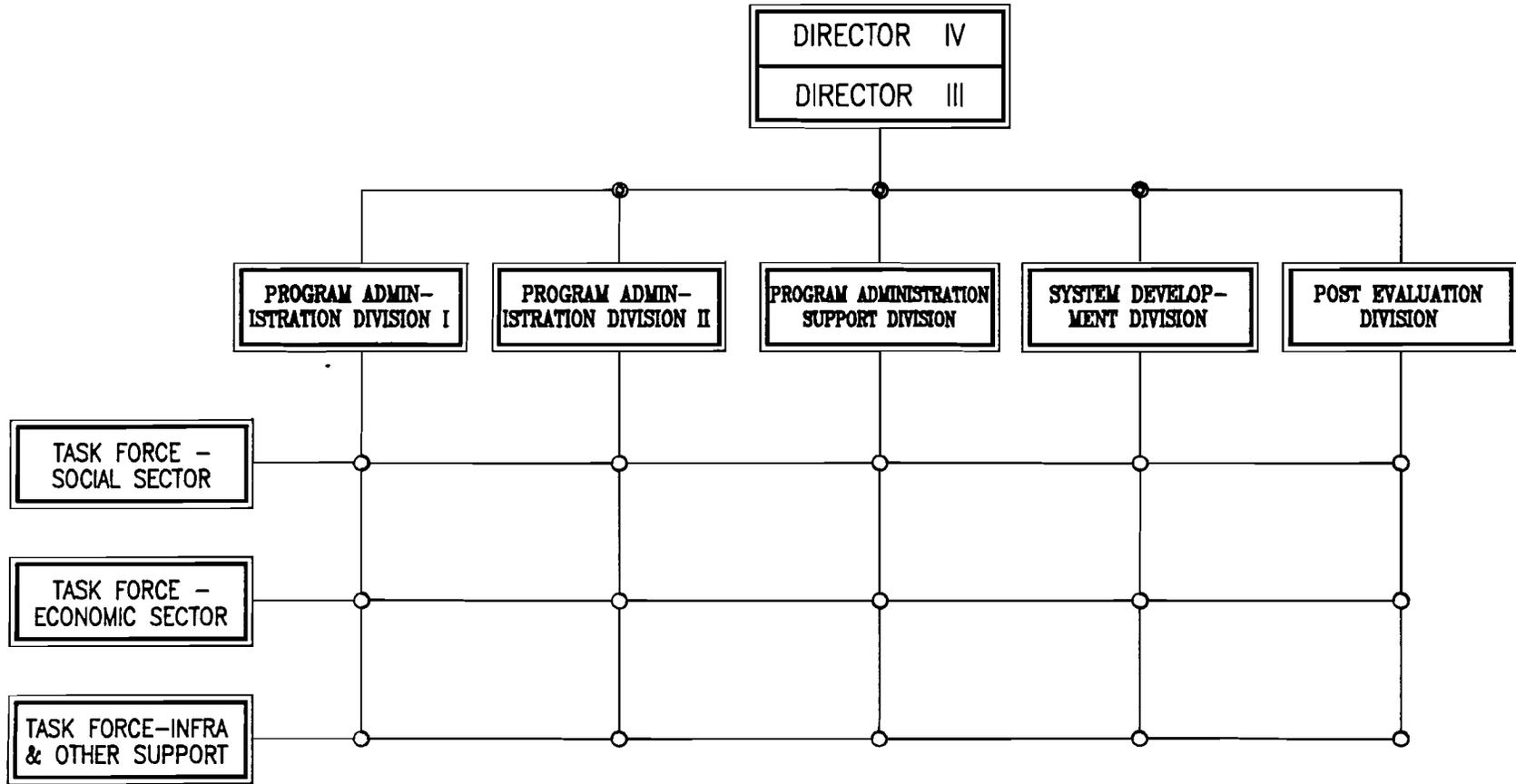
3. Define clearly NEDA management's stand on PMS involvement in problem-solving and facilitation roles. NEDA management should categorically decide whether PMS shall actively pursue problem-solving and facilitation roles and in the process compete with and duplicate the efforts of another central monitoring body (CCPAP) which has been directly involved in this area. An option is for PMS to focus on monitoring activities where it has demonstrated its distinctive strength such as in assessing the policy implications of implementation problems/issues, mounting project implementation and ODA portfolio reviews, documenting the progress and highlights of project implementation in relation to plan assessment, and projecting project benefits or estimating losses in the light of delays or cost overruns in implementation. Another option is sharing of resources and joint undertaking by both

PMS and CCPAP of project facilitation and problem solving activities. This option, aside from being mutually beneficial to both as well as the implementing agencies, will minimize overlapping/duplication of functions.

4. Gear up for facilitation. If it is decided that PMS shall pursue project facilitation on a more significant scale, it should be prepared to meet the following conditions: a) educating the personnel on the technical aspects of actual project implementation; b) commit a much higher level of time and manpower to ensure that problems are pursued to their final resolution; c) improve its accessibility and response time to requests for assistance of implementing agencies; d) establish an effective network and rapport with key officials in both line, oversight agencies and donors who are to decide on recommended solutions; and e) maintain regular interaction with PMOs and key agency officials having direct supervision over project management units. Otherwise, collaboration with CCPAP is a practical move. PMS should also be able to tap the services of the NROs and the sector staffs in the central office in this area.
5. Establish closer operational linkage with CCPAP. The Consultant attaches great importance to the establishment of a closer working relationship between PMS and CCPAP

for complementation of efforts. Both agencies have their respective areas of strength and competence. For instance, PMS has a superior grasp of policy implications of implementation issues and can call on the support of the other NEDA Staff (e.g. Infrastructure Staff) for highly technical matters while CCPAP has proved its reliability in "firefighting" type of activities owing to its established network and breadth of experience in project management. A combination of the two makes for an ideal monitoring organization. PMS can also benefit from accessing the computer facilities (hardware/software) of CCPAP.

6. Adopt a matrix organization. While the designation of a "pointman" for each sector from among senior personnel should be able to address sectoral monitoring concerns, the use of a sectoral group may provide the needed attention and continuity to sector monitoring. It is recommended that a matrix organization be considered. The Consultant also feels that the implementation of the alert indicators scheme can be more efficiently undertaken through sectoral groups within PMS assigned to track the indicators for projects of implementing agencies falling under a specific sector irrespective of source of funding, e.g., infrastructure. FIGURES 4-1, 4-2 and 4-3 are three options for a proposed restructuring of PMS. Under Option I, the present



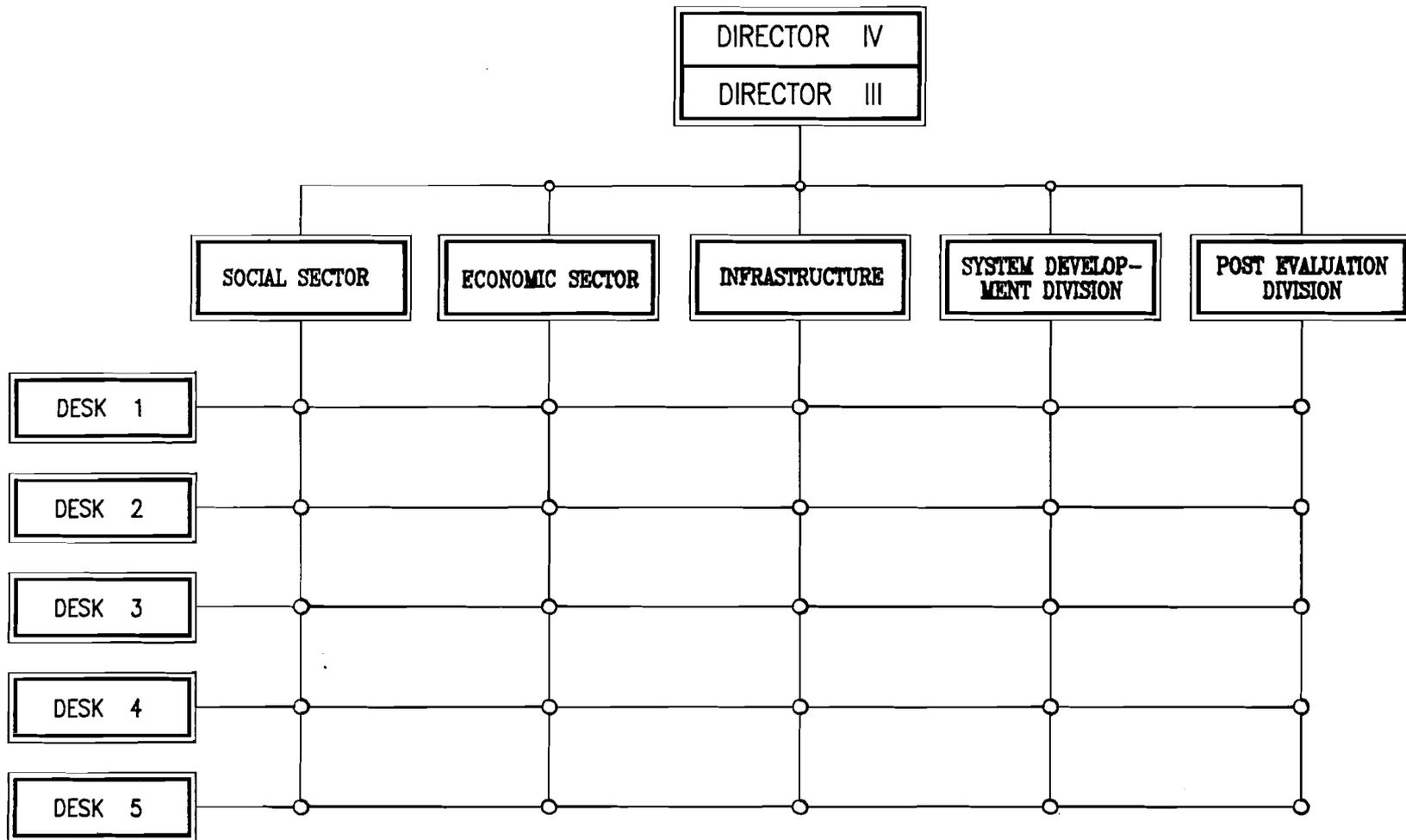
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FIGURE 4.1
PROPOSED PMS MATRIX ORGANIZATION
(OPTION I)

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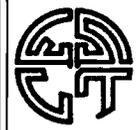
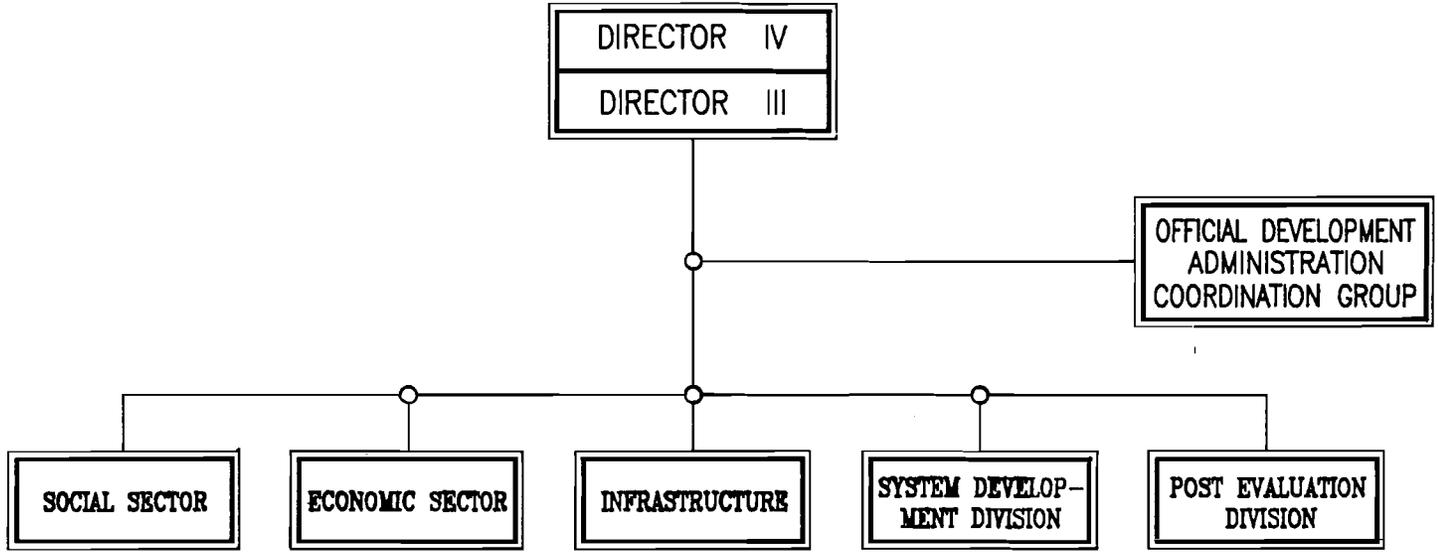
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FIGURE 4.2
 PROPOSED PMS MATRIX ORGANIZATION
 (OPTION II)

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FIGURE 4.3
PROPOSED PMS MATRIX ORGANIZATION
(OPTION III)

operating structure of PMS is retained with its five divisions providing manpower support to the three sectoral groups, i.e., Social, Economic and Infrastructure and Other Support Sectors.

Under Option II, the formal structure consisting of three sectoral divisions along with the Systems Development Division and Post Evaluation Division shall provide the specialized backstopping to the donors' desks. Each donor desk is constituted as a Task Group with members drawn from the five divisions. The donor's desk is therefore multi-sectoral in composition. Five donor's desks (task groups) or such number deemed appropriate by PMS based on anticipated work load may be organized taking into account the need for equitable distribution of workload (e.g., based on number of projects to be monitored). For instance, Desk I may be assigned to World Bank and ADB-assisted projects; Desk II for OECF and JICA; Desk III for UN system, USAID and CIDA; Desk IV for the European Community; and Desk V for Australia, New Zealand, South Korea, etc.

Option III retains the formal PMS structure but with an adhoc group or task force constituted under the Office of the Assistant Director to do the coordination and

integration of donor-oriented monitoring activities such as the preparation of the quarterly ODAMS report.

7. **Delineate clearly the functions of some divisions.** If the present internal structure is to be retained, there is need to come up with a formal statement of functions for each division to clearly spell out their distinct responsibilities. This will minimize duplication of efforts such as the one observed for PASD vis-a-vis SDD on systems development and PASD vis-a-vis PAD I and PAD II on data analysis and report preparation.
8. **Review workload distribution.** There is need to undertake a review of workload of personnel for the purpose of making the distribution of work among them more equitable. This may entail some shifting of personnel assignments from one division to another.
9. **Provide for a continuing staff development program.** For the effective operation of the alert indicator scheme herein recommended, PMS technical personnel would need orientation on the existing procedures, rules and regulations of ICC, DBM, the government as a whole, funding agencies and other agencies concerned (e.g., DENR) covering critical project implementation activities such as on procurement,

ROW acquisition, issuance of ECC, etc.. In addition to orientation seminars for the implementation of the tracking and alert indicator system, there is need to further upgrade the capability of existing personnel through short-term and hands-on type of training on relevant fields such as project preparation, impact evaluation, project appraisal, software and technical writing. Depending on the experience and skills of present manpower, the training programs may range from basic to advanced courses. Considering budget constraints, the cost of training should be tacked on to TA grants which may be secured for the strengthening of NEDA's project monitoring and evaluation functions.

APPENDICES

SECONDARY DATA SOURCES

TITLE/DESCRIPTION OF DOCUMENT

1. Project Administration Committee (PAC) Notes; As of September 1993; Asian Development Bank
2. Project Implementation Review Compilation; November–December 1993; OECF Projects
3. NEDA–PMS Reports (Forms R1, R2 and R3)
4. Annual Report for 1993; Coordinating Council of the Philippine Assistance Program
5. A Strategy for Improving Project Implementation in the Philippines; A Case Study of PFC; Project Development Institute; Development Academy of the Philippines
6. Primer and Operations Manual; Project Facilitation Committee; 1988
7. RPMES Provincial Workshop Report; 1993
8. AIDE MEMOIRE; Special Report on Cost Overruns Incurred By Completed Development Projects; 21 January 1994
9. Study on Agency Reporting Process
10. MEMORANDUM; NEDA Secretariat Evaluation of Projects for ICC Presentation
11. MEMORANDUM; Outcomes of the Second Annual Official Development Assistance (ODA) Portfolio Performance Review; 11 January 1994
12. Special Order No. 333–91; Further Strengthening of NEDA Secretariat's Internal Programming Process; 25 November 1991
13. Special Order No. 166–92; Transfer of Post–Programming Functions from the Public Investment Staff (PIS) to the Project Monitoring Staff; 19 June 1992
14. Special Order No. 164–92; Reactivation and Operationalization of the Procurement and Disbursement Unit at the Project Monitoring Staff; 23 June 1992
15. Project Facilitation "A Strategy to Unclog Bottlenecks in the Development and Implementation of Foreign Assisted Projects"; September 1991

APPENDIX B

APPENDIX B

| NAME | OFFICE | DESIGNATION |
|--|--|---|
| A. NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY (NEDA) | | |
| Rolando Tungpalan Jurisita Quintos Teresita Manipon Oscar Balbastro Aleli Lopez Dee Zenaida Leonardo Athena Bacquisal Wilfredo de Perio Felicisimo David, Jr. Tina Adina Arvic Lee | Project Monitoring Staff Project Monitoring Staff Management Information Systems Staff NRO IV – MISS PMS – PASD PMS – PAD I PMS – PAD II PMS – Post Evaluation PMS – System Development MISS Public Investment \staff | Director Asst. Director Director Director Division Chief Division Chief Division Chief Division Chief Division Chief Division Chief Senior Specialist |
| B. COORDINATING COMMITTEE ON PHILIPPINE AID PLAN | | |
| Orlando Cablayon Joy Escaro | Project Facilitation Group | Executive Director Director |
| C. DEPARTMENT OF EDUCATION, CULTURE AND SPORTS | | |
| Ramon Bacani Carolina Perez Jesus Aramil | Monitoring & Education Secondary Education Dev't. Project Agricultural Technology Education Project | Asst. Secretary |
| D. METROPOLITAN WATERWORKS AND SEWERAGE SYSTEM | | |
| Juanito Galvez | Construction Management | Chief Engineer |
| E. DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS | | |
| Ernesto Quinquileria | ADB – PMO | Director |
| F. DEPARTMENT OF AGRICULTURE | | |
| Francisco Ramos III | Special Concerns Office Project Assistance Division | Division Chief |
| G. DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS | | |
| Cesar Valbuena George Esguerra | Planning Office | Asst. Secretary Director |
| H. PMS CONSULTANTS FOR OECF PROJECTS | | |
| Hiro Oita Rawlinson Dimayuga Rey Abella | | Consultant Procurement Consultant Financial Consultant |

APPENDIX C

LIST OF PROJECTS REVIEWED**A ASIAN DEVELOPMENT BANK FUNDED**

1. Forestry Development Project
2. Fourth Road Improvement Project
3. Highland Agricultural Development Project
4. Second Manila Port
5. Agricultural Technology Education Project
6. Forestry Sector Program
7. Secondary Education Development Sector
8. Fourteenth Power Sector Project
9. Sorsogon Integrated Area Development Project
10. Small and Medium Industry Project
11. Infrastructure Resotration Project
12. Second Manila Water Supply Project
13. Fisheries Sector Program
14. Fifteenth Power Sector Project
15. Angat Water Supply Optimization Project
16. Low Income Upland Communities Project
17. Second Palawan Integrated Area Development Project
18. Sixteenth Power (Masinloc Thermal Power) Project
19. Irrigation Systems Improvement Project
20. Second Inland Provinces Rural Water Supply Project
21. Earthquake-Damage Reconstruction Project
22. Metropolitan Cebu Water Supply Project
23. Fifth Road Improvement Project
24. Development Bank of the Philippines III
25. Industrial Forest Plantation Project
26. Kabulnan Irrigation and Area Development Project
27. Second NGO Microcredit Project
28. Manila South Water Distribution Project
29. Mt. Pinatubo Damage Rehabilitation Project
30. Forestry Sector Project
31. MERALCO Distribution Project
32. Small Farmers Credit
33. Umiray-Angat Transfusion Technical Assistance Project
34. Non-formal Education Project

LIST OF PROJECTS REVIEWED

B. OVERSEAS ECONOMIC COOPERATION FUND (JAPAN) FUNDED

1. Ilocos Norte Irrigation Project (Stage 1)
2. Metro Manila Radial Road No. 10 and Related Roads Project (Stage 1)
3. Nationwide Flood Control Dredging Project (Telemetering)
4. Bohol Irrigation Project (Stage 1)
5. Nationwide Air Navigation Facilities Modernization (II)
6. Flood Forecasting and Warning System for Dam Operation (II)
7. Circumferential Road No. 3 Construction Project
8. Metro Manila C-5 and R-4 Construction Project
9. Metro Manila Flood Control Project (II)
10. Feeder Ports Program
11. Regional Telecom Development Project, Regions I and II, Phase B
12. Provincial Cities Water Supply Project I
13. Export Industry Modernization Project (II)
14. Small Water Impounding Management Project
15. Metro Manila Traffic Engineering and Management Project (III)
16. Lower Agusan Development Project, Stage I, Phase I
17. Engineering Services Package
18. PJFH Rehabilitation Project
19. Metro Cebu Development Project
20. Metro Manila Urban Transportation Project
21. Maritime Communications Project, Phase I
22. Revitalization of Main Line South Project, Phase I
23. West and Northwest Leyte Road Improvement Project, Phase II
24. Regional Tourism Roads Development Project
25. Metro Manila Interchange Construction Project
26. South Luzon Expressway Construction Project
27. Rehabilitation and Maintenance of Bridges Along Arterial Road (I)
28. Disaster Prevention and Rehabilitation Project
29. Pampanga Delta Development Project, Flood Control Component (I)
30. Meteorological Telecommunication System Development Project
31. Rural Water Supply Project (IV)
32. Angat Water Supply Optimization Project
33. National Telephone Program, Phase I, Trancha 1-1
34. Malitubog-Maridagao Irrigation Project
35. Metro Cebu Development Project (II)
36. Metro Manila Depressed Area Electrification Project
37. Rehabilitation and Maintenance of Bridges Along Arterial Roads Project (II)
38. Metro Manila Interchange Construction Project (II)
39. Metro Manila Roads Pavement Improvement Project
40. Rural Road Network Development Project (I)
41. Improvement and Modernization of PNR Commuter Line South Project
42. Mactan International Airport Development Project
43. Maritime Safety Improvement Project
44. Batangas Port Development Project
45. Pampanga Delta Development Project (Irrigation Component)
46. Provincial Cities Water Supply Project (2)

LIST OF PROJECTS REVIEWED

47. MERALCO Rural Electrification Project
48. Fishing Ports Development Project
49. Cavite Export Processing Zone Project
50. Elementary Education Project.
51. Second Mandaue – Mactan Bridge Construction Project
52. Rosario–Pugo–Baguio Road Rehabilitation Project
53. Regional Telecommunication Development Project,
Regions I and II, Phase C
54. Engineering and Science Education Project
55. Forestry Sector Project
56. Ninoy Aquino International Airport Terminal 2 Development Project
57. Metro Manila LRT Network Expansion Project
58. ASEAN–Japan Development Fund for the Philippines
59. Calaca I Coal–Fired Thermal Power Plant Environmental
Improvement Project
60. Calaca II Coal–Fired Thermal Power Plant Project

C. WORLD BANK FUNDED

1. Health Development Project
2. Rural Finance Project
3. Bacon–Manito Geothermal Power Project (PNOC)
4. Bacon–Manito Geothermal Power Project (NAC)
5. Energy Sector Project (NPC)
6. Rural Electrification and Revitalization Project
7. Highway Maintenance Project
8. Second Communal Irrigation Development Project
9. Second Rural Roads Improvement Project
10. Environment and Natural Resources Sector Adjustment Loan
11. Energy Sector Project (PNOC)
12. Second Elementary Education Project
13. Water Supply, Sewerage and Sanitation Sector Project
14. Engineering and Science Education Project
15. Tax Computerization Project
16. Energy Sector Project (DENR)
17. Energy Sector Loan
18. Angat Water Supply Optimization Project
19. Manila Power Distribution Project
20. Provincial Ports Project
21. Power Transmission and Rehabilitation Project
22. Second Irrigation Operations Support Project
23. Telephone System Expansion
24. Third Municipal Development Project
25. Industrial Restructuring
26. Earthquake Reconstruction Project
27. Second Municipal Development Project
28. Metro Manila Water Distribution Project

APPENDIX D



NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

NEDA sa Pasig, Amber Avenue Pasig, Metro Manila

Cable Address: NEDAPHIL

P.O. Box 419, Greenhills

Tels. 673-50-31 to 50

SPECIAL ORDER NO. 333-91

25 November 1991

TO : All Concerned NEDA Officials and Employees

SUBJECT : FURTHER STRENGTHENING OF NEDA SECRETARIAT'S
INTERNAL INVESTMENT PROGRAMMING PROCESS

1. In the exigencies of the service, and to effect the operational linkage between investment programming and monitoring and evaluation, the following internal reassignments relative to the functions and activities of the Project Monitoring Staff (PMS) are hereby prescribed:

A. The PMS shall be primarily responsible for monitoring the performance of ongoing programs and projects and the expost evaluation of completed projects. Its project monitoring tasks shall particularly be refocused towards responding to the following concerns:

- (i) improving ODA programming through the provision of inputs to, or participation in, various donor fora, and feedback on performance of ongoing/completed projects by donors, etc;
- (ii) improving project evaluation, prioritization and selection process through the provision of inputs to and participation in ICC reviews, and feedback on the performance of major development projects;
- (iii) improving ODA disbursement performance through the reactivation of a procurement and disbursement unit, selective problem-solving and project facilitation activities, and coordination of the conduct of country/program implementation reviews;
- (iv) improving MTRIP process through the provision of feedback on the performance of the MTRIP for its periodic updating; and
- (v) continuing review of the funds flow mechanisms to ensure efficient absorption of ODA funds.

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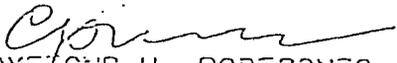
In addition, the PMS shall be responsible for generating the necessary data and information critical to the evaluation of proposed as well as ongoing ODA-assisted projects, to wit:

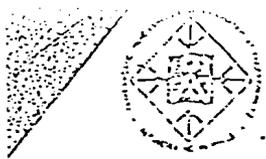
- (i) extent to which project objectives have been met;
- (ii) extent to which funds have been utilized with recommendations on: (a) reprogramming, (b) cancellations, (c) augmentation, and (d) expansion to subsequent phases;
- (iii) availability of counterpart funds in the succeeding years of project implementation; and
- (iv) information on implementation experiences for on-going projects similar to that being evaluated.

B. Other de facto tasks currently being undertaken by the PMS outside its formal mandate and functions are hereby transferred and assigned to concerned Offices/Staffs/NROs as indicated hereunder:

| <u>Activity</u> | <u>Responsible Office/Staff/NRO</u> |
|--|--|
| o Coordination of pre-investment activities of region-based projects, including proposals submitted by Congressmen | - Respective NROs which shall coordinate directly with concerned Sector Staffs |
| o Updating and maintenance of the Project Tracking System for proposed region-based projects | - Respective NROs cc: PIS for tracking and coordination purposes |
| o Responding to/sorting out requests or complaints of local officials, Congressmen, and concerned citizens on various matters (particularly those referred to the NS by OP thru the Presidential Action Line System) | - Office of ADG/RDO |
| o Following up status of project preparation activities funded under the PFC - Feasibility Studies Fund | - RDGS |

- iv. Establish regular communication with financial institutions to facilitate procurement and disbursement processes;
 - v. Review requests for loan/grant restructuring, extension and cancellation/deobligation, as well as requests for budget realignments;
 - vi. Conduct studies pertaining to procurement and disbursement methods with the view to improving their administration; and
 - vii. Develop and maintain a data bank for efficient storage and retrieval of procurement and disbursement records of foreign assisted projects.
4. In addition, the PDU shall coordinate activities pertaining to donors' contract mission, disbursement mission and specific project implementation reviews.
 5. The PDU shall prepare periodic report on the status of procurement and disbursement of various projects.
 6. The PDU shall be staffed by three (3) full-time professionals and two (2) support personnel hired on a contractual basis and supported by part-time personnel from PMS. Representatives from the DOF, BTR and DBM will assist the PDU in carrying out its activities through an Inter-Agency Steering Committee.
 7. In order to effectively carry out its activities, the PDU personnel shall be trained in the following areas:
 - i. Procurement and Disbursement Procedures of international financing institutions
 - ii. Project Management
 - iii. Loan and contract negotiation
 - iv. Project Monitoring and Evaluation
 - v. Other relevant training courses
 8. The NEDA shall arrange funding support and other technical assistance from donor institutions for PDU's institutional development as may be necessary. Funds for operating expenses shall be sourced from government appropriations.
 9. For immediate implementation.


CAYETANO W. PADERANGA, JR.
Secretary of Socio-Economic Planning
and NEDA Director-General



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. 673-5031 to 50

Special Order No. 164-92
Date 23 June 1992

TO : All Concerned

SUBJECT : Reactivation and Operationalization of the
Procurement and Disbursement Unit at the
Project Monitoring Staff

1. In response to the need to improve the administration of foreign-assisted projects and resolve bottlenecks pertaining to the procurement of goods and services and the disbursement of loan proceeds, the Procurement and Disbursement Unit (PDU) is hereby reactivated and operationalized immediately.
2. Inasmuch as the activities involved are within the purview of the Project Monitoring Staff (PMS), i.e., in the nature of post-programming and project facilitation, and for coordination purposes, the PDU shall still be lodged at PMS. However, the Infrastructure Staff (IS) shall handle the procurement aspects of the Unit since it has the expertise and currently performs developmental activities pertaining to procurement. Procurement-related problems/issues on foreign assisted projects monitored by and/or brought to the attention of PMS shall therefore be referred to IS for appropriate action, with PMS support.
3. The major functions of the PDU are:
 - i. Identify and analyze problem areas, and recommend appropriate measures for resolving identified problems in the procurement of works, goods and services and the availment/utilization of foreign loans;
 - ii. Coordinate inter-agency meetings and provide advice to implementing agencies on matters pertaining to requirements, procedures and processes involved in procurement and disbursement;
 - iii. Provide technical assistance to and/or coordinate the conduct of training for implementing agencies on the policies and procedures for procurement and loan availment;

4. Monitoring and facilitation of ongoing umbrella facilities will be the responsibility of PMS. However, activities involving subproject identification and programming under such umbrella facilities will continue to be the responsibility of PIS.
5. Exceptions to this issuance are the following:
 - a. Post-programming activities for ongoing UNDP-assisted projects under the Fourth Country Programme (CP) which shall continue to be performed by PIS;

Post-programming activities by PMS shall commence with new projects to be approved under existing UNDP Fourth CP balances; and
 - b. Post-programming activities for projects due for completion within 1992, with no extensions, currently being handled by PIS.
4. Turn-over shall be done on a project-by-project basis. To effect the smooth turn-over of activities, the following measures are hereby directed to be undertaken on a priority basis:

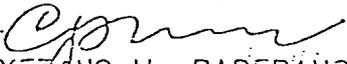
PIS

- a. To turn over to PMS the following documents:
 1. relevant project files, e.g., communications, project documents, contact persons in agencies; and
 2. relevant donor files, e.g., contact persons at donor/Embassy, documents/manuals on disbursement procedures;
- b. To provide assistance to PMS for succeeding post-programming activities until one month after actual implementation of this SO.

PMS

- a. To implement necessary internal measures for the performance of post-programming functions.

5. PIS shall henceforth inform PMS of developments pertaining to signing of loan/grant agreements or similar instruments and to provide PMS with copies of newly signed loan/grant agreements, record of discussions or similar documents.
6. All NEDA units are enjoined to provide PMS and PIS their usual cooperation.


CAYETANO W. PADERANGA, JR.
Director-General

Special Order No. 164-92

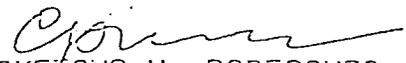
Date 22 June 1992

TO : All Concerned

SUBJECT : Reactivation and Operationalization of the
Procurement and Disbursement Unit at the
Project Monitoring Staff

1. In response to the need to improve the administration of foreign-assisted projects and resolve bottlenecks pertaining to the procurement of goods and services and the disbursement of loan proceeds, the Procurement and Disbursement Unit (PDU) is hereby reactivated and operationalized immediately.
2. Inasmuch as the activities involved are within the purview of the Project Monitoring Staff (PMS), i.e., in the nature of post-programming and project facilitation, and for coordination purposes, the PDU shall still be lodged at PMS. However, the Infrastructure Staff (IS) shall handle the procurement aspects of the Unit since it has the expertise and currently performs developmental activities pertaining to procurement. Procurement-related problems/issues on foreign assisted projects monitored by and/or brought to the attention of PMS shall therefore be referred to IS for appropriate action, with PMS support.
3. The major functions of the PDU are:
 - i. Identify and analyze problem areas, and recommend appropriate measures for resolving identified problems in the procurement of works, goods and services and the availment/utilization of foreign loans;
 - ii. Coordinate inter-agency meetings and provide advice to implementing agencies on matters pertaining to requirements, procedures and processes involved in procurement and disbursement;
 - iii. Provide technical assistance to and/or coordinate the conduct of training for implementing agencies on the policies and procedures for procurement and loan availment;

- iv. Establish regular communication with financial institutions to facilitate procurement and disbursement processes;
 - v. Review requests for loan/grant restructuring, extension and cancellation/deobligation, as well as requests for budget realignments;
 - vi. Conduct studies pertaining to procurement and disbursement methods with the view to improving their administration; and
 - vii. Develop and maintain a data bank for efficient storage and retrieval of procurement and disbursement records of foreign assisted projects.
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 6. The PDU shall be staffed by three (3) full-time professionals and two (2) support personnel hired on a contractual basis and supported by part-time personnel from PMS. Representatives from the DDF, BTR and DBM will assist the PDU in carrying out its activities through an Inter-Agency Steering Committee.
 7. In order to effectively carry out its activities, the PDU personnel shall be trained in the following areas:
 - i. Procurement and Disbursement Procedures of international financing institutions
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 9. For immediate implementation.


CAYETANO W. PADERANSA, JR.
Secretary of Socio-Economic Planning
and NEDA Director-General

APPENDIX E

INVENTORY OF PMS COMPUTER HARDWARE
 AS OF JANUARY 1994

1/2

| COMPUTER NAME | MODEL | SERIAL NO. | SOURCE/DATE ACQUIRED | STATUS |
|--|------------------------------|--------------|----------------------|-------------|
| 1 SERVER | | | | |
| a) CPU with hard disk | Arche Pro-file 386-33 Cache | VJ01125 | February 1992 | Operational |
| b) MONITOR | Arche 2149 (VGA) | 129182731.28 | ADB-TA PES | Operational |
| c) KEYBOARD | Arche | 004307107 | | Operational |
| 2 CCPAP (OP-LAN) - Systems | | | | |
| a) CPU with hard disk | ALR Business VEISA | 33117 | April 1992 | Operational |
| b) MONITOR | ALR Flexview 2x (SVGA) | A114082 | CCPAP | Operational |
| c) KEYBOARD | ALR RT101 + | 36028031 | | Operational |
| d) PRINTER (w/ transformer) | EPSON FX 1050 | OE11301369 | | Operational |
| e) MOUSE | ALR Model 401 (PS/2 Version) | 0008394 | | Operational |
| f) MODEM | | | | Operational |
| 3 ADB 1 - PED with LAN Card | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | NONE | February 1991 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182813.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 30018256 | | Operational |
| d) MOUSE | MIKI | | | Operational |
| e) PRINTER | HP LaserJet IIIp | 3128JU49RY | | Operational |
| 4 ADB 2 - PED | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | none | February 1992 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182800.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 002005092 | | Operational |
| 5 ADB 3 - Secretary (Office of the Director) | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | none | February 1992 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182812.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 002005068 | | Operational |
| d) PRINTER | FUJITSU MB 27409 | 32653 | | Operational |
| 6 ADB 4 - Director with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506289 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30221945 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 7 ADB 5 - Asst Director | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506288 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30221933 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 8 ADB 6 - PASD with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506204 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30220971 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |

| COMPUTER NAME | MODEL | SERIAL NO. | SOURCE/DATE ACQUIRED | STATUS |
|----------------------------------|---------------------------|---------------|-----------------------|---------------|
| 9 ADB7 - PAD I with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506290 | August 1993 ADB-TA | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30220977 | | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 10 JICA2 - Systems | | | | |
| a) CPU | COMPAQ Prolines 4/50 | A306HDV 40002 | May 1993 JICA | Operational |
| b) MONITOR | COMPAQ SVGA Color Monitor | | | Operational |
| c) PRINTER | HP Laserjet 4 | JPBS016576 | | Operational |
| d) UPS | APC Back-UPS 6001 | W930123018 | | Operational |
| 11 JICA2 - Systems | | | | |
| a) CPU | COMPAQ Prolines 4/50 | A306HDV 40002 | May 1993 JICA | Operational |
| b) MONITOR | COMPAQ SVGA Color Monitor | | | Operational |
| c) PRINTER | HP Deskjet 5500 | SG365170PF | | Operational |
| d) UPS | APC Back-UPS 6001 | | | Operational |
| 12 RPMES1 - PAD II with LAN Card | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 RPMES | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 13 RPMES2 - PAD II | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 RPMES | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 14 RPMES3 - PASD with LAN Card | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 RPMES | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 15 Bernoulli Drive | | | February 1992 | Not Installed |

APPENDIX F

NEDA PMS Comments on the
Preliminary Report dated March 1994

Comments on the Problem Alert Indicators

| PROPOSED INDICATOR | COMMENTS |
|---|--|
| <p>A. Design/Pre-Implementation</p> <ol style="list-style-type: none"> 1. Percentage Variance in ICC Approved Cost and Estimated Cost Based on D/E 2. Time Variance for Loan Effectivity 3. Time to Fulfill Pending ICC Requirements | <p>Assumption in comparing the two should cover the same project scope</p> <p>PMS will be responsible for monitoring the compliance to conditionalities 2 1/2 weeks prior to loan effectivity and will be responsible for reminding the PIS regarding non-compliance. PIS will be the staff-responsible in following up and initiating action regarding agency's meeting the conditions for the loan to be effective.</p> <p>Loan signing to effectivity date normally takes 90 days.</p> <p>Milestones to be identified</p> |
| <p>B. Management</p> <ol style="list-style-type: none"> 1. Establishment of PMO | <p>Not a generic or a major problem in general</p> <p>This is a qualitative indicator</p> |
| <p>C. Procurement</p> <ol style="list-style-type: none"> 1. Time Variance on Bidding/Award of Contract 2. Time Variance on the Mobilization of Major Equipment for the Project | <p>Check status of bidding/award stage at around 60-70% of the elapsed time</p> <p>Set standard/average duration for services/civil works and equipment procurement</p> <p>Should not only cover setting-up of the field office.</p> |
| <p>D. Financial</p> <ol style="list-style-type: none"> 1. Time variance in Fund Release 2. Percentage Variance in Actual Release of Programmed Fund | <p>Fund release to indicate the issuance of the NCA.</p> <p>One month delay in the release is already critical to project implementation.</p> <p>Ideally, fund release should be 60% by the 1st quarter, 80% by the 3rd quarter and 100% by the 4th quarter.</p> <p>Does programmed amount refer to cash portion only?</p> |

Comments on the Problem Alert Indicators

| PROPOSED INDICATOR | COMMENTS |
|--|--|
| <p>3. Loan Utilization Rate (Cumulative)</p> | <p>Should be compared with Time Elapsed.</p> <p>What is the "allowable slippage" relative to target?</p> <p>Formula: Percentage of cumulative actual disbursement to loan amount net of cancellation</p> |
| <p>4. Loan Availment Rate (Cumulative)</p> | <p>Should be compared against what?</p> <p>Reliability of the scheduled cumulative disbursement presently being computed by the desk officers</p> <p>What is the "allowable slippage" relative to target?</p> |
| <p>5. GOP Utilization Rate</p> | |
| <p>6. Variance in Programmed Fund (Approved Budget) and Project Requirements (Budget Request)</p> | <p>At what stage is the difference between budget request and approved budget computed? Agency? DBM? Congress?</p> |
| <p>7. Funding Mix Ratio</p> | <p>Ratio of cumulative GOP counterpart funds to loan (cash and non-cash) disbursement</p> <p>Limitation is there is no uniform standard; it is on a project by project basis</p> <p>Loan/grant agreements will show baseline funding mix ratio</p> |
| <p>E. Physical</p> <p>1. Percentage of Physical Accomplishment (Based on Original and Revised Targets on a Cumulative Basis)</p> | <p>Can we relate/compare physical and financial indicators?</p> |
| <p>F. Others</p> | <p>How do we track/"alerted" on ROW problem?</p> <p>All indicators require data which come in at least 1 month late. What is the more "alert" mode of getting these information?</p> |

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC & DEVELOPMENT AUTHORITY

SYSTEM FOR TRACKING COST / TIME OVERRUN PHASE 2

FINAL REPORT
AUGUST 1994

 **CEST, Inc.**
CONSULTANTS FOR ENGINEERING, SCIENCE & TECHNOLOGY, INC.

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SECTION 1

INTRODUCTION

SECTION 1

INTRODUCTION

1.1 BACKGROUND

The experience in project implementation in the country indicates that, more often than not, foreign-assisted projects are executed and completed beyond the original estimates of project implementation period and cost. The result is delayed realization of expected benefits and further strain on the government's tight finances. The reasons for these overruns are varied ranging from deficiencies in project preparation and detailed engineering to a host of problems encountered during implementation. A cursory examination of progress reports of the Asian Development Bank (ADB), World Bank and OECF-assisted projects showed the range of problems commonly besetting project implementation. This has been documented in the Consultant's report on Problem Alert Indicators.

The immediate effect of implementation problems usually is negative slippage which if not remedied soon enough results in requests for time extension. A graver consequence of implementation delays is cost overrun which eats up funds which could have been otherwise expended for other productive activities or projects.

1.2 PMS STUDY

The NEDA-Project Monitoring Staff early this year completed a study on time/cost overruns covering some 72 projects that were completed from 1976 to 1991. Covering the various sectors, the projects included 35 projects funded by the ADB, 26 projects by the World Bank, 10 projects by OECF and one project by USAID.

Of a total of 72 projects, 37 incurred cost overrun in the aggregate amount of about US\$800 million. On the other hand, 31 projects registered cost underruns amounting to about US\$655 million mainly due to major redesign or scaling down of project scope.

Cost overruns exceeding 100 percent were incurred by 10 projects accounting for US\$416.50 million or 52 percent of the aggregate overruns for the 37 projects.

By sector, transport projects had the most number incurring cost overruns, with 14 out of 17 projects experiencing overruns in the amount of US\$426.4 million or 33 percent of total actual costs.

A glaring finding is that all these costs overruns were fully absorbed by GOP. As a result, GOP counterpart funds spent for the 72 projects rose from the expected US\$1,951 million to US\$2,428 million, or an increase of US\$477 million. This additional cost was incurred despite the underruns in 31 projects. For the projects that incurred cost overruns, GOP counterpart rose from 44 percent to 62 percent, exceeding expected cost shares by US\$804.77 million, i.e., for the estimated US\$749.42 million GOP share

to an actual expenditure of US\$1,554.19 million.

The PMS study pointed to the following as major causes of the cost overruns:

- price escalation of construction materials and other inputs and/or the inclusion of additional works, the costs of which were not considered at appraisal;
- errors in estimates of quantities or insufficient allowances for price and physical contingencies at the appraisal stage;
- depreciation of the peso vis-a-vis the dollar which substantially increased local costs; and
- prolonged implementation period due to various causes.

With respect to time overruns, 64 of the 72 projects were completed behind schedule. Only two projects were completed ahead of schedule while six projects were completed on schedule. The time overrun ranges from a delay of a couple of months to 7.9 years.

Time overruns were traced by the PMS study to the following major causes:

- insufficient and/or delayed releases of GOP counterpart funds;

- delays in the bids and awards process for consultants and/or civil works contractors;
- problems in procurement, including delayed arrival of equipment procured through international competitive bidding (ICB);
- poor performance of contractors, which include incapacity to provide needed labor and/or frequent equipment breakdown;
- problems with right-of-way acquisition;
- problems related to institutional capacity:
 - delayed establishment of project management offices, including delays in staffing;
 - changes in staff/personnel arising from agency-wide re-organizations;
 - unfamiliarity with or delays in learning of procurement and disbursement procedures of financing institutions by agency or project staff.
- force majeure including natural calamities and unstable peace and order situation in project areas.

There seems to be no assurance that ongoing projects and those still in the pipeline may not suffer the same fate as those of the 72 completed projects in terms of incurrence

of significant cost/time overruns. The development of a system for tracking these overruns hopefully can serve as one of the tools that could contribute in minimizing the incidence of the problem, along with measures to address the specific causes of cost-time overruns as identified in the PMS study.

SECTION 2

**GENERAL DESCRIPTION
OF THE SYSTEM**

SECTION 2

GENERAL DESCRIPTION OF THE SYSTEM

2.1 INTRODUCTION

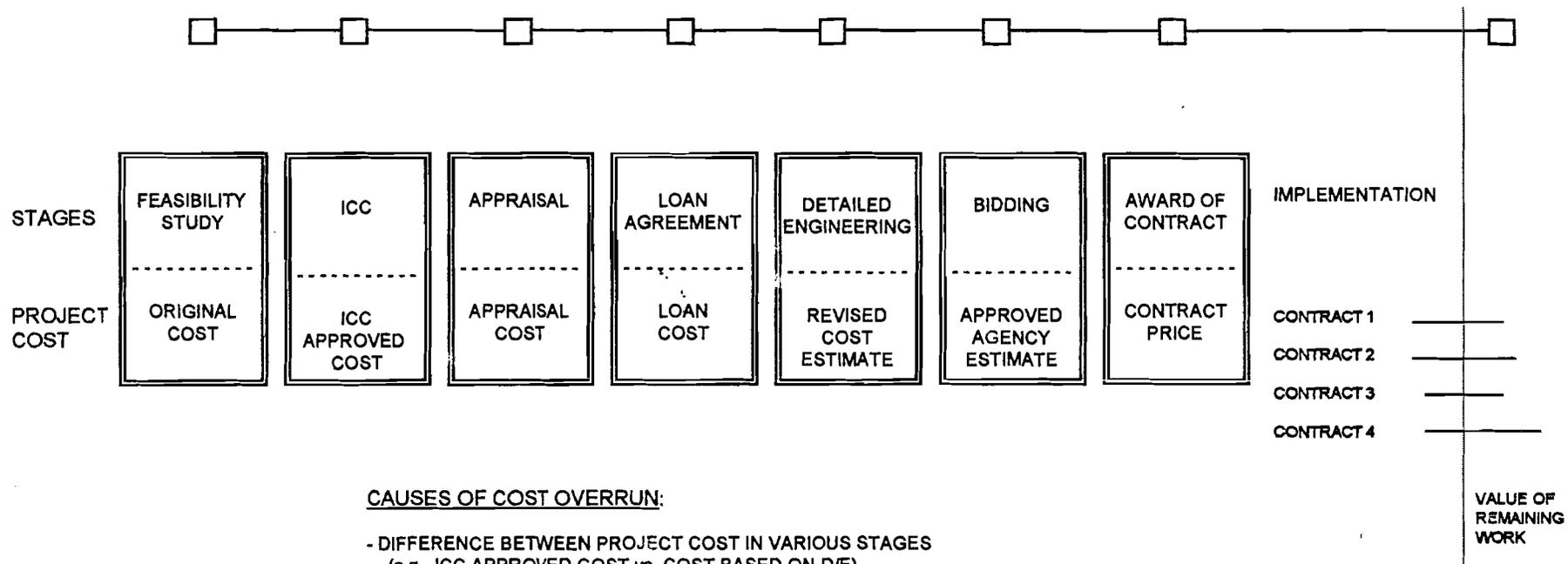
The cost/time overrun tracking system is a computer-based system designed to track the costs and time schedules of ICC projects. Basically, the tracking of project cost involves monitoring of the various cost estimates during the pre-implementation stage and monitoring the actual project cost during the implementation stage (see Figure 2-1). In the course of tracking the projects, the system shall also monitor time overruns as a result of slippage in project implementation. The system shall help identify the causes of cost/time overruns of projects. With the help of the system, NEDA-PMS will be able to act on and recommend appropriate actions on the projects such as request for loan extension or loan cancellation. The system will also alert the users if projects will experience major financing shortfall as a result of the cost overrun.

2.2 FEATURES OF THE SYSTEM

The cost/time overrun tracking system shall have the following features:

- PMS, the focal staff of the system, undertakes data gathering, data processing, analysis and reporting.

FIGURE 2-1
 FRAMEWORK FOR COST OVERRUNS / CHANGES IN CONFIGURATION



CAUSES OF COST OVERRUN:

- DIFFERENCE BETWEEN PROJECT COST IN VARIOUS STAGES
 (e.g. ICC APPROVED COST vs. COST BASED ON D/E)
- CHANGE ORDER
- PRICE ESCALATION
- IMPLEMENTATION DELAY
- FORCE MAJEURE

12/1

Information required by the system will mainly be based on the existing reports submitted to NEDA. The system is designed not to overburden the proponent and/or implementing agencies with additional monitoring reports to suit the information requirements of the system. The efficiency of the system mainly depends on quality and timely submission of reports to NEDA.

- The system was developed using Foxpro software running under a Novell-based LAN environment. Since the system involves a lot of data processing activities such as data entry, it is designed to run under a multi-user environment. The system is designed to be consistent with the existing computer-based system of PMS like the MTPIP and ODA systems, although some improvements can still be made on other PMS computer-based system. To facilitate the development of the system, it was initially developed on a stand-alone basis. This isolates potential problems of the system from the rest of the PMS system and the network system during the course of installation and testing of the system. Eventually, the database of the cost/time overrun tracking system needs to be integrated with the other tracking-related databases under the LAN environment. The integration process will avoid redundancies and other inefficiencies in running the different PMS computer-based systems.

SECTION 3

**SYSTEMS ANALYSIS
AND DESIGN**

SECTION 3

SYSTEMS ANALYSIS AND DESIGN

3.1 . IMPLEMENTATION SCHEME

- The initial findings on the computer system capability of PMS were incorporated in the Phase I report. The Phase II of the project involves the development of the system. To facilitate systems development, the Systems Analysis (SA) was undertaken. The Context analysis activity, a part of the SA stage, was done to define and confirm the detailed scope of the system.
- After the context analysis activity, the Requirements Analysis activity was then conducted to define the various functions that will be incorporated in the system.
- Based on discussions regarding the detailed mechanics behind each functional requirement, the structures systems analysis specifications were prepared leading to the completion of the Systems Analysis stage.
- During the subsequent Systems Design stage, the functional specifications were translated into technical specifications - a form more readily useful in coding the computer programs. The structured systems design specifications showed how the functions identified in the systems analysis specifications performed.

- The initial system specification (analysis and design specifications) was discussed and submitted to NEDA for its review and comments. Following discussions on the matter, the suggestions of NEDA were incorporated in the specifications to further fine tune the functionality of the system.
- With the completion of the Systems Design stage, the remaining portion of the project was devoted to computer programming of the system. As in other systems, the basic modules are data entry, data processing, and report generation.
- Upon unit testing of all modules, the whole system shall be installed and tested for acceptance by the NEDA representatives.
- Complete system documentation will be prepared to guide users and system administrators in using and managing the system effectively.
- Upon approval of the system documentation by NEDA, training sessions will be conducted for the benefit of the users and system administrators.
- The final report on all accomplishments and recommendations of the project team will be prepared and submitted to NEDA. The document will contain final versions of the system specifications to incorporate whatever non-structural and mutually agreeable modifications that may become necessary during the course of computer programming.

3.2 OVERALL FRAMEWORK OF THE SYSTEM

Data Flow Diagrams of the System

The data flow diagram of the cost/time overrun tracking system are network representations of the system showing its active components and its data interface. Each component represents important processes necessary in producing the required outputs to meet the system objectives.

The Context Diagram

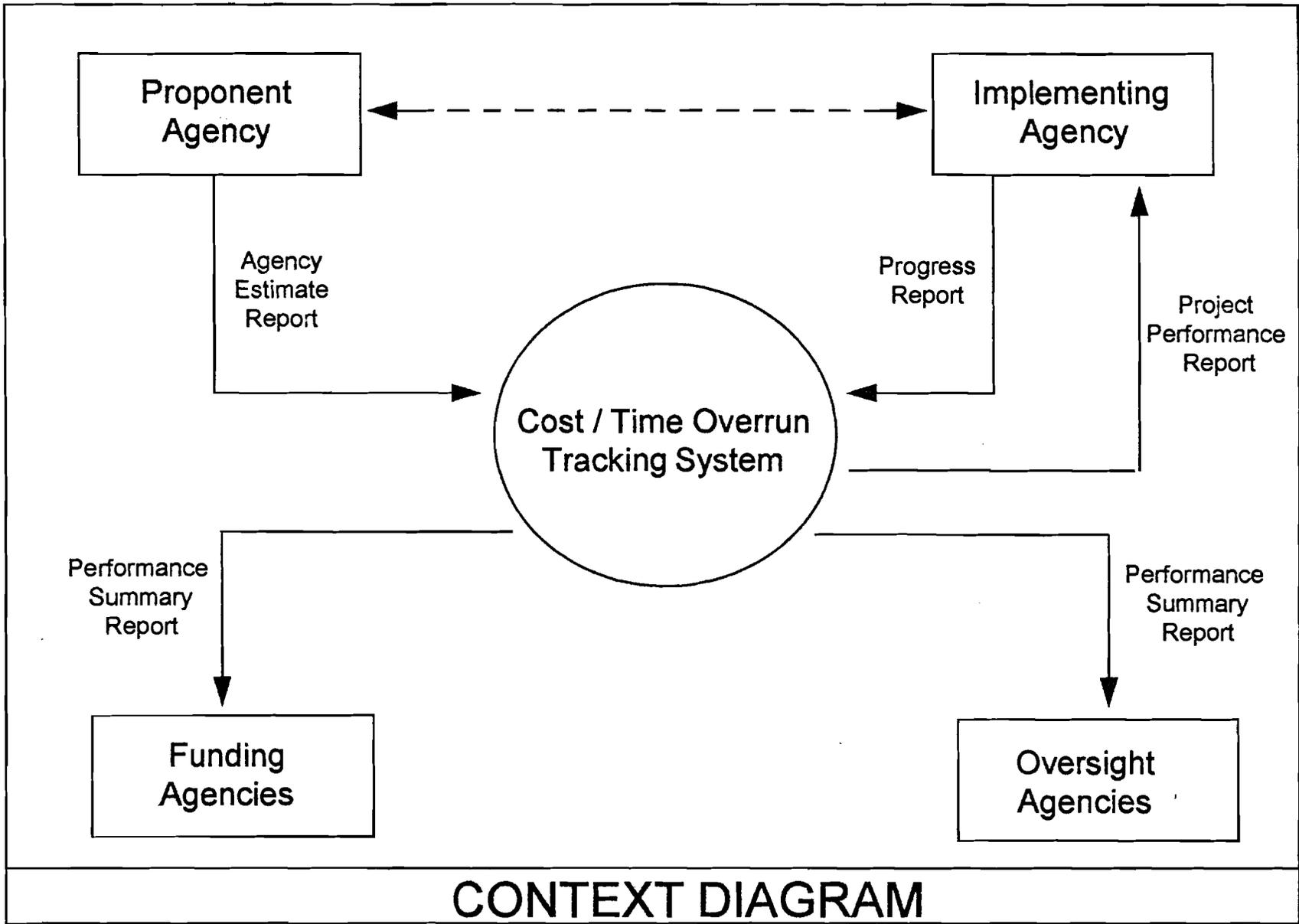
The cost/time overruns tracking system interacts with several entities which includes the following:

- proponent agency
- implementing agency - although the implementing agency is the same as the proponent agency, it is important, in this case, to conceptually separate the roles of the agency in the development cycle (i.e., in the pre-implementation and implementation stages)
- funding agency - multilateral and bilateral financial institutions for loan- and grant-assisted projects
- oversight agencies - NEDA, DOF, etc.

Please see Figure 3-1.

As shown in Figure 3-2, the system (Level 1) has three main subsystems, namely:

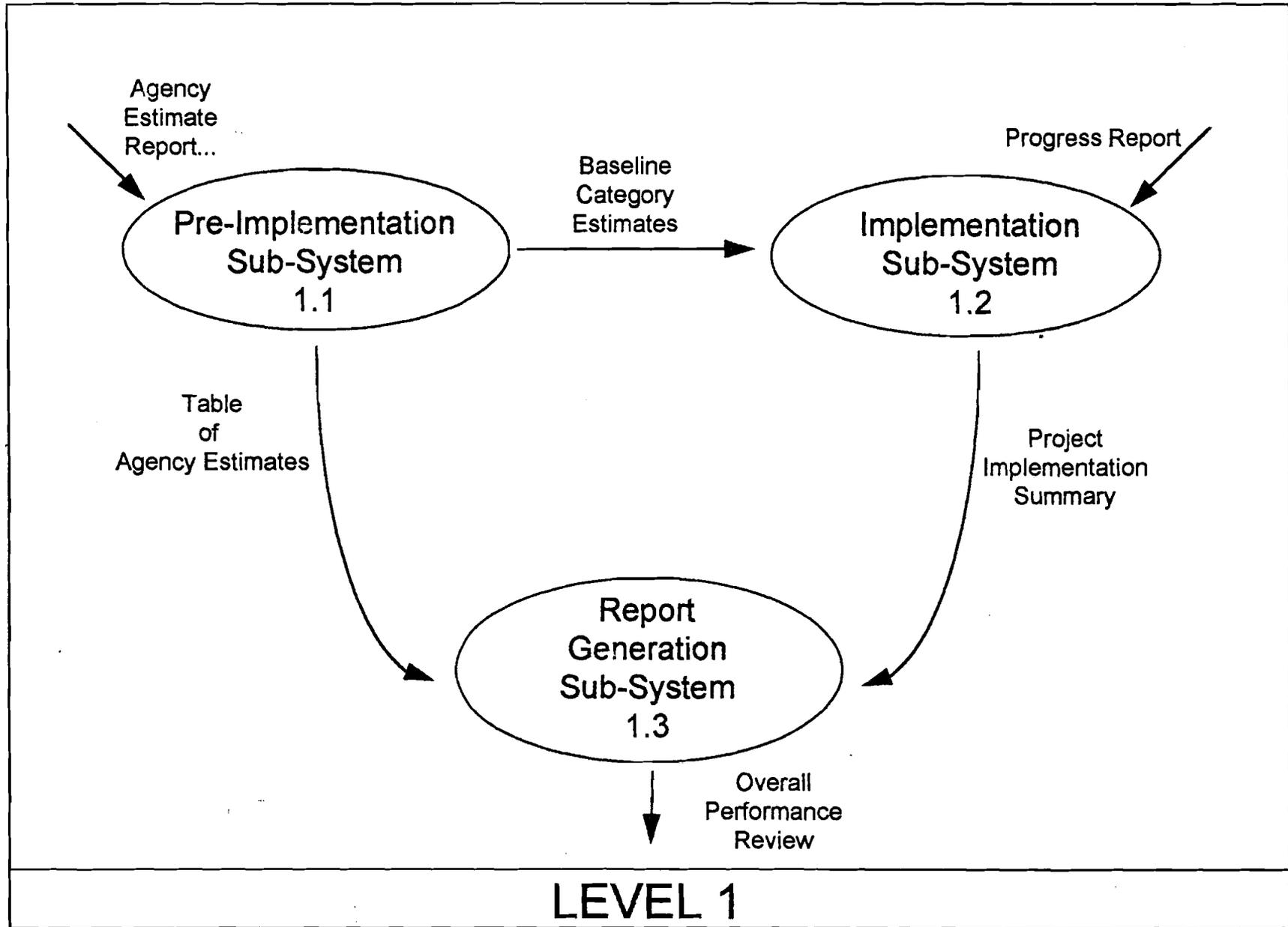
FIGURE 3 - 1



3 - 4

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FIGURE 3 - 2



3 - 5

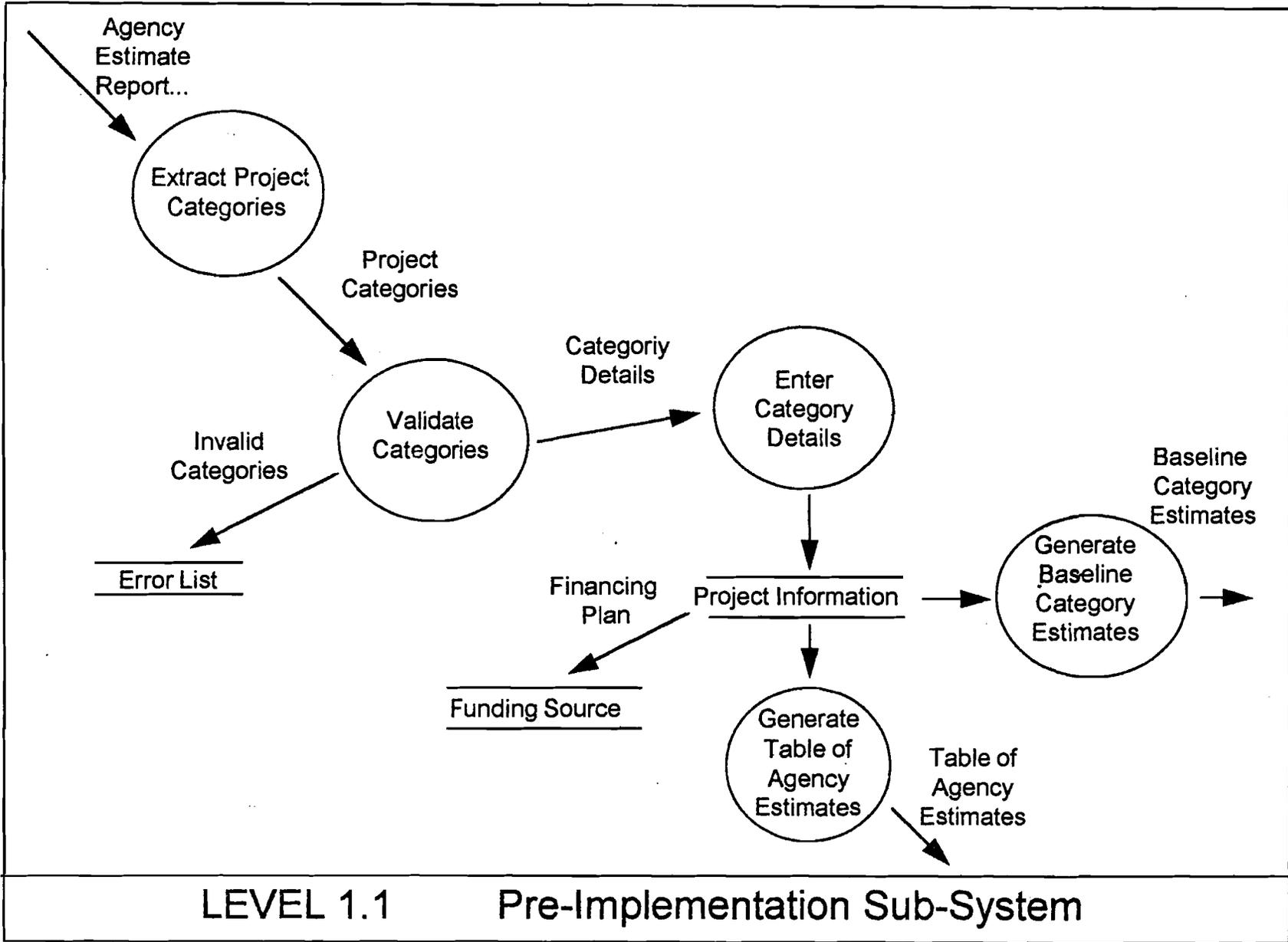
1984

- Pre-implementation subsystem (Level 1.1)

This module consolidates all estimates (both project cost and schedule) done in the pre-implementation stage. As seen in the system framework, the estimates are based on feasibility studies, ICC evaluation report, appraisal, detailed engineering, bidding documents and contract price package. It is only natural to revise the project estimates as the project design is fine-tuned. This subsystem presents the project estimates in a more logical structure. To simplify the pre-implementation subsystem, the monitoring of project estimates is limited to the following: ICC estimate, project cost based on appraisal report, project estimates made in detailed engineering, and estimate during contracting stage. Project estimate during contracting stages is, technically, part of the implementation subsystem. However, this estimate is included to complete the framework on tracking cost overruns. Further refinements to the subsystem include estimates by project category (i.e., civil works, consultancy services). This subsystem basically provides the baseline estimate prior to project implementation. The baseline estimate is selected among the estimates in the various stages. The objective of this subsystem is to separate the deviation in project estimates during pre-implementation and implementation stages. Please see Figure 3-3.

FIGURE 3 - 3

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- Implementation subsystem (Level 1.2)

This subsystem involves tracking project accomplishment during implementation. The implementation subsystem has two modules, namely overall monitoring of project costs and sampling of categories or contracts.

The first module of the implementation subsystem involves monitoring of total costs of the projects, a continuation of project cost monitoring in the pre-implementation subsystem. This was designed to permit flexibility in monitoring the financial status of projects in addition to close monitoring of selected project categories or contracts. The revised and actual project costs per category are compared with the baseline estimates of project category in the pre-implementation subsystem. The cost overruns in this subsystem normally focus on overall impact of price escalation and change orders made during the course of implementing the project. The cost overrun is also a function of time delays in project schedules. However, it may be difficult to directly quantify the cost overrun purely as a result of delays in implementation.

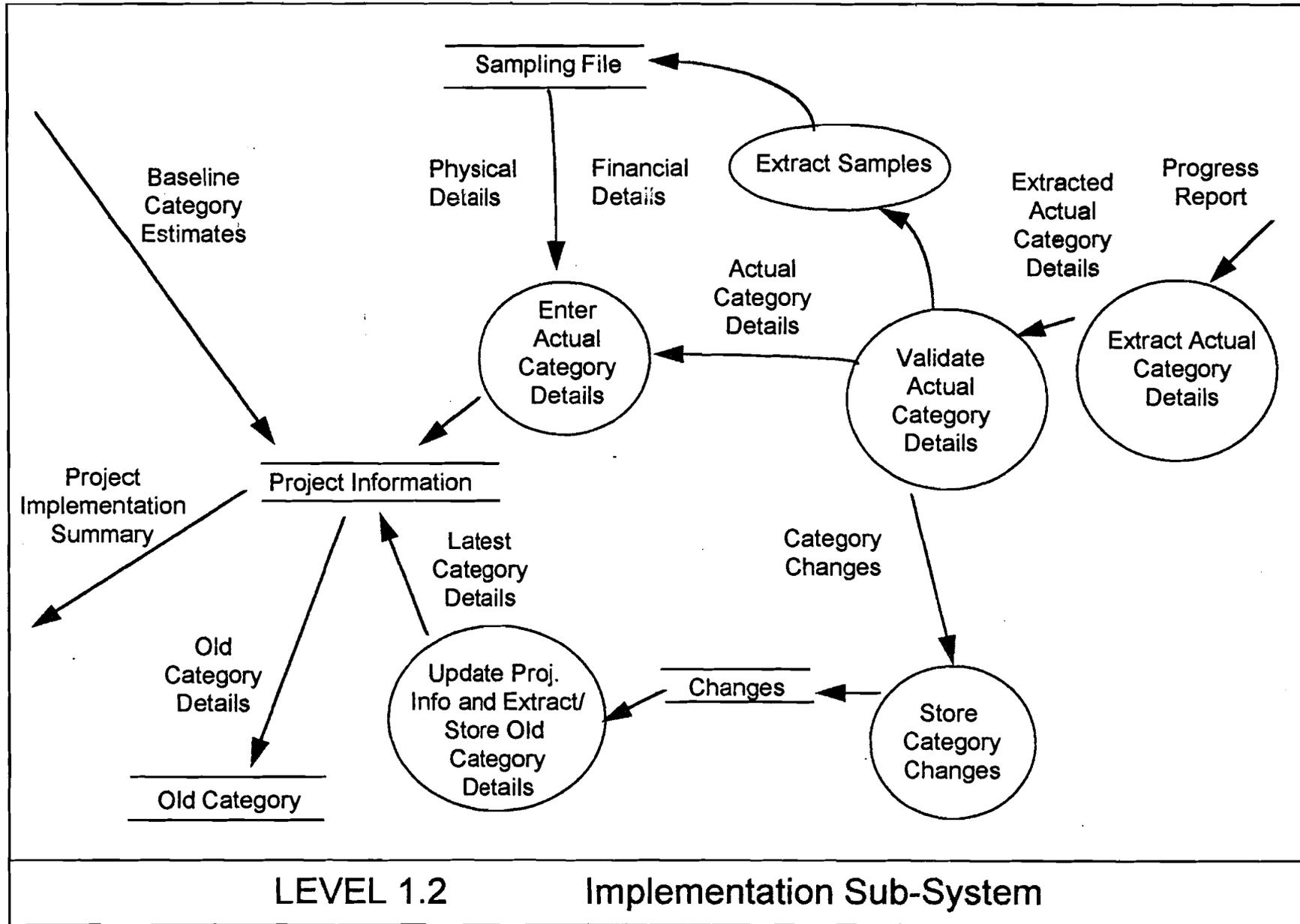
The second module involves sampling of categories or contracts per project. Sampling of project categories or contracts is done to simplify the monitoring process. Since the system is primarily intended as an early warning system, it must be simple enough for the users to generate alert indicators for the projects. Sampling of major categories or contracts of projects basically involves close

monitoring of these selected components or contracts per project. The monitoring includes tracking of the financial status and physical accomplishment of selected categories or contracts during this stage. Time overruns can be estimated based on slippage in physical accomplishment of the projects. The selection of contracts or categories to be included in the sample is done on a case-to-case basis. However, a general criteria can be set for the selection process. One criteria is that the sampled set of categories or contracts has a significant impact on the overall performance of the project. This set is critical in the success and failure of the project. In project management, it forms part of the critical path of project implementation. Please refer to Figure 3-4.

- Report Generation subsystem (Level 1.3)

The outputs generated by the two subsystems mentioned above are integrated into this subsystem. This involves computing the indicators for financial, physical and time overruns (i.e., deviation of actual figures from the original estimates). This subsystem provides users with the list of problematic projects. This will provide an idea on the funding support or shortfall for the remaining activities of the project. The subsystem will also generate summary reports (i.e., by sector and by agency), in addition to the individual project reports, for management review. Please refer to Figure 3-5.

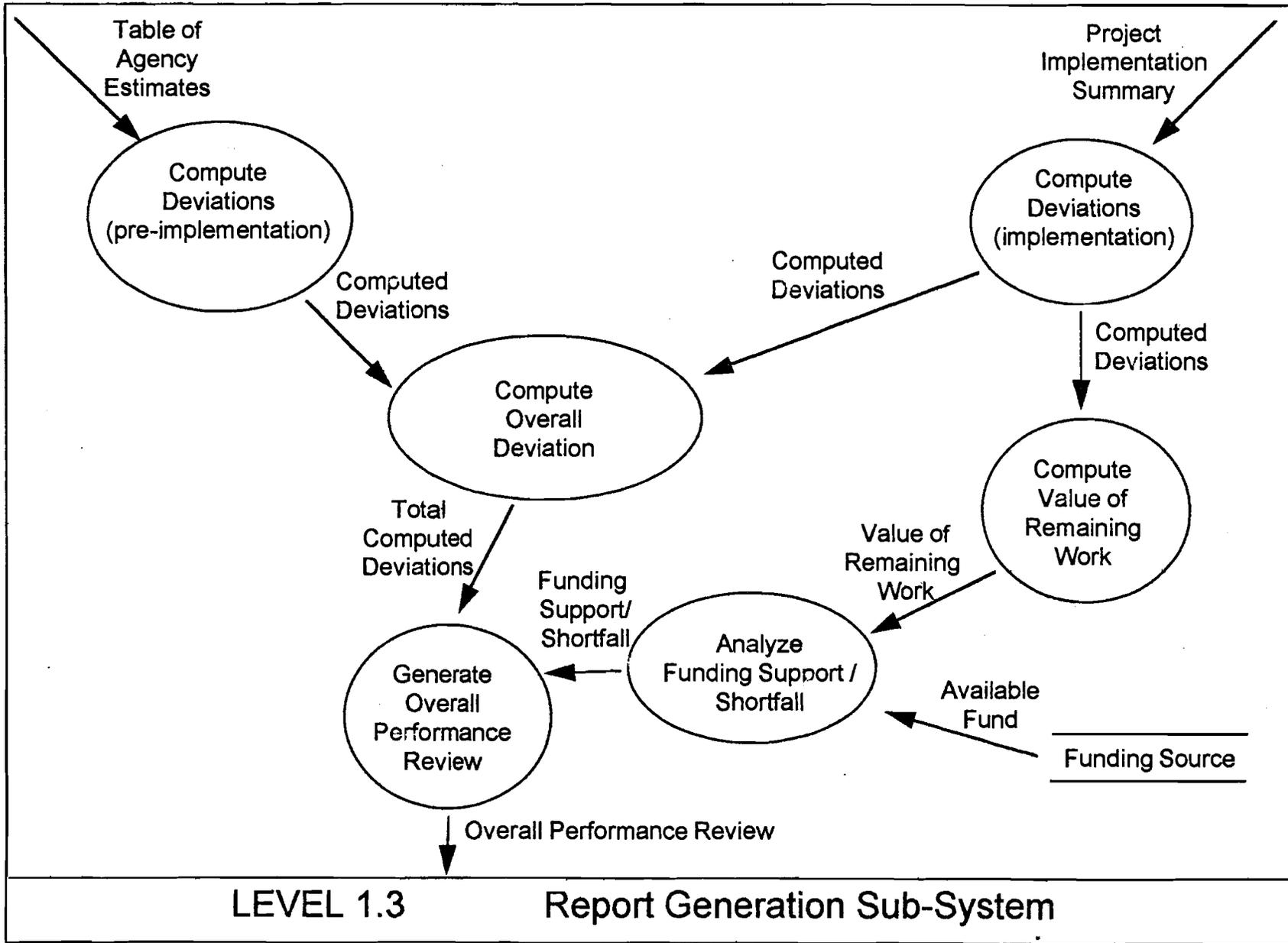
FIGURE 3 - 4



3-10

1984

FIGURE 3 - 15



3 - 11

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3.3 COMPONENTS OF THE SYSTEM

This section covers detailed discussions on the three (3) subsystems mentioned in the previous section.

3.3.1 Pre-implementation subsystem

The pre-implementation subsystem covers monitoring of project costs by category. As mentioned earlier, it covers the following stages of project development - ICC, appraisal, detailed engineering and contracting stage. The project cost is further broken down into two areas namely the loan and the GOP counterpart of the project. To effectively monitor the effects of foreign exchange fluctuation in project cost overrun, the amounts in original currency and US dollar equivalent of the loan portion are included in the project database. The outputs of pre-implementation subsystem include the computation of cost allocation by category, deviation of project cost in various stages of project development, general profile of the projects. The general profile, which includes the implementing agency and the sector category of the project, is useful in generating summary of project performance. Other project details such as location of the project, loan details, are already part of the other PMS computer-based monitoring systems.

The modules of the subsystem include data entry module, provision for modification, selection of baseline estimate and computation of cost allocation and deviation. The report generated by the subsystem, including graphical representations, is limited to the project database set

during the data entry module. Once the baseline cost estimates have been selected, any revisions made in the baseline are recorded in a separate database.

The project codes are user-defined entries. PMS may use the same convention in assigning a unique project code for each project as in the other computer-based monitoring systems.

The outputs of the subsystem include the prooflist, the summary of estimates and the deviation matrix. The outputs can either be previewed in a computer monitor or directly printed to a computer printer. The prooflist contains all project entries and can be used for checking project details. The prooflist, by itself, can be used as a project profile report. The summary of estimates for each project includes totals for each category per each project estimate. The deviation matrix is a summary of deviations for all possible combinations of project estimates.

3.3.2 Implementation subsystem

As mentioned earlier, the implementation subsystem has two modules, namely, the overall monitoring of project costs and the sampling of project category or contracts for detailed monitoring.

The first module, overall monitoring of project costs, is an extension of the pre-implementation subsystem. This module follows the same set of data entry fields of projects by category such as amounts in its original currency, US dollar equivalent and GOP counterpart. However, the set of

categories used for monitoring project costs in this subsystem is based on the set of categories used for the baseline estimate. The implementation subsystem does not allow changes in the categories used in the baseline estimate. Any changes will have to be done in the pre-implementation subsystem. This is to ensure that project costs by category are comparable and appropriate indicators can be computed. It is important that baseline estimates in the pre-implementation subsystem are set correctly. The revisions in project costs and the actual costs as of a reporting period are compared with the baseline estimates to compute for the overall project deviation and financial accomplishment rate both based on baseline estimate and revised estimate.

The second module covers monitoring of the financial and physical status of sampled set of categories or contracts. The monitoring of financial status of projects is tracking changes in costs for each sampled category or contract. This also includes the monitoring the actual cost based on the monitoring reports. The monitoring of financial status is a straightforward inputting of revised and actual costs into the system. The system simply tracks the costs over time and computes the deviation during project implementation.

The monitoring of physical status of projects starts by inputting the original target physical accomplishment (in cumulative percentage) of the sampled category or contract from the start of project implementation until project completion. During the course of project implementation, the system allows inputting of revisions in physical targets and inputting the actual physical accomplishment. The

system is designed for monitoring projects on a monthly basis. Based on the deviation between target and actual accomplishment, the system computes for the estimated delays in project completion. The computation of delays in project completion is based on the planned rate of accomplishment and does not consider possible crashing of project implementation.

The system allows graphical representation of the quantitative indicators presented above.

The value of remaining work for each category or contract can be computed based on the remaining physical work to be done (in percent) and the total cost of the category or contract.

3.3.3 Report Generation Subsystem

The report generation subsystem provides users a list of possible reports that can be generated by the system. The list or reports includes listing of project by sector and by agency sorted based on the alert indicators. Alert indicators cover the financial, physical and delays in project completion. Special reports can also be generated by specifying the project to be filtered and reported.

3.3.4 Other components of the system

The system also includes a database manager subsystem for checking the integrity of the databases used by the system. This subsystem includes re-indexing of databases,

packing the databases containing records marked for deletion and other file maintenance activities. The maintenance of the databases for the sector listing and the listing of implementing agencies is likewise included in the database manager subsystem. The database manager subsystem is designed to facilitate the activities required to maintain the integrity of the databases and ensure that all databases used by the system are correctly linked with each other.

The system also incorporates the calendar functions of Windows. This will enable the users to use the calendar to input appointments and activities related to specific projects. The calendar function will alert the users of specific appointments and activities for each projects. A separate "appointment book" is maintained for each project.

3.4 DETAILED DESIGN

The system uses the following databases:

- Project Information database - This database maintains the general profile of each project such as the project code, project title, sector, implementing agency, etc.
- Category details - The category details (i.e., category title, cost details) of each project by stages are stored in this database.
- Project Implementation database - The basic information on project implementation is stored in this database.

- Financial Profile database - Financial data on the project during implementation are stored in this database
- Physical Profile database - Physical data on planned and actual accomplishments for each tracking period are stored in this database.
- Reference databases - These databases are used as reference database and serve as a lookup table to facilitate data entry for the project information. These databases include:
 - Agency database - This list of possible implementing agencies for the projects are stored in this database.
 - Sector database - The list of possible sector classification for the projects are stored in this database.
 - Currency database - This database contains the list of currencies and sample exchange rates to US dollar. This system allows the use of different exchange rates for each project.

Individual database structures are in Attachment 1. Sample screen and report formats are shown in Attachment 2.

SECTION 4

SYSTEM IMPROVEMENTS

SECTION 4

SYSTEM IMPROVEMENTS

4.1 COMPUTER-BASED SYSTEMS

Analysis of existing computer hardware and software of PMS

The system can run under the existing computer hardware system of PMS. At present, there are seven (7) computers connected under the local area network environment. Details on the existing computer hardware of PMS are listed in Attachment 3. The existing computer hardware can accommodate the database requirements of the tracking system. Improvements can, however, be made to maximize the use of the local area network (LAN). There is need to better appreciate other benefits of having a LAN environment aside from merely as a system of work stations for data entry and a centralized station for report generation. Intra-staff and inter-staff electronic mailing (email) system can be an initial step to maximize the communication capabilities of the LAN environment.

It may also be necessary to upgrade and improve the computer hardware of PMS to accommodate the database requirements of the proposed enhanced monitoring system, an integrated computer-based monitoring system. A 486 computer hardware can be set as a minimum computer hardware configuration for future

procurement.

Communication networking has also become an important element in the design of newer systems. The networking is not limited to intra-staff and inter-staff communication but, most importantly, inter-agency data communication.

There may be a need to standardize the use of computer software in PMS. The software of PMS can generally be classified into word-processing, spreadsheet and database management. The study recommends the use of only one set of Window-based word-processing, spreadsheet, database management software to the extent possible. Window-based software has become an industry standard in a PC environment. One advantage of using Window-based software is the ease of using graphical user interface that is consistent to most, if not all, Windows software products. The ease of data transfer from one computer application to another is one of the most important features of Window software. It may not be difficult for PMS to upgrade and standardize the software as most of the existing computer hardware are capable of running Window-based software.

4.2 TRAINING PROGRAM

In the Consultant's Report on Problem Alert Indicators, some recommendations were made on what are considered as necessary training programs which should be made available for various levels of technical personnel of PMS. For the

effective implementation of the Problem Alert Indicators System, it is a must that the technical staff be oriented on the existing procedures, rules and regulations of ICC, DBM, funding agencies and the government as a whole covering critical project implementation activities such as on procurement, right-of-way acquisition, issuance of Environmental Clearance Certificate, etc.

In addition, for both the tracking system on cost/cost overruns and problem alert indicators scheme, orientation seminars must be conducted preferably of the hands-on type covering data collection up to computer operation and report preparation.

For a general staff capability building program, there is need for the development or accessing of available short-term training on relevant fields such as project management, project development/preparation, impact evaluation/PBME, project appraisal, computer software and technical report writing. Depending on the level of skills and experience of present manpower, training programs may range from basic to advanced or specialized courses.

The following training courses are deemed relevant for PMS:

Basic Courses

- Monitoring and Evaluation
- Project Management
- Project Development/Preparation
- Basic Statistics
- Computer Operation

- Technical Report Writing

Specialized Courses

- Post Evaluation/PBME
- Project Appraisal
- Sustainability Monitoring
- Financial and Economic Analysis of Projects
- Requirements of Oversight/funding Agencies
- Windows-based Software
- LAN and Networking
- Database Management System

Some of the above-enumerated training programs are available in a number of training institutions. What is needed is just to determine their schedules and for PMS management to program their availment considering workload. On the other hand, some training programs may need to be customized to meet the specific requirements of PMS and for optimum results. These include training on the application of windows-based software, LAN and networking and database management. Consultancy services may need to be engaged for this latter type of training.

4.3 CONSULTANCY ON COMPUTER SERVICES

Possible areas for consultancy services:

There is need to engage a consultant on computer services. In general, the Consultant shall be responsible for the development of a computer-based system on problem alert indicators, development of computer programs for the

enhanced PMS monitoring system and system integration, and design and administration of training programs in the areas of among others, windows-based software, LAN/networking and database management.

The need for consultancy services to build up the capability of PMS in the area of post/impact evaluation has been identified in Phase 1 of the study undertaken by CEST. Inc. It was however, gathered that the PMS was already able to tap a technical assistance grant for the engagement of a foreign consultant in this area.

The details of the proposed consultancy services are reflected in the draft Terms of Reference as shown below.

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TERMS OF REFERENCE

BACKGROUND

The review of the existing project monitoring systems of PMS indicated inefficiencies arising mainly from data redundancy and duplication of efforts in encoding substantially the same data in the different systems. PMS management is fully cognizant of this deficiency and has initiated the development of an integrated project monitoring system using in-house capability and in collaboration with the Management Information Systems Staff (MISS). However, the system that has been designed remains to be tested and operationalized.

In view of the limited capability of the staff in fine tuning the system design, pre-testing, debugging and effecting the immediate installation of the system, coupled with time and manpower resource constraints of PMS, there is need to engage the services of a consultant (EDP and system management expert). The role of the consultant shall extend beyond systems development and installation to include the hands-on training of PMS personnel in the various aspects of computer-based project monitoring systems environment (e.g., networking and database management system) and the manualization of the integrated PMS monitoring system.

The consultancy engagement shall be for a duration of 6-12 months to allow for the full installation of the systems, including the generation of quarterly, semestral and annual reports.

SPECIFIC TASKS

Under the supervision of the Director of the Project Monitoring Staff, the Consultant shall:

- Assess the present computer capability of PMS in terms of manpower, hardware, software and logistical support;
- Develop a computer-based system for the problem alert indicators identified in Phase 1 of the study;
- Review the enhanced PMS project monitoring system design and develop the set of computer programs required for the effective implementation of the system;
- Undertake system integration for PMS;
- Develop and administer training programs for selected PMS personnel in the operation of the aforementioned systems;
- Conduct training on windows-based software, LAN and networking, and database management;
- Guide the staff in preparing User's Manuals;
- Submit monthly progress reports and a full report on the completion of the consultancy contract.

ATTACHMENT 1

DATABASE STRUCTURES

FILE : PROJINFO.DBF

| # | Field Name | Type | Width | Dec. | Description |
|----|------------|-----------|-------|------|--|
| 1 | PRJ_CODE | Character | 8 | | - Unique char./digit combination to identify a project. |
| 2 | PRJ_TITLE | Character | 35 | | - Title/Name of the Project. |
| 3 | SECTOR | Character | 35 | | - Sector |
| 4 | IMP_AGENCY | Character | 35 | | - Implementing Agency |
| 5 | FUND_AGENC | Character | 35 | | - Funding Agency |
| 6 | BASEFROM | Numeric | 1 | | - Identifies which stage is the baseline (e.g. 1 for ICC, 2 for APPRAISAL, 3 for D/E etc.) |
| 7 | COST_INDEX | Numeric | 5 | 2 | - Overall Financial performance indicator. |
| 8 | SCH_INDEX | Numeric | 5 | 2 | - Schedule Performance indicator. |
| 9 | ACCOMP | Numeric | 5 | 2 | - % Accomplished. |
| 10 | FUND_BAL | Numeric | 14 | 2 | - |
| 11 | RATE_ICC | Numeric | 5 | 2 | - Exchange rate used in the ICC stage (Peso to US\$). |
| 12 | RATE_APP | Numeric | 5 | 2 | - Exchange rate used in the APPRAISAL stage (Peso to US\$). |
| 13 | RATE_DE | Numeric | 5 | 2 | - Exchange rate used in the D/E stage (Peso to US\$). |
| 14 | RATE_CONT | Numeric | 5 | 2 | - Exchange rate used in the CONTRACTING stage (Peso to US\$). |
| 15 | RATE_LATE | Numeric | 5 | 2 | - Exchange rate used in the LATEST stage (Peso to US\$). |
| 16 | ICC_LOAN | Numeric | 16 | 2 | - Total loan amount in peso for ICC stage. |
| 17 | ICC_GOP | Numeric | 16 | 2 | - Total G.O.P. amount in peso for ICC stage. |
| 18 | ICC_PCost | Numeric | 16 | 2 | - Total Project Cost in peso for ICC stage. |
| 19 | APP_LOAN | Numeric | 16 | 2 | - Total loan amount in peso for APPRAISAL stage. |
| 20 | APP_GOP | Numeric | 16 | 2 | - Total G.O.P. amount in peso for APPRAISAL stage. |
| 21 | APP_PCost | Numeric | 16 | 2 | - Total Project Cost in peso for APPRAISAL stage. |
| 22 | DE_LOAN | Numeric | 16 | 2 | - Total loan amount in peso for D/E stage. |
| 23 | DE_GOP | Numeric | 16 | 2 | - Total G.O.P. amount in peso for D/E stage. |
| 24 | DE_PCost | Numeric | 16 | 2 | - Total Project Cost in peso for D/E stage. |
| 25 | CONT_LOAN | Numeric | 16 | 2 | - Total loan amount in peso for CONTRACTING stage. |
| 26 | CONT_GOP | Numeric | 16 | 2 | - Total G.O.P. amount in peso for CONTRACTING stage. |
| 27 | CONT_PCost | Numeric | 16 | 2 | - Total Project Cost in peso for CONTRACTING stage. |
| 28 | LATE_LOAN | Numeric | 16 | 2 | - LATEST Total loan amount in peso. |
| 29 | LATE_GOP | Numeric | 16 | 2 | - LATEST Total G.O.P. amount in peso. |
| 30 | LATE_PCost | Numeric | 16 | 2 | - LATEST Total Project Cost in peso. |
| 31 | ACT_PCost | Numeric | 16 | 2 | - Total Actual Project Cost to date. |
| 32 | REM_PCost | Numeric | 16 | 2 | - Total remaining amount. |
| 33 | LAST_UPDT | DATE | 8 | | - Date when Project was last opened/updated. |

FILE : COMP_DET.DBF / CHANGES.DBF

| # | Field Name | Type | Width | Dec | Description |
|----|------------|-----------|-------|-----|---|
| 1 | PRJ_CODE | Character | 8 | - | |
| 2 | EST_BASE | Numeric | 1 | - | # identifying for which stage is this category. |
| 3 | BASE_NUM | Numeric | 1 | - | # identifying the corresponding category in the stage set as the baseline. |
| 4 | COMPCODE | Numeric | 2 | - | # of the category. |
| 5 | COMP_TITLE | Character | 35 | - | Title of the category. |
| 6 | STATUS | Character | 1 | - | |
| 7 | PCT_ALLOC | Numeric | 6 | 2 | % allocation of this category. |
| 8 | LN_ORIGCUR | Character | 10 | - | Original Currency of the loan. |
| 9 | LN_ORIGAMT | Numeric | 16 | 2 | Original Amount of the loan. |
| 10 | RATE_TO_US | Numeric | 5 | 2 | Conversion rate of the Original Currency to US\$. |
| 11 | LN_US_EQ | Numeric | 16 | 2 | US\$ equivalent of the Original loan amount. |
| 12 | LN_PESO_EQ | Numeric | 16 | 2 | Peso equivalent of the US\$ equivalent of the Original loan amount. |
| 13 | GOP | Numeric | 16 | 2 | GOP amount. |
| 14 | BASE_COST | Numeric | 16 | 2 | Sum of the Peso equivalent of the US\$ equivalent of the Original loan amount and the GOP amount. |

FILE : PRJ_IMP.DBF

| # | Field Name | Type | Width | Dec | Description |
|---|------------|-----------|-------|-----|---|
| 1 | PRJ_CODE | Character | 8 | - | |
| 2 | COMPCODE | Numeric | 2 | - | |
| 3 | COMP_TITLE | Character | 35 | - | Title of Category. This exists to allowed changes in the title during implementation. |
| 4 | DATE | Date | 8 | - | Date of the Update period. |
| 5 | ACT_COST | Numeric | 16 | 2 | Actual cost as of DATE. |
| 6 | LATE_COST | Numeric | 16 | 2 | Latest Total Project Cost as of DATE. |
| 7 | LATE_UTIL | Numeric | 5 | 2 | Utilization rate (Actual Cost to Latest Total Project Cost) |
| 8 | BASE_UTIL | Numeric | 5 | 2 | Utilization rate (Actual Cost to Baseline) |

FILE : IMP_FP.DBF

| # | Field Name | Type | Width | Dec | Description |
|----|------------|-----------|-------|-----|--|
| 1 | PRJ_CODE | Character | 8 | - | |
| 2 | EST_BASE | Numeric | 1 | - | |
| 3 | COMPCODE | Numeric | 2 | - | |
| 4 | COMP_TITLE | Character | 35 | - | |
| 5 | DATE | Date | 8 | - | |
| 6 | TIMEUNIT | Character | 1 | - | Timeunit use by the sample (e.g. M for Monthly, Q for Quarterly etc.) |
| 7 | STARTDATE | Date | 8 | - | Date when the sample category started. |
| 8 | PCT_ALLOC | Numeric | 5 | 2 | |
| 9 | LATESTCOST | Numeric | 16 | 2 | Latest Cost of the Sample. |
| 10 | BASELINE | Numeric | 16 | 2 | Total Baseline Cost of the Sample. Cannot be modified within the System. |

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FILE : FIN_PROF.DBF

| # | Field Name | Type | Width | Dec | Description |
|---|------------|-----------|-------|-----|--------------------------|
| 1 | PRJ_CODE | Character | 8 | | - |
| 2 | COMPCODE | Numeric | 2 | | - |
| 3 | DATE | Date | 8 | | - Date of update period. |
| 4 | COMP_TITLE | Character | 35 | | - |
| 5 | LATE_COST | Numeric | 16 | 2 | - Latest cost to DATE. |
| 6 | ACT_COST | Numeric | 16 | 2 | - Actual cost to DATE. |
| 7 | DEVIATION | Numeric | 5 | 2 | - |

FILE : PHY_PROF.DBF

| # | Field Name | Type | Width | Dec | Description |
|----|------------|-----------|-------|-----|--|
| 1 | PRJ_CODE | Character | 8 | | - |
| 2 | COMPCODE | Numeric | 2 | | - |
| 3 | PROFNUM | Numeric | 1 | | - # of the profile. Identifies a period. (Incremental) |
| 4 | DATE | Date | 8 | | - Start date of the period. |
| 5 | ORIG_ACC | Numeric | 5 | 2 | - Original Accomplishment. |
| 6 | PLAN_ACC | Numeric | 5 | 2 | - Planned Accomplishment. |
| 7 | INCREMENT | Numeric | 5 | 2 | - Increment of the Accomplishment for the period. |
| 8 | AVERAGE | Numeric | 5 | 2 | - Average Accomplishment per dey for the period. |
| 9 | ACT_ACC | Numeric | 5 | 2 | - Acutal Accomplishment for the period. |
| 10 | ACT_INC | Numeric | 5 | 2 | - Actual Increment of the Accomplisment for the period. |
| 11 | ACT_AVE | Numeric | 5 | 2 | - Actual Average Accomplishment per day for the period. |
| 12 | ACT_FORE | Character | 1 | | - Identifies whethe the value in the ACT_ACC Field is an Actual or Forecast value. |
| 13 | DAYS_DELAY | Numeric | 6 | 2 | - Apporoximate Days Delayed for the period. |

FILE : AGENCY.DBF

| # | Field Name | Type | Width | Dec | Description |
|---|------------|-----------|-------|-----|-------------|
| 1 | AGEN_CODE | Character | 6 | | |
| 2 | AGEN_TITLE | Character | 40 | | |

FILE : CURRENCY.DBF

| # | Field Name | Type | Width | Dec | Description |
|---|------------|-----------|-------|-----|-------------|
| 1 | CURR_NAME | Character | 10 | | |
| 2 | RATE | Numeric | 5 | 2 | |

FILE : SECTOR.DBF

| # | Field Name | Type | Width | Dec | Description |
|---|------------|-----------|-------|-----|-------------|
| 1 | SECTOR | Character | 35 | | |

NOTE** - Fields with no description are either self-explanatory or has a previous explanation.

ATTACHMENT 2

SAMPLE SCREEN

AND REPORT FORMATS

File Edit

Microsoft FoxPro

Program Run Window Help

Cost / Time Overrun Tracking System

Pre-Implementation

Implementation

Reports

DBF Manager

Exit

Ins Num

Project Information

Project Code: Baseline From: 0

Project Title:

| | | | |
|---------------|---------------------|--|---------------|
| Sector | Implementing Agency | Estimate Base | Filter |
| INFRASTRUCTUR | DPWH | <input checked="" type="radio"/> ICC <input type="radio"/> APPRAISAL <input type="radio"/> D/E <input type="radio"/> CONTRACT <input type="radio"/> LATEST | No Filter ± |
| Project | Category | Get From | Exchange Rate |
| New | Add | <input type="text"/> | PESO-US\$ |
| Select | Edit | | |
| OK | Delete | List Changes | |

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------|------|-----------|------|-------------|--------|
| LOAN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Calendar

View

Save

Set Baseline

Exit

16

Project Information

Project Code: Baseline From : 0

Project Title:

| | | | |
|---|---------------------------|--|-------------------------------------|
| Sector | Implementing Agency | Estimate Base | Filter |
| INFRASTRUCTUR <input type="text"/> | DPWH <input type="text"/> | <input checked="" type="radio"/> ICC <input type="radio"/> APPRAISAL <input type="radio"/> D/E <input type="radio"/> CONTRACT <input type="radio"/> LATEST | No Filter <input type="text"/> |
| Project Category <input type="button" value="New"/> <input type="button" value="Add"/> <input type="button" value="Select"/> <input type="button" value="Edit"/> <input type="button" value="OK"/> <input type="button" value="Delete"/> <input type="button" value="List Changes"/> | | Get From | Exchange Rate PESO-US\$ 29.00 |

PROJECTS in DATABASE

| Code | Title |
|------|-------|
| | |
| | |
| | |
| | |

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------------|-------------|-------------|-------------|-------------|-------------|
| LOAN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

12/25

Window System

Project Information

Project Code: IF-00002

Baseline From: 0

Calendar - IF-00002.CAL

File Edit View Show Alarm Options Help

10:04 PM Thursday, August 11, 1994

7:00 AM
8:00
9:00
10:00
11:00
12:00 PM
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00

Filter

No Filter

Exchange Rate

PESO-US\$

29.00

Cost

| | |
|------|---------|
| 0.00 | 129,383 |
| 0.00 | 24,229 |

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------|----------------|-----------|------|-------------|--------|
| LOAN | 68,238,383.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 35,455,000.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 104,293,383.73 | 0.00 | 0.00 | 0.00 | 0.00 |

Calendar

View

Save

Set Baseline

Exit

107

Project Information

Project Code: Baseline From: 0

Project Title:

Sector:

Imp. Agency:

| Overall Progress | Category | Sampling Progress | Mode | Filter |
|--|--|--|---|--|
| <input type="button" value="New Period"/> | <input type="button" value="Add"/> | <input type="button" value="New Period"/> | <input checked="" type="radio"/> Sampling | <input type="button" value="No Filter"/> |
| <input type="button" value="Select Period"/> | <input type="button" value="Edit"/> | <input type="button" value="Select Period"/> | <input type="radio"/> Overall | |
| <input type="button" value="OK"/> | <input type="button" value="Delete"/> | <input type="button" value="+ Profile"/> | <input type="button" value="Open Profile"/> | Profile |
| | <input type="button" value="Samples"/> | <input type="button" value="- Profile"/> | <input type="button" value="Calc. Forecast"/> | <input checked="" type="radio"/> Financial |
| | | | | <input type="radio"/> Physical |

TOTAL LATEST COST: BASELINE :

TOTAL ACTUAL COST:

165

Microsoft FoxPro

Window System

Project Information

Project Code: IF-00002 Baseline From : 4
 Project Title : CAVITE EXPORT PROCESSING ZONE
 Section: INFRASTRUCTURE

LATEST

CONSULTING SERVICES

SAMPLES

CIVIL WORKS

TOTAL LATEST COST : BASELINE :
 TOTAL ACTUAL COST :

176

ATTACHMENT 3

DATABASE STRUCTURES

APPENDIX E

INVENTORY OF PMS COMPUTER HARDWARE
AS OF JANUARY 1994

| COMPUTER NAME | MODEL | SERIAL NO. | SOURCE/DATE ACQUIRED | STATUS |
|---|-------------------------------|--------------|----------------------|-------------|
| 1. SERVER | | | | |
| a) CPU with hard disk | Arche Pro - file 336-33 Cache | VIJO1125 | February 1992 | Operational |
| b) MONITOR | Arche 2149 (VGA) | 129182731.28 | ADB-TA PES | Operational |
| c) KEYBOARD | Arche | 004307107 | | Operational |
| 2. CCPAP (OP-LAN) - Systems | | | | |
| a) CPU with hard disk | ALR Business VEISA | 33117 | April 1992 | Operational |
| b) MONITOR | ALR Flexview 2x (SVGA) | A114082 | CCPAP | Operational |
| c) KEYBOARD | ALR RT101+ | 36028031 | | Operational |
| d) PRINTER (w/transformer) | EPSON FX 1050 | OE11301369 | | Operational |
| e) MOUSE | ALR Model 401 (PS/2 Version) | 0008394 | | Operational |
| f) MODEM | | | | Operational |
| 3. ADB 1 - PED with LAN Card | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | NONE | February 1991 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182813.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 30018256 | | Operational |
| d) MOUSE | MIKI | | | Operational |
| e) PRINTER | HP LaserJet IIIp | 3128JU49RY | | Operational |
| 4. ADB 2 - PED | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | none | February 1992 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182800.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 002005092 | | Operational |
| 5. ADB 3 - Secretary (Office of the Director) | | | | |
| a) CPU with hard disk | ARCHE RIVAL 386SX-20 | none | February 1992 | Operational |
| b) MONITOR | Arche 214S (SVGA) | 129182812.28 | ADB-TA PES | Operational |
| c) KEYBOARD | ARCHE KB-5181 | 002005068 | | Operational |
| d) PRINTER | FUJITSU MB 27409 | 32653 | | Operational |
| 6. ADB 4 - Director with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506289 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30221945 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 7. ADB 5 - Asst. Director | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506288 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30221933 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 8. ADB 6 - PASD with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506204 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30220971 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |

| COMPUTER NAME | MODEL | SERIAL NO. | SOURCE/DATE ACQUIRED | STATUS |
|------------------------------------|--|---------------|----------------------|---------------|
| 9. ADB 7 - PAD I with LAN Card | | | | |
| a) CPU with hard disk | DFI 80386DX-40 | 032506290 | August 1993 | Operational |
| b) MONITOR | DFI SVGA Color Monitor | 30220977 | ADB-TA | Operational |
| c) KEYBOARD | DFI KB-101 | NONE | | Operational |
| 10. JICA2 - Systems | | | | |
| a) CPU | COMPAQ Prolines 4/50 | A306HDV 40002 | May 1993 | Operational |
| b) MONITOR | COMPAQ SVGA Color Monitor | | JICA | Operational |
| c) PRINTER | HP Laserjet 4 | JPBS016576 | | Operational |
| d) UPS | APC Back-UPS 6001 | W930123018 | | Operational |
| 11. JICA2 - Systems | | | | |
| a) CPU | COMPAQ Prolines 4/50 | A306HDV 40002 | May 1993 | Operational |
| b) MONITOR | COMPAQ SVGA Color Monitor | | JICA | Operational |
| c) PRINTER | HP Deskjet 5500 | SG365170PF | | Operational |
| d) UPS | APC Back-UPS 6001 | | | Operational |
| 12. RPPMES1 - PAD II with LAN Card | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | RPPMES | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 13. RPPMES2 - PAD II (NEDA) | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | RPPMES | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 14. RPPMES3 - PASD with LAN Card | | | | |
| a) CPU | THOMSON 80386DX-40 | | June 1993 | Operational |
| b) MONITOR | NTC SVGA Color Monitor | | RPPMES | Operational |
| c) PRINTER | EPSON FX - 1050 | | | Operational |
| 15. Bernoulli Drive | | | February 1992 | Not Installed |
| 16. a) Notebook | Toshiba T1800 | | | |
| b) Printer | 386 DX 40, 4 MB RAM HP IVP (with PED) | | ADB-TA | |
| 17. 486 (4 units) LAN | | | | Pending |

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
PROJECT MONITORING STAFF

SYSTEM FOR TRACKING COST/TIME
OVERRUN

OPERATIONS MANUAL



CEST, Inc.
CONSULTANTS FOR ENGINEERING, SCIENCE & TECHNOLOGY, INC.

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PREFACE

This *Operations Manual* on the PMS System for Tracking Cost/Time Overrun aims to serve as a guide to the ODA Desks officers and computer personnel of the Project Monitoring Staff of NEDA in using the computerized tracking system.

The System will enable the PMS to pinpoint the causes of cost/time overruns of projects. In the process, it shall be able to more decisively act on requests of implementing agencies for loan extension or loan cancellation and recommend appropriate actions on the projects.

The Manual provides a general description of the System; identifies hardware and software requirements; and presents in detail, using screen displays, the key features of the four main modules comprising the System, namely, Pre-Implementation, Implementation, Report Generation and Database Manager modules.

INTRODUCTION

The operations manual is designed to facilitate the use of the NEDA-PMS computerized system for tracking cost and time overruns of major development projects.

GENERAL DESCRIPTION OF THE SYSTEM

The cost/time overrun tracking system is a computer-based system developed to track the costs and time schedules of projects which have been approved by the Investment Coordination Committee (ICC). Basically, the tracking of project cost involves monitoring of the various cost estimates during the pre-implementation stage and monitoring the actual project cost during the implementation stage.

In the course of tracking the projects, the system shall also monitor time overruns as a result of slippage in project implementation. The system shall help identify the causes of cost/time overruns of projects. With the help of the system, NEDA-PMS will be able to act on and recommend appropriate actions on the projects such as request for loan extension or loan cancellation. The system will also alert the users if projects will experience major financing shortfall as a result of the cost overrun.

SYSTEM REQUIREMENTS

The system was developed using Foxpro for Windows software running under a Novel-based LAN environment. Since the system involves a lot of data processing activities such as data entry, it is designed to run under a multi-user environment. The system is designed to be consistent with the existing computer-based system of PMS like the MTPIP and ODA systems, although some improvements can still be made on other PMS computer-based systems.

The minimum software and hardware requirements to successfully run the system are as follows:

Hardware

386/486 that can run under Window enhanced mode

4MB RAM

A monitor that is supported by Windows

A mouse that is supported by Windows

Software

MS-DOS 3.1 or later

Foxpro 2.5 for Windows

For LAN environment

Novel Netware 3.11 or later

USER'S MANUAL

The tracking system is designed to run under Windows. Windows is a graphical environment that introduces new, more streamlined ways to work with the personal computer.

The user's manual provides detailed explanation on the different features of the tracking system. Basically, it follows the screen displays of the system, not only to provide an overview of the system but also to guide the users on the various functions and operations of the different subsystems.

The system has four main modules, namely:

- Pre-implementation module
- Implementation module
- Report generation module
- Database manager module

- SCREEN 1 - INTRODUCTION SCREEN OF THE COST/TIME
OVERRUN TRACKING SYSTEM

- SCREEN 2 - MAIN SCREEN OF THE PRE-IMPLEMENTATION
MODULE
 - 2.1 - Selecting a Sector
 - 2.2 - Selecting an Implementing Agency
 - 2.3 - Selecting a Funding Agency
 - 2.4 - Project Menu
 - 2.5 - Category Menu
 - 2.6 - Copying Categories
 - 2.7 - Main Menu of the Pre-Implementation Module
 - 2.8 - Selecting an Estimate Stage
 - 2.9 - Filtering Projects

- SCREEN 3 - THE PROJECT MENU

- SCREEN 4 - THE CATEGORY MENU

- SCREEN 5 - THE ADD/EDIT CATEGORY WINDOW

- SCREEN 6 - PRE-IMPLEMENTATION MODULE REPORTS

- SCREEN 7 - CALENDAR

- SCREEN 8 - MAIN SCREEN OF THE IMPLEMENTATION
MODULE
 - 8.1 - Financial Profile Menu in Sampling Mode
 - 8.2 - Physical Profile Menu in Sampling Mode
 - 8.3 - Selecting a Profile
 - 8.4 - Category Menu in the Implementation Module
 - 8.5 - Main Menu of the Implementation Module
 - 8.6 - Menu for Overall Mode

- SCREEN 9 - LOADING A PROJECT

- SCREEN 10 - SELECTING SAMPLES

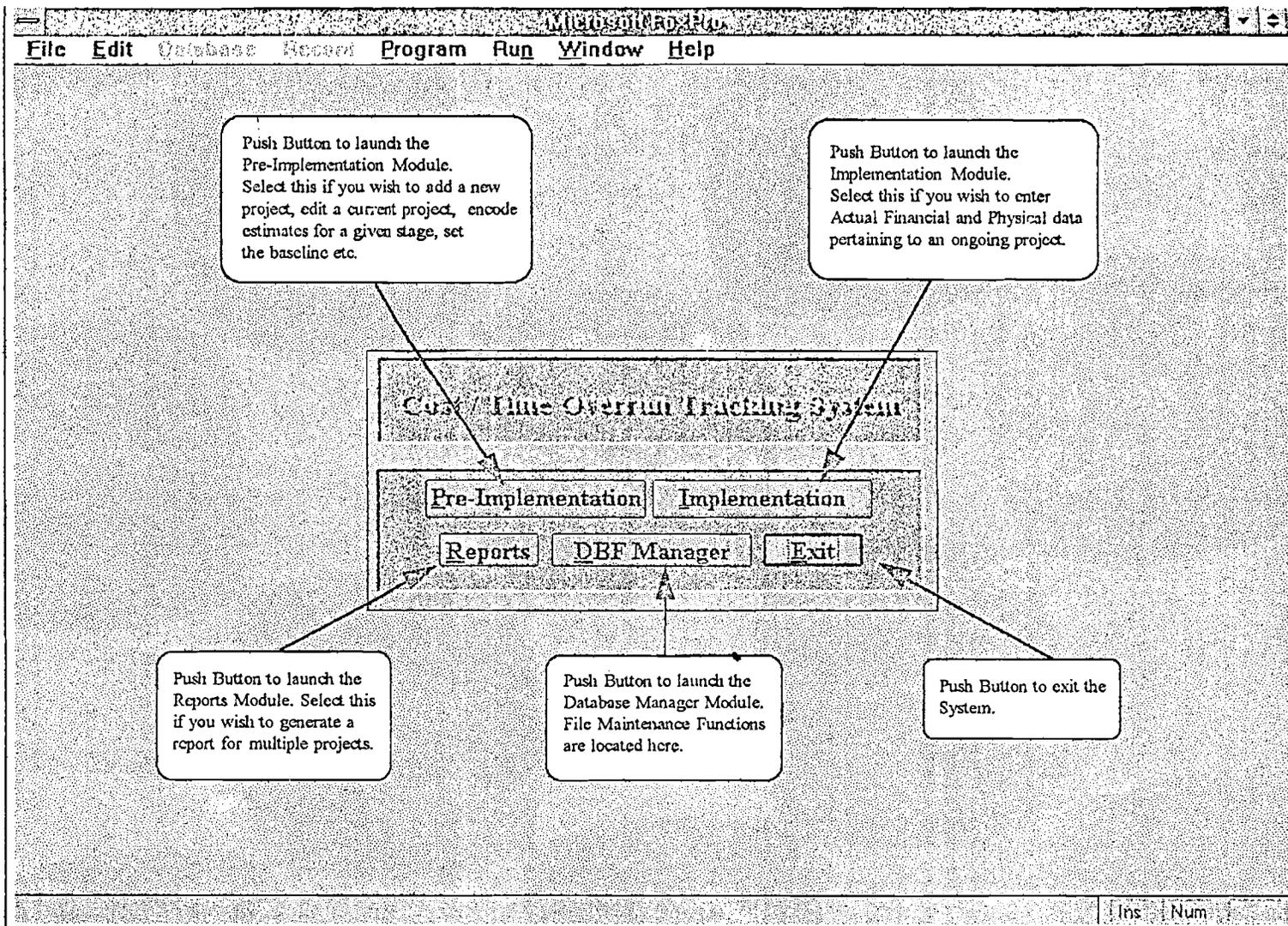
SCREEN 11 - ENCODING PROGRESS REPORTS

SCREEN 12 - THE PHYSICAL PROFILE WINDOW

SCREEN 13 - THE PHYSICAL PROFILE GRAPH

SCREEN 14 - SCREEN OF THE REPORT GENERATION MODULE

SCREEN 15 - SCREEN OF THE DATABASE MANAGER MODULE



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SCREEN 1

□ PRE-IMPLEMENTATION MODULE

The pre-implementation subsystem covers monitoring of project costs by category. It covers the following stages of project development - ICC, appraisal, detailed engineering and contracting stage. The project cost is further broken down into two areas namely the loan and the GOP counterpart of the project. To effectively monitor the effects of foreign exchange fluctuation in project cost overrun, the amounts in original currency and US dollar equivalent of loan portion are included in the project database.

The outputs of pre-implementation subsystem include the computation of cost allocation by category, deviation of project cost in various stages of project development, general profile of the projects. The general profile, which includes the implementing agency and the sector category of the project, is useful in generating summary of project performance. Other project details such as location of the project, loan details, are already part of the other PMS computer-based monitoring systems.

The submodules of the pre-implementation module include data entry module, provision for modification, selection of baseline estimate and computation of cost allocation and deviation. The report generated by this module, including graphical representations, is limited to the project database set during the data entry module. Once the baseline cost estimates have been selected, any revisions made in the baseline are recorded in a separate database.

The project codes are user-defined entries. PMS may use the same convention in assigning a unique project code for each project as in the other computer-based monitoring systems.

The outputs of the subsystem include the prooflist, the summary of estimates and the deviation matrix. The outputs can either be previewed in a computer monitor or directly printed to a computer printer. The prooflist contains all project entries and can be used for checking project details. The prooflist, by itself, can be used as a project profile report. The summary of estimates for each project includes totals for each category per each project estimate. The deviation matrix is a summary of deviations for all possible combination of project estimates.

Window System

Field showing the code for the project. Field showing the name of the project. Field showing from which stage the baseline was set.

Project Code: _____ Baseline From: 0

Project Title: _____

Pull-down Selection of the sector-assignment of the project. Entries here are taken from the Sector file. 2.1

Pull-down Selection of the agency-assignment of the project. Entries here are taken from the Agency file. 2.2

Pull-down Selection of the funding agency assignment of the project. 2.3

6

Sector: AGRICULTURAL * Implementing Agency: DOE

Project: New Category: Add

Select Edit

OK Delete List Changes

Funding Agency: ADB *

Estimate Base:

- ICC
- APPRAISAL
- D/E
- CONTRACTING
- LATEST

Get From: _____

Filter: No Filter ↓

Exchange Rate: PESO-US\$

Exchange rate used in the active estimate stage. Every stage should have a value for this field.

Estimate Stage selection 2.8

1. Calendar - opens the project specific calendar.

2. View - Preview/Print 1 of the 3 types of reports.

3. Save - Save the current project.

4. Set/Reset Baseline - Set baseline from a selection. Only those stages which contain components are included in the selection.

2.7

1. New - Create a Project. 2. Select - Load an existing Project. 2.4

1. Add - insert a category. 2. Edit - modify a category. 3. Delete - remove a category. 2.5

Pull-down Selection to copy the contents of one estimate stage to another. 2.6

Window showing the total loan amount and total G.O.P. for every estimate stage.

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------|------|-----------|------|-------------|--------|
| LOAN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Calendar

View

Save

Set Baseline

Exit

SCREEN 2

Microsoft Excel

Window System

Project Information

Project Code: Baseline From: 0

Project Title:

| | | | |
|--|-----------------------------------|---|--|
| Sector | Implementing Agency | Estimate Base | Filter |
| <input type="text" value="INFRASTRUCTUR"/> | <input type="text" value="DPWH"/> | <input checked="" type="radio"/> ICC <input type="radio"/> APPRAISAL | <input type="text" value="No Filter"/> |

| Rate | Rate |
|---------------|------|
| 0.00 | 155 |
| RATE vs. US\$ | 0.00 |
| 0.00 | 9.00 |
| 0.00 | |
| 0.00 | |
| 0.00 | |

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------------|-----------------------|-------------|-------------|-------------|-------------|
| LOAN | 62,222,222.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 25,155,000.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 104,333,333.33 | 0.00 | 0.00 | 0.00 | 0.00 |

THIS is the Add/Edit category window. The fields in this window are the same as those in the spreadsheet-style window. Press the Tab key to navigate through the fields or click on the desired field with the mouse.

Note. When the "Orig. Curr." field becomes the active field, another window, the currency window will pop-up. The currency window shows the various currencies which can be assigned to a category. To select a currency, use the Up/Down arrow keys then press escape. The currency window will disappear and the "Orig. Curr." field will contain the selected currency.

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SCREEN 5

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ANALYSIS of COMPONENTS

PROJECT CODE: W-0000
PROJECT TITLE: CS HIGHWAY

| PROJECT ID | PROJECT NAME | UNIT | DATE | AMOUNT | PERCENTAGE | STATUS | REMARKS | DATE | BY |
|-------------|--------------|---------------|-------|---------------|------------|-----------|---------|------|----|
| CIVIL WORKS | TRN | 30,000,000.00 | 99.00 | 30,000,000.00 | 100.00 | COMPLETED | | | |

| PROJECT ID | PROJECT NAME | UNIT | DATE | AMOUNT | PERCENTAGE | STATUS | REMARKS | DATE | BY |
|-------------|--------------|---------------|-------|---------------|------------|-----------|---------|------|----|
| CIVIL WORKS | TRN | 30,000,000.00 | 99.00 | 30,000,000.00 | 100.00 | COMPLETED | | | |

| PROJECT ID | PROJECT NAME | UNIT | DATE | AMOUNT | PERCENTAGE | STATUS | REMARKS | DATE | BY |
|-------------|--------------|---------------|-------|---------------|------------|-----------|---------|------|----|
| CIVIL WORKS | TRN | 30,000,000.00 | 99.00 | 30,000,000.00 | 100.00 | COMPLETED | | | |

| PROJECT ID | PROJECT NAME | UNIT | DATE | AMOUNT | PERCENTAGE | STATUS | REMARKS | DATE | BY |
|-------------|--------------|---------------|-------|---------------|------------|-----------|---------|------|----|
| CIVIL WORKS | TRN | 30,000,000.00 | 99.00 | 30,000,000.00 | 100.00 | COMPLETED | | | |

OK

Next

Previous

Page 1

Zoom In

Zoom Out

THIS is a preview of one of the reports which can be generated in the pre-implementation stage. The output of reports can be directed to the screen or to the printer. In this case, the output was directed to the screen.

| | | | | | |
|--------|---------------|---------------|---------------|---------------|------|
| G.O.P. | 2,251,000.00 | 1,440,000.00 | 5,441,000.00 | 13,500,000.00 | 0.00 |
| Total | 10,226,987.80 | 29,336,969.00 | 30,094,548.25 | 48,281,818.10 | 0.00 |

Exit

SCREEN 6

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Calendar Function

The system incorporates the calendar functions of Windows. This will enable the users to use the calendar to input appointments and activities related to specific projects. The calendar function will alert the users of specific appointments and activities for each project. A separate "appointment book" is maintained for each project.

Project Information

Project Code: TF-00002

Baseline From: 0

Calendar - TF-00002

File Edit View Show Alarm Options Help

10:04 PM Thursday, August 11, 1994

7:00 AM
8:00
9:00
10:00
11:00
12:00 PM
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00

Filter

No Filter

THIS is the calendar. A calendar is created when a new project is added to the database. Every project created by this system has a calendar.

Cost

Calendar

View

Save

Set Baseline

Exit

| | ICC | APPRAISAL | D/E | CONTRACTING | LATEST |
|--------|----------------|-----------|------|-------------|--------|
| LOAN | 104,293,883.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| G.O.P. | 104,293,883.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 104,293,883.73 | 0.00 | 0.00 | 0.00 | 0.00 |

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SCREEN 7

□ IMPLEMENTATION MODULE

This module involves tracking project accomplishment during implementation. The implementation module has two submodules, namely overall monitoring of project costs and sampling of categories or contracts.

The first submodule of the implementation module involves monitoring of total costs of the projects, a continuation of project cost monitoring in the pre-implementation subsystem. This was designed to permit flexibility in monitoring the financial status of projects in addition to close monitoring of selected project categories or contracts. The revised and actual project costs per category are compared with the baseline estimates of project category in the pre-implementation subsystem. The cost overruns in this subsystem normally focus on overall impact of price escalation and change orders made during the course of implementing the project. The cost overrun is also a function of time delays in project schedules. However, it may be difficult to directly quantify the cost overrun purely as a result of delays in implementation.

This submodule, overall monitoring of project costs, is an extension of the pre-implementation subsystem. This module follows the same set of data entry fields of projects by category such as amounts in its original currency, US dollar equivalent and GOP counterpart. However, the set of categories used for monitoring project costs in this subsystem is based on the set of categories used for the baseline estimate. The implementation subsystem does not allow changes in the categories used in the baseline estimate. Any changes will have to be done in the pre-implementation subsystem. This is to ensure that project

costs by category are comparable and appropriate indicators can be computed. It is important that baseline estimates in the pre-implementation subsystem are set correctly. The revisions in project costs and the actual costs as of a reporting period are compared with the baseline estimates to compute for the overall project deviation and financial accomplishment rate both based on baseline estimate and revised estimate.

The second submodule involves sampling of categories or contracts per project. Sampling of project categories or contracts is done to simplify the monitoring process. Since the system is primarily intended as an early warning system, it must be simple enough for the users to generate alert indicators for the projects. Sampling of major categories or contracts of projects basically involves close monitoring of these selected components or contracts per project. The monitoring includes tracking of the financial status and physical accomplishment of selected categories or contracts during this stage. Time overruns can be estimated based on slippage in physical accomplishment of the projects. The selection of contracts or categories to be included in the sample is done on a case-to-case basis. However, a general criteria can be set for the selection process. One criteria is that the sampled set of categories or contracts has a significant impact on the overall performance of the project. This set is critical in the success and failure of the project. In project management, it forms part of the critical path of project implementation.

The second submodule covers monitoring of the financial and physical status of sampled set of categories or contracts. The monitoring of financial status of projects is tracking changes in costs for each sampled category or

contract. This also includes the monitoring the actual cost based on the monitoring reports. The monitoring of financial status is a straightforward inputting of revised and actual costs into the system. The system simply tracks the costs over time and computes the deviation during project implementation.

The monitoring of physical status of projects starts by inputting the original target physical accomplishment (in cumulative percentage) of the sampled category or contract from the start of project implementation until project completion. During the course of project implementation, the system allows inputting of revisions in physical targets and inputting the actual physical accomplishment. The system is designed for monitoring projects on a monthly, quarterly or yearly basis. Based on the deviation between target and actual accomplishment, the system computes for the estimated delays in project completion. The computation of delays in project completion is based on the planned rate of accomplishment and does not consider possible crashing of project implementation.

The system allows graphical representations of the quantitative indicators presented above.

Window System

Microsoft Windows

Project Information

Project Code: [] Baseline From: 0

Project Title: []

Sector: [] Mode Radio Button. 8.7

Imp. Agency: []

Menu for updating Financial data in Sampling Mode. 8.1

1. New Period - add a new update period.
2. Select Period - Open a previously entered update period.

Menu for updating Physical data in Sampling Mode. 8.2

1. + Profile - add a new period in the profile.
2. - Period - remove a period from the profile.
3. Open Profile - Display profile for updating.
4. Calculate Forecast - Compute for the approximate delay/advance in Cal. days.

Profile Selection. Active in Sampling Mode only. 8.3

Category functions. Refer to Screen 4 for more details. 8.4

1. Calendar - Open the Project Calendar.
2. View - Print/Preview 1 of the 3 reports for the Implementation Module.
3. Reset - Remove all entries for this project in all implementation files.
4. Show Graph - generate a graph based on a Physical Profile. 8.5

Menu for updating Financial data in Overall Mode. 8.6

1. New Period - add a new update period.
2. Select Period - open a previously entered update period.
3. Erase Period - remove a previously entered update period.

Display area for the latest Financial Information

Display area for the "as of date" Financial Information

LAST PERIOD : [] CAT. BASELINE : []

TOTAL BASELINE COST : [] as of Date : []

TOTAL LATEST COST : [] LATEST as of : []

TOTAL ACTUAL COST : [] ACTUAL as of : []

Calendar

View

Reset

Show Graph

Exit

SCREEN 8

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Microsoft Windows

Window System

Project Information

Project Code:

Project Title:

Sector:

Imp. Agency:

To load an ongoing project, Click on **THIS** area. As in the pre-implementation module, **THIS** window will display projects in the database. Use the Up/Down arrow keys to highlight a project then Click on "OK" to load the highlighted project.

| Project Code | Project Title |
|--------------|---------------|
| IF-00001 | |

LAST PERIOD : CAT. BASELINE :
 TOTAL BASELINE COST : 0.00 as of Date : 00/00
 TOTAL LATEST COST : 0.00 LATEST as of : 00/00
 TOTAL ACTUAL COST : 0.00 ACTUAL as of : 00/00

SCREEN 9

Window System MICROSOFT PRO

Project Information

Project Code: IF-00001 Baseline From: 4
 Project Title: C-5 HIGHWAY
 Sector: INFRA-CONSTRUCTION

EQUIPMENT

CIVIL WORKS

| | |
|---------------------------------|-----------------------|
| LAST PERIOD : 01/01/87 | CAT. BASELINE : 0.00 |
| TOTAL BASELINE COST : 4,211,800 | as of Date : 05/01/88 |
| TOTAL LATEST COST : 4,520,310 | LATEST as of : 0.00 |
| TOTAL ACTUAL COST : 0.00 | ACTUAL as of : 0.00 |

When a project is loaded, the system searches for sample categories. If samples are not found, THIS window will pop-up. The upper box contains categories from the LATEST stage while the lower box contains the SAMPLING categories.

1. MOVE - transfer highlighted category in the upper box to the lower box.
2. REMOVE - transfer highlighted category in the lower box to the upper box.
3. NEW - add a new sampling category not defined in the LATEST stage.
4. SAVE - store SAMPLES to disk.
5. EXIT - exit this window.

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SCREEN 10

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Window System Microsoft Windows

Project Information

Project Code: IF-00001
 Project Title: C-5 HIGHWAY
 Sector: INFRASTRUCTURE
 Imp. Agency: DPWH

Baseline From

This is a preview of a GRAPH generated by a Physical Profile. The user can choose which type of GRAPH to display and also to customize a GRAPH. To customize a GRAPH, double click on THIS area. This will launch the MSGRAPH program of Microsoft Windows.

Microsoft Project Wizard

Here's your graph!

You can zoom in on the graph or print it.

Zoom Print...

If you want, you can save this graph in a DBF file so you can display or edit it later.

Save As...

If you want to customize the graph further right now, zoom the graph, and then double-click the graph in its own window.

Cancel << <Back OK >>

Calendar
View
Reset
Show Graph
Exit

LAST PERIOD : 01/01/78

SAMPLING FINANCIAL INDICATORS

as of Date : 06/30/78

TOTAL BASELINE COST : 10,211,518.00

TOTAL LATEST COST : 10,211,518.00

TOTAL ACTUAL COST : 10,700.00

LATEST as of : 06/30/78

ACTUAL as of : 06/30/78

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SCREEN 13

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File Edit Database Record Program Run Window Help

This is the Report-Generation Module.

1. Sector - include in the report only those projects for selected Sector.
2. Implementing Agency - include in the report only those projects for the selected Implementing Agency.
3. Funding Agency - include in the report only those projects for the selected Funding Agency.
4. Utilization Rate - filter out projects which do not meet the condition for Utilization Rate.
5. Physical Progress - include in the report only those projects which are advanced or delayed by n days.
6. Report Title - user-defined title for the report.

Sector ALL

Implementing Agency ALL

Funding Agency ALL

Utilization Rate Based on Baseline Over Under Equal 0.00 %

Latest

Physical Progress Advanced by Delayed by 0.00 DAYS

Report Title

Generate

Exit

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SCREEN 14

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□ DATABASE MANAGER MODULE

The system also includes a database manager module for checking the integrity of the databases used by the system. This module includes re-indexing of databases, packing the databases containing records marked for deletion and other file maintenance activities. The maintenance of the databases for the sector listing and the listing of implementing agencies is likewise included in the database manager subsystem. The database manager module is designed to facilitate the activities required to maintain the integrity of the databases and ensure that all databases used by the system are correctly linked with each other.

This is the Database Manager Module.

1. SORT - arrange all files either in ascending or descending order.
2. DELETE PROJECT - remove a project from the database.
3. MODIFY FILE - open the selected reference file for editing.
4. REINDEX - refresh the index files of all project files.

| Database Manager | | |
|-----------------------|-------------|----|
| <u>SORT</u> | Ascending | GO |
| <u>DELETE PROJECT</u> | C-5 HIGHWAY | GO |
| <u>MODIFY FILE</u> | Currency | GO |
| <u>REINDEX</u> | GO | |

Exit

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SCREEN 15

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APPENDIX

Detailed Design

The System uses the following databases:

- Project Information database - This database maintains the general profile of each project such as the project code, project title, sector, implementing agency, etc.
- Category details - The category details (i.e., category title, cost details) of each project by stages are stored in this database.
- Project Implementation database - The basic information on project implementation is stored in this database.
- Financial Profile database - Financial data on the project during implementation are stored in this database.
- Physical Profile database - Physical data on planned and actual accomplishments for each tracking period are stored in this database.

- Reference databases - These databases are used as reference database and serve as a lookup table to facilitate data entry for the project information. These databases include:
 - Agency database - The list of possible implementing agencies for the projects are stored in this database.
 - Sector database - The list of possible sector classification for the projects are stored in this database.
 - Currency database - This database contains the list of currencies and sample exchange rates to US dollar. This system allows the use of different exchange rates for each project.

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