

A.I.D. EVALUATION SUMMARY

(BEFORE FILLING OUT THIS FORM READ THE ATTACHED INSTRUCTIONS)

<p>A. REPORTING A.I.D. UNIT (Mission or AID/W Office)</p> <p>(ES <input checked="" type="checkbox"/>)</p>	<p>B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN?</p> <p>yes <input checked="" type="checkbox"/> slipped <input type="checkbox"/> ad hoc <input type="checkbox"/></p>	<p>C. EVALUATION TIMING</p> <p>interim <input type="checkbox"/> final <input checked="" type="checkbox"/> ex-post <input type="checkbox"/> other <input type="checkbox"/></p>												
<p>D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Project #</th> <th style="width:40%;">Project/Program Title (or title & date of evaluation report)</th> <th style="width:15%;">First PROAG or equivalent (FY)</th> <th style="width:10%;">Most recent PACD (mo/yr)</th> <th style="width:10%;">Planned LOP Cost ('000)</th> <th style="width:15%;">Amount Obligated to Date ('000)</th> </tr> </thead> <tbody> <tr> <td>492-0366</td> <td>Upland Access Component Rainfed Resources Development Project March 1989</td> <td>9/24/84</td> <td>9/30/89</td> <td>\$3,000</td> <td>¥2,818</td> </tr> </tbody> </table>			Project #	Project/Program Title (or title & date of evaluation report)	First PROAG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Obligated to Date ('000)	492-0366	Upland Access Component Rainfed Resources Development Project March 1989	9/24/84	9/30/89	\$3,000	¥2,818
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E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR	Name of Officer responsible for Action	Date Action to be Completed
1. No cost extension of component ACD from 9/30/89 to 3/31/90.	Mission Director	6/30/89
2. OCD to continue technical support for on-going subprojects. DLG to monitor performance of lengthman maintenance system.	OCD Engineer UAP/DLG	6/31/90
3. No action needed on cost and wage rate adjustments since subprojects are programed for completion in less than 1 year. Contingency fund of 7% can be programed for cost or wage adjustments. Improvement of GOP's funds flow requires no action. LGU's are being requested by DLG to include UAP construction and maintenance under regular budget.	DLG	6/30/89
4. Outside consultant to be hired to analyze collected socio-economic data.	USAID/DLG	6/30/89
5. No action needed in limiting coverage since ACD extension is basically no-cost. UAP/DLG Staff will be maintained since DLG plans to use NALGU funds to continue LE/ES technology.	DLG	-

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION

mo Mar. day 1 year 1989

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS

<p>Signature Typed Name Date</p> <p><i>Jane Nandy</i> Jane Nandy</p>	<p>Project/Program Officer</p> <p>Representative of Borrower/Grantor</p> <p><i>Norlando Toledo</i> Norlando Toledo</p>	<p>Evaluation Officer</p> <p><i>Sulpicio Roco</i> Sulpicio Roco</p>	<p>Mission or AID/W Office Director</p> <p><i>Malcolm Butler</i> Malcolm Butler</p>
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H. EVALUATION ABSTRACT (do not exceed the space provided)

This was a final evaluation of the Upland Access Component (UAC) of the Rainfed Resources Development Project (492-0366). The UAC was authorized in 1984, with \$4.1 million funding for five years. The upland component, which shared the Rainfed Resources Development Project goal of "achievement by the rural poor of the highest sustainable productivity from the rainfed and coastal resources upon which they depend for their livelihood," was undertaken to test the feasibility of using labor-based, equipment-supported (LB/ES) construction techniques to create minor roads, trails and bridges.

The project component involved preparation of training materials before field activities could begin. Construction at field sites was initiated in October 1986, two years after UAC authorization. In August 1987 the mid-term evaluation was conducted. That evaluation concluded the project would achieve its non-physical outputs, its purpose, and subgoals. The mid-term evaluation recommended a reorientation of the UAC from its initial focus on construction of new minor roads, trails and bridges to a greater emphasis on rehabilitation of provincial roads. The reorientation was approved in November 1987.

This final evaluation, carried out by a four-person team during January-February 1989, relied on documents, analysis of data collected by UAC employees, interviews with USAID and Department of Local Government personnel in Manila, visits to construction sites and interviews with provincial, municipal and barangay officials as well as members of road gangs. The project will not achieve its physical outputs by PACD in September 1989. However, the pilot effort has demonstrated that LB/ES road work techniques could generate significant employment in rural areas; improve uplanders' access to markets and government services; and could, technically speaking, provide regular maintenance for minor roads, trails, and bridges.

The outstanding issue which remains to be resolved is the creation of sustainable systems of road maintenance. Institutions to carry out this work are formally in place at the levels of the province and in completed subproject areas. However, these systems are, at present neither institutionalized nor fully effective.

Lessons Learned: (1) LB/ES road work techniques are effective both technically and in terms of generating jobs for the least well-off in rural areas; (2) organizing reliable maintenance systems for low-volume rural roads requires continuing attention to institutional and public finance issues.

1. EVALUATION COSTS

1 Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US\$)	Source of Funds
James T. Thomson	Associate in Rural Dev. (ARD)	PIO/T 492-0366-3-40200	\$35,442.00	Project Funded
Bruno S. Navera	- do -			
Norman Ramos	PSC	PO 492-0366-0-00-9010-00	4,010.00	- do -
Rajinder Sikka	PSC	PO 492-0366-0-00-90110-00	10,544.00	- do -
2 Mission/Office Professional Staff Person Days (estimate)	15	3 Borrower/Grantee Professional Staff Person Days (estimate)	10	

A.I.D. EVALUATION SUMMARY PART II

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (Try not to exceed the 3 Pages provided)

Address the following items:

- Name of mission or office
- Purpose of activity (ies) evaluated
- Purpose of the Evaluation and Methodology Used
- Findings and conclusions
- Recommendations
- Lessons learned

1. Mission: USAID Philippines

2. Purpose of Activity: The UAC was designed as a pilot activity to test the feasibility of addressing upland access constraints by strengthening provincial capabilities to assist rural barangays to plan and undertake labor-based, equipment-supported construction and maintenance of minor roads, trails and bridges. The objectives of the component were to: (a) generate significant employment in areas where unemployment and underemployment are chronic; (b) create opportunities for economic development in upland areas; and (c) create the basis for reliable systems of regular minor road, trail, and bridge infrastructure maintenance. Following the mid-term evaluation, the UAC was reoriented to focus more on rehabilitation and maintenance of existing provincial roads.

3. Purpose of the Evaluation and Methodology Used: This final evaluation was designed to find out whether the component was achieving its objectives (30-40% of team effort) and, if the component seemed successful, to develop a list of options through which LB/ES road work could be continued after UAC PACD in September 1989 (60-70% of team effort). The methodology adopted by the team involved document review, interviews, and site visits. Team members examined background documents and project-generated training manuals, as well as data-gathered by UAC personnel during the process of identifying appropriate subprojects. The team also conducted extensive interviews with Mission staff and with members of the Upland Access Unit (UAU). The UAU was created within the Department of Local Government (DLG) to implement the UAC. Team members also conducted extensive interviews with high level DLG and provincial staff and elected officials in five of the eight provinces where UAC currently has on-going operations, and less systematically, with rural municipality and barangay officials. Finally the team visited minor road, trail, bridge, and provincial rehabilitation sites. In addition to visual inspection of the work, individuals involved in the work were interviewed whenever possible.

4. Findings and Conclusions:

Technical

The UAC project has produced technically acceptable work provided adequate supervision is provided at all levels during the identification, planning, implementation, and maintenance phases. The redirection towards rehabilitation of rural roads, mandated after the mid-term evaluation, was appropriate.

Date this summary prepared:

SUMMARY

At the provincial level the usual start-up problems were encountered. However, work during identification and implementation phases seems adequate. The weak point of the system, as it presently operates, is supervision of routine maintenance on completed subprojects, and viable arrangements to ensure timely provision of equipment-supported periodic maintenance.

At the barangay level, maintenance organization appears to be the major hurdle. The road gang (pakyaw) contracting system posed problems initially, but these have been largely resolved.

5. Recommendations:

Technical

USAID/Manila should ensure that continued technical support is made available to any follow-on LB/ES road work activities which the Mission finances. Particular attention must be devoted to issues surrounding the lengthman maintenance system.

Financial

Materials cost tables and wage rates should be adjusted annually. The funds flow recommendations should be implemented as soon as possible. Participating provinces should be urged to budget their counterpart contributions to UAC road work as part of their regular budgets, rather than relying on supplementary appropriations.

Economic

The socioeconomic data collected before and after implementation of subprojects should be thoroughly analyzed to identify a short list of key indicators of success for both new road and road rehabilitation projects. An outside consultant should be engaged to undertake this analysis.

Organizational

USAID should limit any expansion of the UAC or follow-on activities to no more than twenty provinces. Measures should be taken to provide UAU staff with job security. An experienced and highly qualified manager should be placed at the head of the unit. UAU should increasingly stress its role as a training and technical advisory unit. Maintenance systems should be constantly emphasized.

6. Lessons Learned:

LB/ES road work is highly effective as a creator of jobs for the least well-off in rural areas. The work is technically acceptable and is economically competitive with EB construction.

Maintenance will continue to be an issue. Failure to resolve it will endanger the entire set of long-term economic benefits associated with the working infrastructure.

UAC is currently the only LB/ES project component of its kind in the Philippines. UAU personnel can train engineering and planning and development staffs at the provincial levels, and support their efforts to work with barangays interested undertaking LB/ES road work. A system for routine maintenance of rural roads called the "lengthman system" has been planned and tried in a few situations. While it is too early to judge whether the system is viable, the team found indications that supervision of maintenance crew efforts was lacking.

Financial

LB/ES road work, as carried out by the UAC, has proven financially competitive with equipment-based (EB) construction. Workers have generally been satisfied with wages provided under the program. Both labor and material cost estimates should be adjusted periodically to make sure they are in line with existing rates in other projects.

Flow of funds difficulties caused major delays in implementing a number of subprojects. Recommendations of a study conducted by a Manila accounting firm, if implemented, should considerably alleviate these problems.

Economic

The short-term economic impact of UAC activities was highly positive. LB/ES road work generates approximately five (5) times as many person-days of labor as does EB road construction. Because construction was timed for the dry season, no significant labor displacements occurred. UAC subproject communities received on average of P300,000 for road work undertaken. Wages went to those in local communities most in need of additional income, and money was spent on basic necessities. Women and minorities were involved in some phases of the work.

While it is too soon to estimate long-term impacts of the project, initial indications suggest that new and rehabilitated roads are creating the basis for economic development and improved access to government services in the target communities. Immediate use of the roads by vehicles, in-migration, expansion of cultivated surfaces and increase in the number of farms all suggest that the new or rehabilitated infrastructure does remove access constraints to development. Continuation of these processes is conditional, however, on acceptable levels of security and proper maintenance.

Organization

The UAC was implemented under the direction of the UAU, with backstop management provided by two Filipino consultants and Mission personnel. Management problems were identified at the UAU level, as well as at the provincial and barangay levels. Supervision was not fully effective within UAU, in part, because the position of full-time project manager remained unfilled. Additional issues which affect UAU performance include lack of job security, yearly interruptions in work over renegotiation of contracts, and little prospect of career advancement.

**INSTRUCTIONS FOR COMPLETING AND SUBMITTING
"A.I.D. EVALUATION SUMMARY"**

This form has two parts. Part I contains information to support future A.I.D. management action, and to process the evaluation into A.I.D.'s automated "memory". Part II is a self-contained summary of key elements of the full evaluation report; it can be distributed separately to interested A.I.D. staff.

WHAT WILL THIS FORM BE USED FOR?

- Record of the decisions reached by responsible officials, so that the principals involved in the activity or activities evaluated are clear about their subsequent responsibilities, and so that headquarters are aware of anticipated actions by the reporting unit.
- Notification that an evaluation has been completed, either as planned in the current Annual Evaluation Plan or for *ad hoc* reasons.
- Summary of findings at the time of the evaluation, for use in answering queries and for directing interested readers to the full evaluation report.
- Suggestions about lessons learned for use in planning and reviewing other activities of a similar nature. This form as well as the full evaluation report are processed by PPC/CDIE into A.I.D.'s automated "memory" for later access by planners and managers.

WHEN SHOULD THE FORM BE COMPLETED AND SUBMITTED? After the Mission or A.I.D./W office review of the evaluation, and after the full report has been put into a final draft (i.e., all pertinent comments included). The A.I.D. officer responsible for the evaluation should complete this form. Part of this task may be assigned to others (e.g., the evaluation team can be required to complete the Abstract and the Summary of Findings, Conclusions, and Recommendations). The individual designated as the Mission or A.I.D./W evaluation officer is responsible for ensuring that the form is completed and submitted in a timely fashion.

WHERE SHOULD THE FORM BE SENT? A copy of the form and attachment(s) should be sent to each of the following three places in A.I.D./Washington:

- The respective Bureau Evaluation Office
- PPC/CDIE/DI/Acquisitions, Room 209 SA-18 (Note: If word processor was used to type form, please attach floppy disk, labelled to indicate whether WANG PC, WANG OIS or other disk format.)
- SER/MO/CPM, Room B930 NS (please attach A.I.D. Form 5-18 or a 2-way memo and request duplication and standard distribution of 10 copies).

HOW TO ORDER ADDITIONAL COPIES OF THIS FORM: Copies of this form can be obtained by sending a "Supplies/Equipment/Services Requisition" (A.I.D. 5-7) to SER/MO/RM, Room 1264 SA-14 in A.I.D./Washington. Indicate the title and number of this form ("A.I.D. Evaluation Summary", A.I.D. 1330-5) and the quantity needed.

PART I (Facesheet and Page 2)

A. REPORTING A.I.D. UNIT: Identify the Mission or A.I.D./W office that initiated the evaluation (e.g., U.S.A.I.D./Senegal, S&T/H). Missions and offices which maintain a serial numbering system for their evaluation reports can use the next line for that purpose (e.g., ES# 87/5).

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN? If this form is being submitted close to the date indicated in the current FY Annual Evaluation Plan (or if the final draft of the full evaluation report was submitted close to that date), check "yes". If it is being submitted late or as carried over from a previous year's plan, check "slipped". In either case, indicate on the next line the FY and Quarter in which the evaluation was initially planned. If it is not included in this year's or last year's plan, check "ad hoc".

C. EVALUATION TIMING: If this is an evaluation of a single project or program, check the box most applicable to the timing of the evaluation relative to the anticipated life of the project or program. If this is the last evaluation expected to inform a decision about a subsequently phased or follow-on project, check "final", *even though the project may have a year or more to run before its PACD*. If this is an evaluation of more than a single project or program, check "other".

D. ACTIVITY OR ACTIVITIES EVALUATED: For an evaluation covering more than four projects or programs, only list the title and date of the full evaluation report.

E. ACTION DECISIONS APPROVED BY MISSION OR A.I.D./W OFFICE DIRECTOR: What is the Mission or office going to do based on the findings, conclusions, and recommendations of the evaluation; when are they going to do it; and who will be responsible for the actions required? List *in order of priority or importance* the key actions or decisions to be taken, unresolved issues and any items requiring further study. Identify as appropriate A.I.D. actions, borrower/grantee actions, and actions requiring joint efforts. Indicate any actions that are preliminary pending further discussion or negotiation with the borrower/grantee.

F. DATE OF MISSION OR A.I.D./W OFFICE REVIEW OF EVALUATION: Date when the internal Mission or office review was held or completed.

G. APPROVALS OF EVALUATION SUMMARY AND ACTIONS DECISIONS: As appropriate, the ranking representative of the borrower/grantee can sign beside the A.I.D. Project or Program Officer.

H. EVALUATION ABSTRACT: This one-paragraph abstract will be used by PPC/CDIE to enter information about the evaluation into A.I.D.'s automated "memory". It should invite potentially interested readers to the longer summary in Part II and perhaps ultimately to the full evaluation report. It should inform the reader about the following:

- If the evaluated activity or activities have characteristics related to the reader's interests.
- The key findings, conclusions, and lessons.
- An idea of the research methods used and the nature/quality of the data supporting findings.

Previous abstracts have often been deficient in one of two ways:

- Too much information on project design, implementation problems, and current project status discourages readers before they can determine if there are important findings of interest to them.
- A "remote" tone or style prevents readers from getting a real flavor of the activity or activities evaluated; progress or lack of progress; and major reasons as analyzed by the evaluation.

In sequential sentences, the abstract should convey:

- The programming reason behind the evaluation, and its timing (e.g., mid-term, final);
- The purpose and basic characteristics of the activities evaluated;
- A summary statement of the overall achievements or lack thereof to date;
- A picture of the status of the activities as disclosed in the full evaluation report;
- An idea of the research method and types of data sources used by the evaluators;
- The most important findings and conclusions; and key lessons learned.

Avoid the passive tense and vague adjectives. Where appropriate, use hard numbers. (An example of an abstract follows; "bullets" may be used to highlight key points).

EXAMPLE OF AN ABSTRACT

The project aims to help the Government of Zaire (GOZ) establish a self-sustaining primary health care (PHC) system in 50 rural health zones (RHZ). The project is being implemented by the Church of Christ in Zaire and the GOZ's PHC Office. This mid-term evaluation (8/81-4/84) was conducted by a GOZ-USAID/Z team on the basis of a review of project documents (including a 4/84 project activity report), visits to nine RHZ's, and interviews with project personnel. The purpose was to clarify some uncertainties about the initial design and set future priorities for activities. The major findings and conclusions are:

- This well-managed and coordinated project should attain most objectives by its 1986 end.
- Progress has been good in establishing RHZ's, converting dispensaries into health centers, installing latrines (over double the target), and training medical zone chiefs, nurses, and auxiliary health workers. Long-term training has lagged however, and family planning and well construction targets have proven unviable.
- The initial assumption that doctors and nurses can organize and train village health committees seems invalid.
- User fees at health centers are insufficient to cover service costs. A.I.D.'s ERICOR project is currently studying self-financing procedures.
- Because of the project's strategic importance in Zaire's health development, it is strongly recommended to extend it 4-5 years and increase RHZ and health center targets, stressing pharmaceutical/medical supplies development and regional Training for Trainers Centers for nurses, supervisors, and village health workers.

The evaluators noted the following "lessons":

- The training of local leaders should begin as soon as the Project Identification Document is agreed upon.
- An annual national health conference spurs policy dialogue and development of donor sub-projects.
- The project's institution-building nature rather than directly service nature has helped prepare thousands of Zairis to work with others in large health systems.

1. **EVALUATION COSTS:** Costs of the evaluation are presented in two ways. The first are the cost of the work of the evaluation team per se. If Mission or office staff serve as members of the team, indicate the number of person-days in the third column. The second are the indirect estimated costs incurred by involvement of other Mission/Office and borrower/grantee staff in the broader evaluation process, including time for preparations, logistical support, and reviews.

PART II (Pages 3-6)

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS: The following reflects a consensus among A.I.D.'s Bureaus on common elements to be included in a summary of any evaluation. The summary should not exceed the three pages provided. It should be self-contained and avoid "in-house" jargon. Spell out acronyms when first used. Avoid unnecessarily complicated explanations of the activity or activities evaluated, or of the evaluation methodology; the interested reader can find this information in the full evaluation report. Get all the critical facts and findings into the summary since a large proportion of readers will go no further. Cover the following elements, preferably in the order given:

1. Purpose of the activity or activities evaluated. What constraints or opportunities does the loan and/or grant activity address; what is it trying to do about the constraints? Specify the problem, then specify the solution and its relationship, if any, to overall Mission or office strategy. State logframe purpose and goal, if applicable.

2. Purpose of the evaluation and methodology used. Why was the evaluation undertaken? Briefly describe the types and sources of evidence used to assess effectiveness and impact.

3. Findings and conclusion. Discuss major findings and interpretations related to the questions in the Scope of Work. Note any major assumptions about the activity that proved invalid, including policy related factors. Cite progress since any previous evaluation.

4. Principal recommendations for this activity and its offspring (in the Mission country or in the office program). Specify the pertinent conclusions for A.I.D. in design and management of the activity, and for approval/disapproval and fundamental changes in any follow-on activities. *Note any recommendations from a previous evaluation that are still valid but were not acted upon.*

5. Lessons learned (for other activities and for A.I.D. generally). This is an opportunity to give A.I.D. colleagues advice about planning and implementation strategies, i.e., how to tackle a similar development problem, key design factors, factors pertinent to management and to evaluation itself. There may be no clear lessons. Don't stretch the findings by presenting vague generalizations in an effort to suggest broadly applicable lessons. If items 3-4 above are succinctly covered, the reader can derive pertinent lessons. On the other hand, don't hold back clear lessons even when these may seem trite or naive. Address:

-- Project Design Implications. Findings/conclusions about this activity that bear on the design or management of other similar activities and their assumptions.

-- Broad action implications. Elements which suggest action beyond the activity evaluated, and which need to be considered in designing similar activities in other contexts (e.g., policy requirements, factors in the country that were particularly constraining or supportive).

NOTE: The above outline is identical to the outline recommended for the Executive Summary of the full evaluation report. At the discretion of the Mission or Office, the latter can be copied.

K. **ATTACHMENTS:** Always attach a copy of the full evaluation report. A.I.D. assumes that the bibliography of the full report will include all items considered relevant to the evaluation by the Mission or Office. NOTE: If the Mission or Office has prepared documents that (1) comment in detail on the full report or (2) go into greater detail on matters requiring future A.I.D. action, these can be attached to the A.I.D. Evaluation Summary form or submitted separately via memoranda or cables.

L. **COMMENTS BY MISSION, AID/W AND BORROWER/GRANTEE:** This section summarizes the comments of the Mission, AID/W Office, and the borrower/grantee on the full evaluation report. It should enable the reader to understand their respective views about the usefulness and quality of the evaluation, and why any recommendations may have been rejected. It can cover the following:

- To what extent does the evaluation meet the demands of the scope of work? Does the evaluation provide answers to the questions posed? Does it surface unforeseen issues of potential interest or concern to the Mission or Office?
- Did the evaluators spend sufficient time in the field to fully understand the activity, its impacts, and the problems encountered in managing the activity?
- Did any of the evaluators show particular biases which staff believe affected the findings? Avoid ad hominem discussions but cite objective evidence such as data overlooked, gaps in interviews, statements suggesting a lack of objectivity, weaknesses in data underlying principle conclusions and recommendations.
- Did the evaluation employ innovative methods which would be applicable and useful in evaluating other projects known to the Mission or Office? Note the development of proxy measures of impact or benefit; efforts to construct baseline data; techniques that were particularly effective in isolating the effects of the activity from other concurrent factors.
- Do the findings and lessons learned that are cited in the report generally concur with the conclusions reached by A.I.D. staff and well-informed host country officials? Do lower priority findings in the evaluation warrant greater emphasis?

ATTACHMENTS

K. ATTACHMENTS (List attachments submitted with this Evaluation Summary, always attach copy of full evaluation report even if one was submitted earlier)

- Evaluation Report -

MISSION COMMENTS ON FULL REPORT

L. COMMENTS BY MISSION AID/W OFFICE AND BORROWER/GRANTEE

1. Evaluation report complied with the Mission mandate to devote 30-40% on what has occurred and 60-70% on the future of the Upland Access Component.
2. The project has demonstrated the feasibility of Labor-based Equipment-supported (LB/ES) technology and the positive socio-economic impact it generates in 6th inaccessible communities. However, because of its micro-management requirement, the Mission is not considering further assistance to this project type.
3. The Department of Local Government (DLG) has requested extensions of the project and the addition of more funds to respond to numerous provincial request for inclusion in this component project.

UPLAND ACCESS COMPONENT

Rainfed Resources Development Project

EXTERNAL EVALUATION



UPLAND ACCESS COMPONENT

Rainfed Resources Development Project

EXTERNAL EVALUATION

DECENTRALIZATION: FINANCE AND
MANAGEMENT PROJECT

Sponsored by the U.S. Agency for International Development
Contract No. DHR-5446-2-00-7033-00
(Funded by the AID Office of Rural and Institutional
Development of the Bureau for Science and Technology
and by the USAID mission in the Philippines)

Managed by:
Associates in Rural Development, Inc.

In collaboration with:
Metropolitan Studies Program
Maxwell School of Citizenship & Public Affairs
Syracuse University

Workshop in Political Theory & Policy Analysis
Indiana University

Prepared by:
James T. Thomson, Ph.D.
Bruno Navera
Raj Sikka
Norman Ramos, Ph.D.

March 1989

The views and interpretations expressed in this report are
those of Associates in Rural Development, Inc., the contractor
for the evaluation, and should not be attributed to the
U.S. Agency for International Development

This evaluation report was prepared by a four-person team comprised of Dr. James T. Thomson; Mr. Bruno Navera; Mr. Raj Sikka; and Dr. Norman Ramos. The services of Dr. Thomson, evaluation team leader, and Mr. Navera were furnished through a USAID/Manila-funded work order under the Decentralization: Finance and Management (DFM) Project. Mr. Sikka and Dr. Ramos were contracted separately by USAID/Manila. The DFM project is sponsored by the Office of Rural and Institutional Development of the Bureau for Science and Technology (S&T/RI) of the U.S. Agency for International Development (AID). AID is the prime contractor for the DFM project under AID contract number DME-5446-2-00-7033-00. Subcontractors are the Metropolitan Studies Program of the Maxwell School of Citizenship and Public Affairs at Syracuse University and the Workshop in Political Theory and Policy Analysis at Indiana University.

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ABBREVIATIONS AND ACRONYMS

ACEL	Associated Construction Equipment Lessors Corporation
AID	Agency for International Development
AIP	Annual Implementation Plan
BIR	Bureau of Internal Revenue
BT	Bureau of Treasury
CAF	Certificates of Availability Funds
CEDP	Community Employment and Development Program
CLATT	Central Labour-Based Advisory and Training Team
COA	Commission of Audit
CVRP	Central Visayas Regional Project
DBM	Department of Budget and Management
DFM	Decentralization: Finance and Management
DLG	Department of Local Government
DPWH	Department of Public Works and Highways
EB	equipment-based
ES	equipment-supported
FARA	Fixed Amount Reimbursement Agreement
FB	footbridge
FIES	Family Income and Expenditures Survey
GOP	Government of the Philippines
HCN	host-country national
ICO	Internal Control Office
ILO	International Labor Organization
IT	improved trail
LB	labor-based
LEU	labor-based unit
LGC	Local Government Code
LGDF	Local Government Development Fund
LGU	local government unit
LOP	life-of-project
MR	minor road
NEDA	National Economic and Development Authority
NIA	National Income Account
O and M	organizational and managerial
OCD	Office of Capital Development
OPDS	Office of Project Development Services
ORAD	Office of Rural and Agricultural Development
PACD	project assistance completion date
PEAC	Prequalification, Bid, and Award Committee
PBSP	Philippine Business for Social Progress
PDC	Provincial Development Council
PEO	Provincial Engineering Office
PPA	Percentage Payment Agreement
PPDC	Provincial Planning and Development Coordinator
PPDO	Provincial Planning and Development Office
PR	provincial road
PRIP	Philippine Rural Infrastructure Project

RCCP reinforced concrete culvert pipes
RRDP Rainfed Resources Development Project
RRP Rural Roads Project
PVO Private Voluntary Organization
SCF Social Conversion Factors
SOW Statement of Work
SRRIP Second Rural Roads Improvement Project
TA technical assistance
UAC Upland Access Component of the Rainfed Resources
Development Project
UAU Upland Access Unit
UNDP United Nations Development Program
USAID United States Agency for International Development

I. EXECUTIVE SUMMARY

A. Introduction

In accordance with the dual objectives of the Upland Access Component (UAC) of the Rainfed Resources Development Project (RRDP) final evaluation Scope of Work (SOW), the four-person team¹ engaged to perform the evaluation devoted its efforts to evaluating the UAC, and, to a greater extent, to developing follow-on options for consideration by USAID/Manila. In relation to these principal foci, the report presents the findings of the evaluation team concerning the component, its design, and implementation; discusses six possible options for future activities; and concludes with the team's recommendation for the preferred option.

In sum, labor-based, equipment-supported (LB/ES) road construction, rehabilitation, and maintenance technology is highly suitable under contemporary Filipino conditions and should be promoted.

The Government of the Philippines (GOP) is now devolving both decision-making authority and the financial power necessary to implement decisions to local government units (LGUs). USAID can support this trend by helping LGUs to strengthen their capacity using LB/ES techniques to rehabilitate rural roads, and particularly, to develop sustainable systems of rural road maintenance. Such systems should involve significantly greater degrees of responsibility for maintenance at the municipal and barangay levels than has been the case. USAID support should take the form of matching grants to encourage:

- o local government unit (LGU) efforts at road rehabilitation and maintenance,
- o policy dialogue to improve the environment for locally-based maintenance efforts, and
- o continued technical assistance.

¹ UAC evaluation team members were James T. Thomson, Ph.D., Raj Sikka, Norman Ramos, and Bruno Navera. The evaluation was performed from January 27 to March 1, 1989.

B. Principal Findings and Recommendations

1. Technical aspects

LB/ES road construction, rehabilitation and maintenance methods are competitive with equipment-based (EB) methods.

2. Financial aspects

LB/ES methods have proven marginally less costly than EB techniques. Fund flow problems have seriously and repeatedly impeded UAC performance by causing interruptions in construction of on-going subprojects, often during the prime construction ("dry") season. Methods of expediting the flow of funds have been identified and should be implemented immediately.

3. Socioeconomic aspects

In the short term, LB/ES methods generate at least five times the person-days of work per kilometer of road construction (2,632) as do EB methods (485). The wages which pakayaw workers (road gangs) earn are attractive in most areas, however, improved efficiencies could be obtained by varying rates to reflect local wage standards. Pakayaw wages from LB/ES road work go primarily to low income families and represent significant increases in cash flows into assisted communities. Women and minorities have been employed in some subprojects.

It is too early to evaluate longer-term impacts. However, increased vehicle traffic on subproject roads, reduced transport costs and transport times, gradual in-migration and opening of new farms in subproject road areas, and greater use of extension and credit facilities by farmers all indicate the roads are improving conditions for economic development in assisted areas. However, these gains will be seriously jeopardized if roads are not regularly and properly maintained and if peace and order conditions are not acceptable to area inhabitants.

Socioeconomic data collected in "before" and a few "after" surveys appear reliable, but have not been intensively analyzed using sophisticated statistical techniques. This task should be undertaken both for new and for rehabilitated roads, as data become available to permit identification of a list of key success indicators.

4. Organizational Findings

The Upland Access Unit (UAU), located in the Department of Local Government (DLG), employs some 20 persons including twelve engineers and five social scientists. These individuals have acquired important skills concerning LB/ES road work. They have provided both training and supervision of subproject activities.

Current staff performance appears to suffer from undermanagement as well as from discrepancies between UAU staff salaries and those of the two USAID host-country national (HCN) consultants (an LB/ES road engineer and a sociologist) to UAU. The UAU director has been seconded to another post, and the unit is administered by the assistant director.

At the provincial level, Provincial Engineering Office (PEO) personnel and Provincial Planning and Development Office (PPDO) personnel have improved their skills in identifying, preparing and implementing LB/ES road work. However, they continue to require technical assistance support and supervision to ensure that all phases of road rehabilitation and construction work are done properly, that the administrative support system functions adequately, and that sustainable systems of maintenance are organized to protect and perpetuate these basic capital investments.

C. Program Options

Six options have been identified--three for the interim period and three for a possible follow-on activity. Each is briefly described and assessed below.

1. Interim Options

Termination of USAID Support for LB/ES Road Work:

USAID support for LB/ES activities would be terminated after the project activity completion date (PACD) of UAC. The potential contribution to private and public welfare which LB/ES road work can make in the Philippines and the current evolution of the policy environment in terms favorable to LB/ES road work, including development of sustainable maintenance systems, far outweighs the advantage to the Mission of economizing on staff time in this sector.

Interim No-Cost Extension of UAC or Interim Low-Cost Extension of UAC

Support to LB/ES road operations would be continued through an interim no-cost or low-cost extension of UAC. These options presents a significant advantage by preserving the pool of trained person-power now assembled and is, therefore, strongly advised.

2. Follow-On Options

Program Option for Continuation of USAID Support for LB/ES Road Activities

USAID would transfer grant funds to the GOP conditional on policy reforms. The GOP has just decided to implement important public finance reforms tending to increase the amount of LGU discretionary funds and to reduce earmarking of national funds. The Local Government Code (LGC) is under review, and revisions devolving power to LGUs will probably appear within the next several years at the latest. Thus the policy reforms most critical to developing sustainable systems of road maintenance may well be the reorganization of responsibility for road maintenance so that barangays, municipalities, and provinces are required to maintain provincial, municipal, and barangay roads.

The program mode would permit USAID to provide technical assistance for LB/ES road work, either through buy-ins to Filipino institutions, or by contracting an outside group especially to provide technical assistance. However, that assistance would be limited to the provision of training and capability enhancement.

The program mode provides a useful mechanism to address the policy question of road reclassification, but does not provide sufficient leverage to encourage positive performance by assisted jurisdictions on road maintenance.

Project Option for Continuing USAID Support for LB/ES Road Activities

This option would involve providing substantial technical assistance (TA) support for LB/ES road maintenance and rehabilitation. Project implementation would be contracted to an organization external to USAID/Manila. The project mode would allow USAID to supervise and provide quality control engineering, support to organization and public finance aspects involved in road maintenance and rehabilitation, and in addition, to provide training in collaboration with the UAU or with Filipino organizations.

The project mode would allow the project TA team to exert leverage at the provincial level to encourage those jurisdictions to begin funding some road rehabilitation and all road maintenance work with their own resources. It would also permit USAID to reward strong LGU performance on road maintenance by supplying additional funds to jurisdictions which meet maintenance standards.

The major drawback of the project mode is its inability to adequately address the road reclassification problem. If that

policy change is not achieved, it would be difficult under an LB/ES road work project to involve subprovincial LGUs in developing sustainable road maintenance systems.

Linked Program and Project in Support of LB/ES Activities

This option would pursue LB/ES road maintenance and rehabilitation by using program and project modes in parallel. It would achieve the advantages of both modes while largely overcoming their disadvantages. A total of, for example, 40 million dollars could be divided between project and program in a 20:20 million dollars ratio. Program funds would be disbursed quickly and USAID monitoring requirements of these funds would be limited. The outside organization contracted to implement the project could work in up to twenty provinces expending an average of one million dollars in each over a five-year life-of-project (LOP). It would bear the bulk of the burden of supervision of the expenditure of project funds.

D. Team Recommendation

For the interim period, the team recommends the low-cost extension option unless DLG funds construction during the interim period. In that case, the team recommends the no-cost extension option. For the follow-on period, the team recommends USAID pursue the last option, "Linked Program and Project in Support of LB/ES Activities."

II. INTRODUCTION

The body of this document covers five topics:

- o a review of the mandate of the team commissioned to undertake the final evaluation of the Upland Access Component, and of the team's activities during the evaluation;
- o a brief description of the Upland Access Component (UAC), including component goal, subgoals and purposes, organization and expected outputs;
- o a summary of the team's findings;
- o recommendations on how UAC activities should be modified; and
- o a review of options for continuing UAC-type activities with a discussion of the positive and negative aspects of each option.

A. Upland Access Component Evaluation Team Mandate

The Mission asked the evaluation team to assess UAC achievements and weaknesses, beginning with the following documents:

- o basic Mission documents relevant to UAC, particularly the "Project Paper: Rainfed Resources Development (492-0366)," and the "Project Paper Supplement: Upland Access Component, Rainfed Resources Development (492-0366)";
- o the "Redirection of the Upland Access Component, Rainfed Resources Project," submitted by William Thomas in September 1987 as the UAC mid-term evaluation report;
- o materials prepared by the UAU of the DLG;
- o the "Study on the Flow of USAID Advances through the GOP System" and the "Documentation of Disbursement Mechanisms Used by Selected International Funding Agencies" submitted by SGV and Co. in November 1988; and
- o the "Local Government National Agencies Study" prepared by consultants John Dalton, Jaime Vergara, and Bruno Navera commissioned through the

Decentralization: Finance and Management Project.

These materials were to be supplemented by interviews with USAID, UAU, and DLG personnel; field observations and interviews with LGU elected and appointed officials; road gang members; and project beneficiaries in five of the eight provinces where UAC currently has completed subprojects and/or on-going activities.

Of critical importance to the approach adopted by the team and to the character of the final product was the Mission's desire that the team not limit itself or even mainly focus its efforts on producing "a traditional 'performance against objectives only' evaluation [UAC Evaluation SOI, p. 3]. Rather, the team was to devote 30 to 40% of its effort to evaluating UAC, and 60 to 70% to defining a range of options which the Mission might consider as mechanisms to pursue USAID support for LB/ES infrastructure construction and maintenance activities in the Philippines.

B. UAC Description

UAC was approved in August 1984 through an amendment to the Rainfed Resources Development Project, with total funding of 4.1 million dollars of which USAID supplied 3 million, and GOP 1.1 million. The UAC PACD is September 1989.

1. UAC Goal

The goal of the UAC was defined by that of the parent Rainfed Resources Development Project as "achievement by the rural poor of the highest sustainable productivity from the rainfed and coastal resources upon which they depend for their livelihood." The subgoals to be achieved were to increase rural employment and to improve access to other government and non-government services. To achieve these goals UAC was to "develop organizational management and control systems for local government units to effectively implement labor-based construction of upland minor access roads, trails and footbridges."

2. UAC Purpose

UAC was designed as a pilot component to test the feasibility of undertaking LB/ES construction of minor roads, trails, and bridges. It was assumed that if the pilot were successful, it would demonstrate the feasibility of using LB/ES approaches to:

- generate significant employment in areas where unemployment and underemployment are chronic;

- e create opportunities for economic development in upland areas; and
- e create the basis for reliable systems of regular minor road, trail, and bridge infrastructure maintenance.

3. UAC Organization

USAID/Manila decided to provide in-house management for UAC. A UAC management team was designated and housed in the Office of Rural and Agricultural Development (ORAD). Support services for evaluating engineering designs and monitoring implementation have been provided by the Office of Capital Development (OCD). The Comptroller's Office has provided financial monitoring.

The DLG was selected as the GOP supervisory agency. Implementation was to be organized and supervised by staff in the PPDOs and in the PEOs of UAC-assisted provinces. The UAU in DLG was to provide back-stop support on engineering, institutional, socioeconomic, and training aspects of subproject identification, design, implementation, and monitoring.

USAID provided funding for 70% of the costs of these activities, DLG 15%, participating provinces 10%, and participating barangays 5%. It was initially projected that UAC would develop 150 kilometers of upland access minor roads, 150 kilometers of graded trails, and 30 footbridges.

The September 1987 mid-term evaluation found, among other things, that it was difficult to identify viable new projects for inclusion in UAC. The project was reoriented to place more emphasis on rehabilitation of provincial roads. This supports the President's current emphasis on adequate maintenance of existing infrastructure stock rather than creation of new roads which will merely add to the stock of inadequately maintained roads. Several rehabilitation projects are now underway.

At present, only seven UAC projects have been completed, while another 37 are either on-going or have been approved by DLG and USAID but not yet initiated. Six more projects are under active review by DLG and USAID. UAU has proposed 43 additional projects, but remaining UAC funds are adequate to finance only four of these.

Because of the late effective start on construction activities, few projects have been completed. Evaluation of road maintenance efforts is based on a very small sample. Judgments are thus subject to a somewhat higher degree of error than would be the case were there a larger selection of subprojects at the maintenance stage. The late 1987 reorientation of UAC to a significant new focus on rehabilitation of provincial roads and

partial deemphasis of new construction makes it more difficult to evaluate some aspects of rehabilitation work than would otherwise be the case.

III. UAC EVALUATION TEAM FINDINGS

Findings are grouped under four categories: technical, financial, socioeconomic, and organizational.

A. Technical Findings

UAC will not meet its original physical targets as was recognized during the mid-term evaluation. Minor road subprojects to be completed by PACD (or shortly thereafter with funds already allocated) total roughly 117 kilometers. Trails, which have been judged less important, will total 15 kilometers. Footbridges, which again have been judged less relevant, will total 250 meters in length.

In general, the team concurs with Thomas' conclusions in the UAC Redirection report. The technical viability of LB/ES technology has been adequately demonstrated. Provided proper supervision is available, LB/ES construction and rehabilitation of rural, gravel-surfaced roads are highly competitive, on technical grounds, with EB technology.

UAC represents the only current LB/ES road work of its kind in the Philippines. The Central Labour-Based Advisory Training Team (CLATT) uses primarily UAC subprojects for site visits to demonstrate the practical application of LB/ES techniques.

The maintenance process for minor roads has been defined. It relies on the "lengthman" system which involves engaging individuals to perform routine maintenance on specific road sections. These lengthmen are to be supervised by PEO employees. The latter are supposed to visit the specific sections, assign tasks to individual lengthmen, follow up to determine whether the assignments have been adequately executed, and pay the lengthman or withhold payment based on performance. In many provinces visited, supervision of lengthmen was inadequate.

Periodic maintenance is to be supplied by the PEO, using equipment and resources available at the provincial level. Again, performance at this level is quite often inadequate.

B. Financial Findings

UAC has been able to construct minor roads and some trails and to rehabilitate provincial roads using rates for labor and materials which are marginally to substantially cheaper than those used by the Department of Public Works and Highways (DPWH). Labor rates are 26 to 45% lower than those used by DPWH and private sector contractors. Material prices are 5% to 60% lower depending on the item. The sole exceptions to generally

cheaper UAC materials prices are heavy inputs such as cement culvert pipe which must be moved long distances to work sites, and therefore, involve higher transportation costs.

From the perspective of pakyaw workers, UAC employment is attractive. This is a function of productivity standards, which are set low enough so that workers earn at least 46 pesos on the average and may get as much as 80 pesos or even higher on certain pakyaw contracts.

The major delays in transferring funds for expenditures on UAC subprojects have seriously lengthened construction times and discouraged pakyaw workers. By far the longest delays occur in funds transfer between the Bureau of Treasury (BT) and the provinces.

C. Socioeconomic Findings

Findings in this category are based on three assumptions:

- o for policy reasons, increases in rural consumption are given a weighted value of at least twice that of increases in urban consumption;
- o substantial under- and unemployment exists in rural areas; and
- o pakyaw group members are drawn from poorer social groups; given the assumed higher propensity of the poor to consume rather than invest in expanding productive capacity, whereas the wealthy who could be expected to derive benefits from EB road work have a higher propensity to save and invest, future consumption is heavily discounted relative to present consumption.

If these assumptions are accepted, LB/ES is a socially profitable technique for road work.

1. Short-Term Impact

LB/ES construction of minor roads generates substantial employment (2,632 person-days/kilometer) versus EB construction (485 person-days/kilometer).

Despite the increased demand for labor, no significant labor displacements have occurred in other sectors, particularly agriculture.

Cash flows into UAC-assisted communities average 300,000 pesos or more in wages. Average family cash incomes per month in

these communities were only 1,000 pesos. Workers generally indicated satisfaction with wage rates.

Benefits went to low-income families whose cash incomes normally average less than 1,000 pesos per month. UAC-generated income was spent on food, clothing, home improvements, small appliances, and radios.

Women have been employed in some subprojects, as have minority peoples.

2. Long-Term Impacts

Before and after data now available for three minor road projects indicate that travel times were halved and transportation costs reduced by 20 to 30%. It would be premature to draw conclusions about long-term positive changes in agricultural production, but the following factors are judged favorable:

- o immediate use of subproject roads by vehicles;
- o increased use of extension facilities through increased visits by extension workers;
- o increased use of credit
- o gradual in-migration to the subproject road area;
- o creation of new farms in areas adjacent to subproject roads;
- o increased farm hectarage; and
- o increased farm production and farm sales.

These changes are accompanied by a new sense of pride and hope in the benefitted communities and increases in the quality of life indicator following subproject completion.

Positive long-term impacts will be a function of the ability to maintain acceptable levels of peace and order in subproject areas and proper road maintenance.

D. Organizational Findings

Problems exist at all three institutional levels where UAC is active: UAU at the central level in DLG; at the provincial level; and at the barangay local level. The problems at each level will be described in turn.

1. National Level

UAU is undermanaged at present. The director has been seconded to another office, and the unit itself is managed by the assistant director. Information gathered through interviews indicates that UAU personnel may not be supervised closely enough to ensure that they perform. As a result, some members of the engineering and socioeconomic sections within the unit perform adequately, but others fail to contribute.

Three other factors may well discourage UAU staff performance. First, endemic insecurity undermines the long-term value of UAU jobs. At the end of each year's contract, individuals appear subject to dismissal on rather arbitrary grounds, i.e., failure to score well on an aptitude test, rather than being evaluated on the basis of their job performance. While most are eventually retained, UAC staff work comes to a near halt in January and February each year just when subproject construction activities should start. Second, UAU does not offer career opportunities to its staff. Third, staff members may be disgruntled about the substantially higher incomes earned by the two USAID HCN consultants (an engineer and a sociologist).

2. Provincial Level

The 1988 LGU mandated reorganization has marginally strengthened provincial organization and managerial capacity to initiate projects, including UAC road work.

The five provinces visited by the team all declare their interest in UAC activities. Most have made counterpart funds (15% of subproject cost) available in a timely manner, and have also placed in trust, funds required to finance maintenance of subprojects during the first three years after completion. However, the counterpart funds have often been supplied through supplemental rather than regular budget allocations which may reflect provincial uncertainty about the timing of UAC operations. Most provinces also appear able to supply the equipment necessary to support subprojects and subsequent maintenance activities because, typically, 80% or more of their machinery is in operating condition.

The difficulties to be expected during start-up and institutionalization of new activities are encountered in most UAC-assisted provinces. Problems at the provincial level include lack of coordination among agencies involved with UAC activities, often inadequate maintenance budgets, and inadequate attention to maintenance of completed infrastructure. Of the five provinces, South Cotabato and Benguet currently appear most effective in planning and implementing UAC activities, Cebu and Zambales are somewhat less effective, and Aklan has performed least effectively.

The UAU sociologist, in an effort to build support for UAC activities and encourage coordination among provincial agencies involved in UAC operations, organized UAC ad hoc committees in participating provinces. Members include the provincial engineer, planning and development commissioner, treasurer, auditor and Sanggunian Panlalawigan Infrastructure Committee chairperson. Despite a monthly honorarium of 300 pesos provided for members who attend meetings, most of these committees are inactive. The exceptions are communities in South Cotabato where the Governor has promoted intensive coordination among provincial agencies.

PEOs are generally overstaffed and job tenure is insecure. While there are several exceptional provinces, operating budgets for both construction and maintenance are often restricted because funds are diverted to other purposes from both national transfers and provincial support earmarked for road maintenance and construction activities.

3. Barangay Local Level

The organization of UAC operations at the local level has-- as is to be expected during a start-up phase--focused largely on obtaining barangay-level commitment to subprojects. This work seems to have been carried out relatively effectively. Methods have been adjusted in light of experience. The team did not detect any major organizational implementation difficulties at this level. However, preparation and follow-through on subproject maintenance--notably adaptation of the lengthman system to local conditions--is more difficult to assess. In some barangays, residents have accepted the model lengthman system. In others they have adapted it to meet local concerns or to take advantage of local organizational capabilities. It would appear that local involvement in subproject maintenance will require sustained support for a considerable period of time.

IV. RECOMMENDATIONS FOR UAC IMPROVEMENT

The recommendations which follow are generic to LB/ES activities as pursued in the Philippines but are not specific to UAC as currently organized. This reflects the Mission's position that the present direct management of UAC by USAID direct hire personnel cannot continue. However, recommendations below should be incorporated in any LB/ES road rehabilitation and maintenance activities which USAID and the GOP may agree on in the future as a follow-on to UAC.

A. Technical Recommendations

It is strongly recommended that USAID/Manila support continuation of LB/ES activities, both for the intrinsic value of what may be done under any UAC follow-on activity, and because of UAC's demonstration value in facilitating the adoption and spread of LB/ES techniques by GOP national agencies, LGUs, donor-financed projects and private voluntary organizations (PVOs).

The Mission should assume that technical assistance will continue to be required at LGU levels during the near- and mid-term. Technical assistance will be necessary to build initial capability in the seven provinces which most recently joined the program and in any provinces which may enter later. It will also be required to consolidate LB/ES skills in the original eight provinces. In light of current performance, it is unlikely that UAU would be able to provide such support unassisted.

Additional attention should be given to adapting the lengthman system for routine maintenance to local conditions (cf. options described in the last section below).

B. Financial Recommendations

Revised sets of prices and unit costs for materials should be prepared in light of prices and transport costs prevailing in UAC-assisted provinces. The revised figures should be used to evaluate LGU-prepared subproject cost estimates. Prices and unit cost tables should be up-dated annually if USAID continues to support LB/ES road work after UAC PACD.

LB/ES road work productivity standards have been adjusted by UAC in the past and should be in the future in light of local time and place experience.

The Percentage Payment Agreement (PPA) should be continued. However the SGV and Co. "Study on the Flow of USAID Advances through the GOP System" funds flow recommendations should be

implemented immediately to reduce substantial transfer times between BF and the provinces implementing UAC subprojects.

In some provinces, notably Aklan and Cebu, banks have been inordinately slow in transferring funds from the national to the provincial level. Delays of up to six months have been experienced from the time money was delivered to the Manila Land Bank office to delivery in the province. In Aklan, the UAC PEO appears incapable of extracting more than 100,000 pesos per month of project funding from the Land Bank, Iloilo Branch, despite the fact that the entire amount of USAID matching funds have been delivered to the Land Bank. This anomaly should be investigated and remedied by judicial action, if necessary. A writ of mandamus would appear appropriate followed by a suit for delivery of back interest and damages.

Participating provinces (and municipalities and barangays) should be encouraged to budget their counterpart funds for LB/ES road operations as part of their regular disbursement planning. This will be increasingly possible given the increase in LGU funds under the new revenue-sharing plan and the parallel reduction in earmarking of national transfers to LGUs.

C. Socioeconomic Recommendations

The socioeconomic data gathered by UAC is judged to be of reliable quality. To exploit its full potential for eventually measuring the long-term potential of LB/ES road construction, rehabilitation and maintenance, the data must be analyzed by sophisticated statistical techniques which cannot now be undertaken by UAU personnel. It is recommended that an outside consultant be engaged to perform this analysis.

The goals of the analysis should be to lay the ground work for eventual evaluation of the long-term potential of LB/ES activities. Particular attention must be focused on developing a list of key success indicators for new roads and road rehabilitation projects which can be used reliably by PPDO staffs and similar personnel.

D. Organizational and Institutional Recommendations

The UAU should not be expanded unless USAID begins to support LB/ES road work in more than 20 provinces. The team strongly recommends against increasing the number of assisted provinces beyond twenty. However, efforts should continue to improve the performance of personnel operating in the UAU.

If a follow-on LB/ES activity is approved, UAU personnel should be granted life of project (LOP) contracts contingent on

adequate performance to ensure that UAU personnel will be authorized to work throughout the five months of the prime construction season (January to May) versus being held hostage to annual contract renewal negotiations every January and February.

UAU should be supplied with a full-time, experienced and highly qualified director in order to ensure that unit personnel are properly managed.

UAU should progressively emphasize its roles as a training and technical advisory unit while gradually reducing its role as an oversight and quality control mechanism. The burden of quality control should be progressively transferred to the Provincial Engineer's Offices (PEOs) which are gradually acquiring the technical knowledge needed for road construction and rehabilitation, then gradually to local communities which have the time and place information necessary to ensure adequate maintenance of road infrastructure stocks. However, during an interim period, PEOs will continue to require supervision.

V. MAC FOLLOW-ON OPTIONS INCLUDING TERMINATION OF SUPPORT

Six assumptions underlie the options outlined below:

1. GOP will promote non-trivial decentralization (the recently-approved substantial increases in revenue sharing from the national government to LGUs, and complementary reductions in earmarking of transferred funds² suggest a significant GOP commitment to devolving real powers to local governments):
2. LB/ES road rehabilitation and maintenance activities offer an effective way to promote jobs and generate income for under- and unemployed rural people;
3. LB/ES road activities offer opportunities to promote rural private sector and private voluntary organization (*PVO) activities directly as well as indirectly with a consequent increase in rural economic development;
4. LGU LB/ES road operations, if successful in improving local infrastructure, offer an important opportunity for LGUs to strengthen citizen support by providing a real service;
5. maintenance, and the technical, institutional, and recurrent cost issues associated therewith, are the keys to and the most problematic elements in building a reliable road infrastructure network which can provide real incentives for rural economic development; and
6. LGUs will require technical assistance over at least the next five years to build and consolidate LB/ES road work capacity.

Assumptions one and six require brief comment. Concerning Assumption one, local spending is projected by the Department of Budget and Management (DBM) to jump from two billion pesos (94 million dollars) in 1988 to nine billion pesos (423 million dollars) in 1990. As a crude order of magnitude calculation, that means discretionary spending in the "average" province will rise from 26.7 million pesos (1.27 million dollars) to 120 million pesos (5.7 million dollars). Nevertheless, the total projected 1990 LGU budget of nine million pesos amounts to only

² Amy Panintuan, "Budget scheme to spur rural development OK'd," Star, February 23, 1989.

3.8% of the 1990 projected national budget, 236.4 billion pesos (11.1 billion dollars).

Concerning assumption six, the team believes that a follow-on activity³ involving intensive work over five years in an estimated 20 provinces, with a budget of 20 to 40 million pesos and potential for real demonstration effect and for institutionalization of local road maintenance as a regular LGU activity, would require adequate technical assistance support. A support group should consist of:

- c two expatriate civil engineers with experience in LB/ES road techniques;
- c four HCN engineers;
- c one expatriate institutional specialist to address institutional issues involved particularly in organizing sustainable systems of road maintenance;
- c three HCN institutional and/or public finance specialists to address these as well as recurrent cost financing issues; and
- c provision for TDY specialists to support these efforts on an as-needed basis.

The interim options discussed below include:

- c termination;
- c interim no-cost extension of UAC until a follow-on activity is implemented; and
- c interim low-cost extension of UAC until a follow-on activity is implemented.

The follow-on options discussed below include:

- c an LB/ES Program;
- c an LB/ES Project; and
- c a linked LB/ES Program and Project.

3 Joel Palacios, "Gov't spending decentralized," Star [?], Thursday, February 23, 1989, p. 3.

4 As distinct from any interim activity which the Mission may choose to support during FY90.

Each option is described, then advantages and disadvantages are discussed. The section ends with a team recommendation of its preferred option.

A. Interim Options

1. Termination of USAID Support for LB/ES Road Activities

USAID/Manila could simply withdraw support for any UAC-type follow-on activity after UAC reaches its PACD in September 1989.

Advantages and Disadvantages:

Terminating support for UAC would have the sole advantage of eliminating the problem of overcommitment of Mission staff time to managing relatively small amounts of money.

Disadvantages involve eliminating the only really effective LB/ES road work unit now operational in the Philippines. UAC has proven LB/ES engineering techniques effective (though significant institutional and public finance issues remain to be resolved). UAC has also demonstrated that these techniques can contribute to significant savings in foreign exchange; contribute to increasing employment opportunities in rural areas, particularly among poorer groups, with consequent appreciated increases in household cash income; and that the project can lay the groundwork for long-term rural economic development if proper road maintenance and peace and order can be assured.

Thus, withdrawing support for LB/ES road activities appears a poor choice among available options, provided:

- e USAID can continue to support LB/ES through DLG or directly at LGU levels;
- e the Mission can progressively promote greater LGU participation in road maintenance; and
- e progress occurs on institutional and public finance issues closely associated with sustaining rural road maintenance.

However, if DLG is stripped of infrastructure implementation authority and DPWH is made responsible for all infrastructure work, a serious argument exists for USAID terminating support for LB/ES. Essentially, DPWH staff are trained in EB road techniques and have demonstrated to date no interest in labor intensive methods.⁵ Despite Presidential Executive Orders Nos. 182⁶ and

5 Team Member Raj Sikka (Engineer) and Michael Kingery

300,⁷ and DPMH Department Order No. 40⁸ mandating establishment of LB/ES units in GOP infrastructure agencies, it seems highly problematic that DPMH personnel would rapidly modify their position on this question, especially given the relatively small amount of money (assuming some 40 million dollars over five years) likely to be involved in a UAC follow-on activity.

2. - 3. Interim No-Cost or Low-Cost Extension of UAC until a Follow-on Activity is Implemented

If the Mission decides to continue supporting LB/ES road maintenance, rehabilitation, and occasional construction, it is assumed that the follow-on activity will only be ready for implementation in late FY90 or at the beginning of FY91. Provision should be made now to bridge the gap between UAC PACD in September 1989 and start-up of the follow-on activity. If it were clear at the time an extension was being negotiated that the Mission was committed to funding some form of LB/ES road work after the extension, extension approval should be made conditional on DLG's appointment of a full-time, experienced manager with proper background qualifications to head UAU.

The Mission might continue to manage this activity using direct-hire staff. However, management could also be contracted out to another entity, e.g., a firm, a PVO, or the Decentralization: Finance and Management (DFM) Project.

2. No-Cost UAC Extension

The one-year gap between September 1989 and FY91 could be bridged in several ways. The Mission could opt to authorize a no-cost extension of UAC to the PACD of the Rainfed Resources Development Project (September 1991). This would allow UAU to bring to completion all UAC funded projects still on-going as of September 1989. It would also allow DLG to continue to define UAU as a foreign-assisted operation, and thus, to continue paying UAU staff salaries. This would, in turn, permit retention of the core of Filipinos now trained in LB/ES road operation methods preserving a manpower pool which could be integrated, on the basis of performance, into a follow-on PACD of the Rainfed Resources Development Project (September 1991). This would allow UAU to bring to completion all UAC funded projects still on-going as of September 1989. It would also allow DLG to continue to define UAU as a foreign-assisted operation, and thus, to continue paying

(USAID/OCD Engineering Consultant) confirm this point.

- 6 Signed and effective 3 June 1987.
- 7 Signed and effective 13 September 1988.
- 8 20 May 1988.

UAU staff salaries. This would, in turn, permit retention of the core of Filipinos now trained in LB/ES road operation methods preserving a manpower pool which could be integrated, on the basis of performance, into a follow-on activity.

3. Low-Cost UAC Extension

A low-cost extension, involving expenditure of an additional 1 to 1.5 million dollars (such funds are apparently still available under ERDP), would permit UAU to continue to fund programmed new projects. The contracts of the two HCN consultants to UAU should be rebid under this option, to ensure that a minimum of technical support is still provided to the unit. They would also require an operating budget. The total would amount to some 35 to 40,000 dollars including contingencies.

Under this option, an additional condition should be DLG's willingness to limit UAU work during the extension period to no more than twenty provinces (the existing 15, plus five new ones).

If financing of all new subprojects after September 1989 from the PPA to the Fixed Amount Reimbursement Agreement (FARA) reimbursement system--probably feasible in light of the increases in LGU discretionary funds expected to occur early in 1990--the Mission's management task could be reduced somewhat.

Advantages of the No-Cost and Low-Cost Options

If the Mission decides to continue supporting LB/ES road operations, the UAC evaluation team considers some form of UAC extension indispensable to preserve the gains already registered in LB/ES within UAU and in eight provinces. Despite its current problems, UAC is the GOP's only LB/ES going concern. While UAC institutions should be modified, the personnel currently working in UAU represent a considerable human resource capital which should not be squandered.

In addition, USAID through the extension would avoid disappointing those subproject communities and the associated PEOs by cutting off activities underway but not yet completed.

If the no-cost option were adopted, it would permit evaluation of the capacity of UAU personnel to support LB/ES road activities in the provinces without any TA.

If the low-cost option were adopted, it would permit a practical assessment of the extent to which UAU or a similar operation would require TA to manage LB/ES road work in addition to the two HCN consultants. The shift to an FAR financing basis for new subprojects would give LGUs a strong incentive to ensure work was done properly, and would increase the validity of the

test of UAU and LGU capability in LB/ES road work.

The low-cost option would also make possible some continuing supervision and support for LGU road maintenance efforts.

Disadvantages

The Mission would have to allocate some additional staff time to execute the no-cost extension which would involve completing projects currently underway but not completed by September 1989. The low-cost extension would require more staff time, either to continue direct management of the project during the interim period or to contract out management to an external agency.

Recommendations

If DLG commits funds to finance an additional 43 projects before the end of calendar 1990, the team recommends the no-cost extension option. If DLG does not fund the additional projects, the team recommends the low-cost option.

B. Follow-on Options

1. Program Option for Continuation of USAID Support for LB/ES Road Activities

This option would replace GOP funds lost through greater sharing of national revenues with LGUs (or alternatively, through reduced national collections). The program would provide some leverage for policy dialogue and would permit USAID/Manila to supply technical assistance for improving LGU capability to carry out LB/ES road operations.

The GOP's recently announced decision to increase levels of LGU discretionary funds and to de-earmark categorical grants has been greeted with enthusiasm by the League of Governors. Finalization and timing of these changes will have a significant effect on local government capability.

Program Grant to Enhance LGU Discretionary Revenues

The program grant could be made conditional on GOP willingness to transfer an equivalent amount of funds to LGUs. This money could be earmarked for LGU LB/ES road rehabilitation, maintenance, and construction. It could be transferred in a block grant mode with the understanding that LGUs would be free to use the money as they saw fit. Under the latter option, if they chose to commit discretionary funds to road work, local interest would be clear. However, there would be no guarantee that local governments would opt for LB/ES techniques. Finally,

the program grant could be conditioned on GOP willingness to make available to LGUs a combination of block grant (untied) and funds earmarked for LR/ES road activities, with a strong emphasis on maintenance.

Policy Reform Issue: Road Reclassification

The major policy reform required to enable USAID to promote devolution of authority and financing over local road maintenance is a reclassification of roads from the current division to one which specifically recognizes the responsibility of different communities of users to participate in maintenance of specific classes of roads.

At present, the PEOs are responsible for maintenance of provincial roads. DPWH is responsible for the maintenance of both national and barangay roads. Municipalities are responsible for maintenance of the designated municipal roads. Barangay minor roads and trails which have been created by UAC and similar projects are not the specific responsibility of any government unit under the current system though they can be transferred eventually (at high transactions costs) to DPWH for maintenance.

Unless this classification system is modified to make the provinces or eventually the barangay responsible for maintenance of barangay roads, it will be extremely difficult to address the institutional and public finance issues implicit in local control of road maintenance. The provinces at present can deal only with their own roads, with the, as yet, unclassified roads, and possibly, in a back-stop capacity with the municipal roads.

The policy reform would take the form of a direct cash transfer from USAID to GOP conditional on a reclassification of the roads network. Four classifications for maintenance purposes should be created with corresponding assignment of responsibility:

- a national roads (DPWH);
- c provincial roads (PEO);
- c municipal roads (municipalities take prime responsibility, with PEOs providing technical backstopping during at least an interim period);
- c barangay roads (barangays take prime responsibility, with PEOs providing technical backstopping during an interim period, and perhaps municipalities taking over that responsibility later on).

Other Potential Policy Reform Issues

These can be grouped under two categories: public finance decentralization and political decentralization issues.

Public Finance Decentralization

This option involves transferring funds to the GOP through cash contributions in return for policy changes. The GOP would be allowed to use those funds for mutually agreed upon purposes, e.g., to retire foreign debts. The GOP and LGUs, using own-source or grant revenues, would finance IS/ES activities as and where they wanted without USAID audit of those activities. Compliance monitoring would focus only on the targeted policy changes. Policy changes might include:

- o reduction in central government earmarking of grant funds transferred to LGUs to effect, e.g., a doubling of the discretionary funds in LGU budgets, by reducing the amount of funds earmarked by the national government for provision of specific services in LGUs;
- o greater revenue sharing under block grant arrangements from central government to LGUs, so that LGU discretionary funds are again increased, e.g., by a factor of 100 to 200% from the existing base (the bill on public finance reform introduced in Congress by Senators Romulo and Herrera would increase at the beginning of 1990 the LGU allotment of gross internal revenue collections from the current 11.7% to 20%, with a possible additional increase to 25% in individual LGUs depending on the efficiency of their tax collection efforts);
- o requiring a greater local revenue mobilization effort by rural LGUs with a tax base (barangays, municipalities and provinces) perhaps on a fixed scale of, e.g., 3 to 10% per year over the life of the program as a condition for receiving central funds through either block or sector grants (tax mapping support will be a very important part of local revenue mobilization efforts).

Political Decentralization

USAID would provide funds through a program mode to achieve political reforms calculated to increase LGU initiative in provision of local public services, particularly barangay and provincial road maintenance. This variant would follow exactly the same procedures as those involved in the Public Finance

Decentralization Reforms. Potential policy reforms might include:

- c publication of the revised LGC to enhance the capacity of local officials to take the initiative as public entrepreneurs in providing local public services;
- c passage of the Mindanao and Cordillera Autonomous Region legislation;
- c creation of enabling legislation allowing regions, groups of provinces, or single provinces to attain the status of Autonomous Regions at local initiative;⁹ and
- c substituting for central oversight of LGU officials, e.g., Commission of Audit (COA) auditing authority, control through the constitutionally-approved electoral process and through the judicial process via suits brought against LGU officials by either aggrieved citizens or by officials of their own or other jurisdictions.

It would appear, at this point, that the GOP is making good progress on both public finance and political decentralization reforms. The Leagues of Governors and Mayors are strongly pressing the GOP to move on these issues and, as noted above, the GOP is responding at least on revenue sharing. Both public finance and political reforms might thus soon become moot points. It would probably thus be advisable to concentrate whatever money USAID can dedicate to infrastructure-related policy reform on the road reclassification issue.

Technical Assistance to Support the Program

The Mission could decide to earmark funds under the program for technical assistance support and then allow UAU (if it persists as an entity) or CLATT to supply technical support for LB/ES activities.

The Mission could also decide on a more structured approach to technical assistance to be provided through the program. The team would be expected to supply, in collaboration with UAU, training for LGU officials and for barangay residents on a variety of issues including rehabilitation, maintenance and

⁹ This option is evidently under discussion with reference to the proposed Mindanao Autonomous Region (Manila Chronicle, 24 February 1989, p. 3.

construction engineering techniques, local institutional organization, and public finance options.

Advantages

The program approach would relieve the Mission of the necessity to supervise all engineering activities and to audit funds expended in detail. Compliance monitoring would be limited to ascertaining that agreed conditions (revenue sharing, road system reclassification, etc.) had been met by the GOP. Technical assistance could be provided through the program mechanism.

Disadvantages

The program approach would apparently not permit the amount of TA involvement in supervising and monitoring engineering performance in Mission-assisted LB/ES road work. It also would not permit the Mission to create special incentives for assisted jurisdictions to undertake maintenance, by rewarding those governments which do, with new tranches of funding to pursue additional rehabilitation and maintenance work.

2. Project Option for Continuing USAID Support for LB/ES Road Activities

This subsection outlines a project designed to strengthen the capacity of LGUs to rehabilitate and maintain local roads using a combination of local labor and equipment support on an as needed basis. The project would involve three elements:

- e training,
- e technical assistance, and
- e matching grant funding for rehabilitation of provincial and unclassified (UAC) local roads.

The goal of this project would be to rehabilitate rural roads and institutionalize various systems of maintenance for rehabilitated roads. The object would be to create a combination of positive and negative incentives sufficient to ensure that provinces and some local communities become committed to maintaining the local roads they rehabilitate.

At present, responsibility for maintenance of rural roads is allocated as follows. Provincial engineering offices are responsible for maintaining provincial roads, municipalities for municipal roads, and DPWH for barangay roads. Each of these agencies or jurisdictions receives special funding for maintenance purposes from the national government.

Unless the classification system is changed (cf. the section on Policy Reform under No. B.1., "Program Option," above), the PEO will not deal with roads classified as barangay roads because they do not fall under PEO control and PEOs have no budgeted maintenance funds for this purpose. If the project is designed on the basis of existing road classifications, only provincial roads and those local roads created under UAC auspices which are not yet classified as barangay roads could be targeted for rehabilitation and maintenance.

Under this assumption, the project would focus largely on provincial roads. The main counterpart agencies would be the PEOs and the PPDs. Activities would concentrate on rehabilitation and on maintenance. Selected provincial roads would be rehabilitated. Approximately 70 km per province would be rehabilitated over five years in 20 provinces for a total of 1400 km. Support for maintenance would take the form of development and institutionalization of systems of routine and periodic maintenance. It should also be possible to develop locally-based systems for the 117 km of minor roads, i.e., barangay-level roads, scheduled for construction under UAC if all projects now on-going, approved, and under review are actually completed.

Rehabilitation of provincial roads should be conditioned on a commitment by the participating province to provide 35% of rehabilitation costs from its own resources and fund all subsequent costs of maintenance.

An additional condition for the inclusion of a province in the project would be agreement by provincial authorities to carry out rehabilitation and maintenance activities on roads equivalent to one-third the length of the road rehabilitation activities undertaken with Project/LGU funding. This would amount to some 20 to 25 km in each of 20 provinces for an addition of 400 to 500 km to the total number of rehabilitated and maintained roads.

The purpose of this condition is to begin to institutionalize rehabilitation and maintenance of roads by the provinces using their own funds through their PEOs rather than having these jurisdictions always rely on national government or donor grant resources to finance these activities.

Assuming that the road classification system was reorganized to allocate authority for road maintenance as outlined above, a greater effort could be made to institutionalize LGU authority and responsibility for road maintenance.

Nearly thirty-five percent of rehabilitation costs would be funded by LGUs (e.g., the province would fund approximately 10%, the municipality approximately 12%, and the barangay approximately 12%). The bulk of the routine maintenance costs

(pothole filling, ditch cleaning, etc.) would be borne by the concerned barangay(s). The costs of periodic maintenance including the occasional purchase and transport of materials and reprofiling of the road by grader would be supported by the concerned municipality and the province.

The responsibilities of the various parties through all stages of the infrastructure development and maintenance activity must be thoroughly explained to LGU officials and the local populations who would have to support both routine and periodic maintenance costs before rehabilitation (or new construction work) could commence. A condition for subproject approval would be agreement by the concerned LGUs to the financing arrangements for locally-provided maintenance services.

Rehabilitation work would be organized using the LB/ES and pakyaw-contracted techniques tested during the Upland Access Project. Technical assistance for the identification, engineering and LGU institutional aspects of each subproject would be supplied by the PPDO and by the PEO with backstopping provided, as under UAC, on an as needed basis by the Project staff and UAU personnel.

Routine maintenance of rehabilitated or new local roads and trails would be undertaken through a variety of schemes, depending on LGU wishes and capabilities. The following options would be included on the list of approaches to maintenance:

- c the PEO, using provincial, municipal, or barangay funds, would organize routine maintenance using the lengthman system or some local variant of this system with the PEO responsible for supervision and payment of the lengthmen;
- c under the aegis of the sangguniang barangay, the barangay as a political jurisdiction would be responsible for routine maintenance of the road section which traverses the jurisdiction by whatever means the community considers appropriate provided they support all costs of routine maintenance;
- c under the aegis of the sangguniang barangay, barangay subdivisions (sitios and neighborhoods - puroks or zonas) would be responsible for maintaining the section of the road which traverses the subdivision through mobilization of local labor on a round-robin basis;
- c under the aegis of the sangguniang barangay, sitio cooperative units would be responsible for maintaining the sections of the road which traverse the subdivision through mobilization of local labor

on a round-robin basis:

- c the barangay and/or individual sitios might contract out some or all routine maintenance tasks to community members if they could finance the costs of the contract using their own funds; and
- c the barangay and/or individual sitios might contract out some or all routine maintenance tasks if community members were not available, provided they could finance the costs of the contract using their own funds.

Periodic maintenance would be provided largely by the PEO. It should be conditioned, however, on provision of adequate routine maintenance by the sitios, barangays and municipalities requesting assistance. The PEO would supervise maintenance activities on a quarterly basis dispatching an engineer to patrol the roads under local maintenance. S/he would provide technical advice to the maintenance managers at the local level. The engineer would visit locally maintained roads just before the rainy season to ensure that routine preventive maintenance has been undertaken and that the road is in good shape before the rains. S/he would visit the road at the end of the rainy season to ensure that any damage is speedily repaired through attention during routine maintenance or through periodic maintenance.

The PEO would be responsible for supplying equipment and operators for periodic maintenance and could use its own equipment. It could also contract out periodic maintenance activities to the DPWH District Office or to private construction firms or entrepreneurs. Examples would include supply of gravel which might be contracted out to a community resident who owns a tractor and trailer or to a municipality which owns such equipment. Local communities (sitios, barangays and municipalities) would provide fuel for the equipment and would provide room and board for the operators as necessary. The costs of materials (gravel, etc.) would be covered by the PEO. Any special costs for bridge or guard rail construction or legitimate rehabilitation, e.g., after severe flooding, washouts or landslides, would also be covered by the PEO using provincial appropriations or non-local sources of funding.¹⁰

10 A problem in this regard merits further reflection: if the province supports the costs of routine maintenance on some roads, and local communities bear all the costs on others, this creates (a) unfair fiscal burdens for the local communities which finance their own maintenance and (b) thus generates an incentive for the communities furnishing the extra effort to withdraw their maintenance commitment.

Project Organization

The project would be implemented by an outside entity responsible for providing training, technical support, and funding for specific road projects. The project staff would include three expatriates and four HHCs. The project would be attached to the existing Upland Access Unit in DLG.

Project staff would work closely with UAU staff to help them organize training sessions for LGU officials and citizens. Training sessions would focus on road rehabilitation and maintenance engineering, on questions of LGU organization (relationships among provincial, municipal, barangay and sub-barangay jurisdictions) and on public finance questions. Assistance provided to UAU would include help in refining, as necessary, the training units developed under UAC for new road construction, development of training content for rehabilitation work and road maintenance, development of training units to explain organizational options for road maintenance available to local communities, training units for LGU officials on approaches to public finance issues, and training approaches.

Project and UAU staffs would collaborate in backstopping the processes of project identification, design, and implementation. The project staff would bear particular responsibility for monitoring rehabilitation and maintenance activities. Special attention would be devoted to monitoring organizational approaches for maintenance and for public finance schemes so that the strengths and weaknesses of each could be explained more fully to LGU officials and citizens.

An alternative format would allow the project to deal directly with LGUs. Presumably UAU would be eliminated as a separate unit, and qualified UAU staff would be incorporated into the project unit.

Fund Sources and Transfer Procedures

The project would manage funds transferred by USAID. The project would be able to transfer funds directly to LGUs. Transfers would be effected through normal banking channels.

Would a possible solution involve requiring that a province, which agrees that one local community will finance routine maintenance, insist that all local communities support costs of routine maintenance? Would this mean that the provinces would avoid promoting local involvement to avoid the political risks of demanding local inputs, as opposed to providing handouts? Would this mean that the provinces would be caught in a legal bind whereby, if they enforced the rule, they might be caught in a situation where they would not be undertaking maintenance work legally required under the terms of their mandate?

Funds transferred would be treated as trust funds. All interest generated by deposits of trust funds would be added back to the trust fund account to increase the overall amount available for project activities.¹¹

The project would be responsible under USAID regulations for monitoring fund flows and uses and for the engineering quality of project-funded activities.

Advantages

The project format would ensure that adequate technical assistance would be available to support LB/ES activities in the provinces. Both road rehabilitation and maintenance work could be supervised with the intensity necessary to the institutionalization of sustainable, high quality procedures and practices.

The project mode would also permit USAID to target assistance to those provinces which indicated a serious commitment to long-term infrastructure development by carrying out road maintenance on both USAID-assisted and province-financed sections of rehabilitated road. Provinces which performed well could be strongly rewarded and encouraged to undertake additional road rehabilitation. Provinces which failed to perform adequately could be excluded from the program temporarily, and those which failed to improve performance, could be replaced by others more interested.

The project mode would allow the Mission to expend approximately 20 million dollars of targeted, supervised funds to rehabilitate roads and institutionalize workable, sustainable systems of maintenance over five years.

Disadvantages

The project mode would probably allow the Mission to expend only 20 million dollars over a five-year period. Of this, roughly 3 million dollars would be budgeted for the technical assistance package. Supervision costs would thus reach 15% of total project costs, an amount which may be unacceptable to both GOP and USAID.

The Mission would have to devote somewhat more staff-time to supervising the outside entity responsible for implementing the project.

¹¹ An alternative solution to speed up the flow of funds would stipulate that any interest collected on project funds would be returned to the project for use in other project-financed road activities.

The project mode would provide less concentrated leverage than the program mode to induce the GOP to revise its current division of responsibility for national and rural road maintenance. Thus, the project might be forced to focus primarily on rehabilitation and maintenance of provincial roads. While certainly important, this narrower focus would not adequately address the major problem of involving municipal and barangay jurisdictions in routine maintenance of their own road networks. Minor (barangay) roads developed under UAC could be included in the program, but the limited kilometers of roads in this category and the dispersion of these subprojects would severely reduce the demonstration effect on surrounding jurisdictions.

3. Linked Program and Project in Support of LB/ES Activities

USAID would develop an LB/ES road rehabilitation and maintenance program, as outlined in No. B.1. above, with the exception of the TA component. The Mission would simultaneously develop an LB/ES road rehabilitation and maintenance project, as outlined in No. B.2. above. Technical assistance would be provided through the project.

If the project is organized to deal directly with provinces, the capacity to ensure that road rehabilitation and maintenance efforts are clustered within provinces increases. This will heighten demonstration effects and the probability of competitive pressure and emulation among jurisdictions surrounding assisted barangays and municipalities.

Advantages

The combination of program and project would permit the Mission to expend some 40 million dollars over five years, assuming both elements were developed for that time period. Of the 40 million dollars, 20 million dollars would be spent under the program mode to obtain appropriate policy reforms, notably the reorganization of responsibility for rural road maintenance. The remaining 20 million dollars would be used, under supervision by a technical assistance team, to create the incentives for development of sustainable systems of maintenance on a total of 1,800 to 1,900 km of rehabilitated roads.

The program would increase the probability that rural roads maintenance responsibility would be reorganized. Thus the project element could, from the beginning, focus attention on barangay and municipal roads, as well as on provincial roads.

Disadvantages

The combination of program and project would demand some Mission management time to determine that policy agreements are complied with, and to supervise performance of the technical assistance team implementing the project component.

C. Recommendations

The team believes, for reasons discussed at length in Section V. above, that No. B.3., "Linked Program and Project in Support of LB/ES Activities," offers the greatest prospect of a Mission-assisted effort which could lay the foundations for sustainable road infrastructure maintenance systems in the Philippines.

APPENDIX A

OVERVIEW OF LABOR-BASED PROJECTS

Prepared by Raj Sikka

I. EXPERIMENTAL STUDIES BY THE INTERNATIONAL LABOR ORGANIZATION

The experimental phase of LB projects currently underway in the Philippines began between 1971 and 1973. It started with a project of levee construction in Pampanga in 1971 in response to heavy flooding in the province that made an entire area inaccessible to heavy equipment. Under advice from the International Labor Organization (ILO), restoration work was initiated using simple devices such as carabao scrapers and carts, and labor organized on the basis of the pakyaw system. The restoration was followed by the five kilometer-long Capas-Botolan Road in Tarlac on which extensive productivity measurements were taken. Results of this pioneering study are fully documented in the ILO publication, entitled, "Men or Machines".

II. PILOT PROJECTS

Although the initial studies showed LB methods are suitable for the Philippines, for a number of years there was no more experimentation despite a Batasan Pambansa resolution that civil works should be performed using labor intensive methods if the cost were no more than 10% above and involved no more than 50% the additional time compared to the best alternative method.

Fresh interest in LB methods emerged in 1981 due to the foreign exchange crunch caused by falling commodity prices and a general decline in the economy which led to massive underemployment in the rural areas. LB methods were seen as a means of alleviating economic stress. Consequently, 55 kms of Barangay Roads were constructed by LB/ES methods between 1981 and 1985 under the World Bank-financed Philippine Rural Infrastructure Project (PRIP). PRIP sites were located in five provinces and were implemented by DPWH with ILO assistance.

Simultaneously, USAID sponsored 15 kms of pilot roads under its Rural Roads Project (RRP) which was implemented through DLG in 1983 in three different provinces. In addition, ILO conducted detailed studies of these projects based on technical and socioeconomic aspects of LB construction. The analysis revealed that LB methods offer a technically and financially viable alternative to EB methods for smaller-scale rural infrastructure projects in addition to substantial benefits to the rural economy

occasioned by increased employment opportunities for unskilled laborers.

III. FULL-SCALE PROJECTS

Following the positive conclusions from the 1983 USAID/TLO studies, a number of full-scale demonstration projects were initiated including the UAC. Under UAC, about 300 kms of minor roads and trails were scheduled for construction under DLG supervision using LB/ES methods. Progress of the UAC is discussed critically in other sections of this paper.

Another project worthy of note is the Second Rural Roads Improvement Project (SRRIP) approved by the World Bank in 1986. The Land Settlement Roads component of SRRIP calls for construction of 280 kms of barangay roads using LB/ES techniques. The scheduled completion date of SRRIP is 1991. Although these roads are located in three difficult areas marked by serious accessibility and peace and order problems, the project has made good headway with 34 kms complete and another 56 kms still under completion.

Yet another project which has a significant LB/ES component is the World Bank-financed Central Visayas Regional Project (CVRP) which planned the construction of 240 kms of trails using LB/ES techniques. Unfortunately, due to management problems and lack of requisite technical support, very few trails have been built to date. The project office is expecting a two-year extension for CVRP during which time they intend to intensify LB construction. Meanwhile, CVRP staff have been visiting UAC roads to get first-hand experience of LB/ES construction.

In the midst of these structured projects came two sudden developments -- the Community Employment and Development Programme and the Central Labour-based Advisory and Training Team. Both deserve detailed mention.

IV. COMMUNITY EMPLOYMENT AND DEVELOPMENT PROGRAMME (CEDP)

After the change of administration in early 1986, the GOP launched an ambitious emergency employment program in July 1986 called the CEDP with a supplemental budget of approximately 3.9 billion pesos. The program was designed to stimulate economic recovery through emphasis on LB projects in order to generate a greater number of jobs per peso spent. The dominant component of the budget was allocated to DPWH, 74% of which was for roads.

CEDP was somewhat successful in its initial efforts, but the program did not achieve its basic objective of increased jobs through the use of LB methods on lower category roads, and on the

whole was not implemented smoothly. Most of the projects were executed through contractors who relied on equipment. There was little advanced planning, a necessary factor in LB projects, and there were other problems including site selection and work quality.

Some of these problems were to be expected because the program was launched on short notice without adequate preparation. Serious consideration was not given to the exigencies of a shift in technology from ES to LB methods, especially with regard to advanced planning. A World Bank team that investigated these issues in 1987 (see Bank Report No. 6887-PH) found that most of the CEDP problems related to systems and procedures and to institutional constraints. It concluded that these problems could, however, be solved with time.

CEDP was continued in 1987 but without a special budget. Each agency was merely asked to identify CEDP-type projects within the budget already allocated. It became simply a relabelling exercise. The main agency, DPWH, carried out very few projects with the intended approach.

A recent study by SGV, done on behalf of USAID, has also commented unfavorably on the quality of CEDP projects. Out of 24 road projects audited by them, only 21% were found to be in good condition, another 42% were fair, and 37% were in poor condition.

V. CLATT

The National Economic and Development Authority (NEDA) was aware of the many institutional constraints when CEDP was initiated. In order to build a proper framework the CLATT was created for a period of 18 months at the national level. CLATT began its activities in April 1987 through the United Nations Development Program (UNDP)/ILO resources and was charged with the task of coordination between the principal infrastructure agencies (DPWH, DLG, and NIA) with regard to planning and implementation of LB projects. The major achievements of CLATT to date include:

- o preparation of 20 training modules for site supervisors;
- o training of over 1,000 personnel from different agencies including two courses specifically for trainers;
- o finalization of detailed specifications for hand tools;
- o development of new units of tool manufacturers;

- c development of proposals for the establishment of permanent labor-based units (LBUs) in concerned agencies; and
- c development of procedures for centralized tool procurement.

But CLATT has not made significant headway in institutionalizing the use of LB/ES techniques, particularly in the DPWH. A series of executive and departmental orders have been issued, but have had no real effect. Examples include Executive Order No. 182 issued in June 1987 (Attachment 1), Department Order No. 46 issued by DPWH in May 1988 requiring that all district engineers undertake at least one LB road construction project in the 1988 infrastructure program (Attachment 2), and the most recent Executive Order No. 336 dated September 1988 concerning the establishment of LBUs in different agencies (Attachment 3).

VI. SUMMARY

The CLATT program will probably be extended and might eventually prove effective in the institutionalization of DPWH activities. The program's successes to date have occurred mainly in special projects, like PRIP, and SRRIP. By contrast, the UAC, though small, is the only project of its kind attempting to introduce LB technology into PEOs while maintaining a nation-wide focus. In fact, CLATT as well as CVRP staff have been depending primarily on site visits to UAC subprojects to gain first-hand knowledge and experience on the application of LB/ES techniques. The impact and significance of the UAC is broader than one might expect.

MALACAPAN

Manila

EXECUTIVE ORDER NO. 157

NATIONALIZING PUBLIC WORKS AND INFRASTRUCTURE PROJECTS AND PROVIDING GUIDELINES FOR PUBLIC WORKS, AND FOR OTHER PURPOSES

WHEREAS, there are unrelieved balances of appropriations in the amount of P70,777,487,000 authorized for infrastructure projects under the nine existing Public Works Appropriations Acts, namely Presidential Decrees Nos. 693, 759, 931, 1062, 1342 and 1379, and Intero Departmental Dig. 13, 50, and 132;

WHEREAS, a review of developmental thrusts in general, and revision in priorities, scope, costs, and implementation schedules of infrastructure projects in particular, in accordance with the new Medium Term Philippine Development Plan and the Medium Term Public Investment Program, is necessary in view of major political and socio-economic changes which have taken place since the enactment of the nine Public Works Appropriations Acts;

WHEREAS, consistent with the development objectives, thrusts and priorities of the government, all existing public works measures must be rationalized under one law for better administration and control;

WHEREAS, Article XVIII, Section 6 of the 1957 Constitution provides, that: "The incumbent President shall continue to exercise legislative powers until the first Congress is convened";

NOW, THEREFORE, I, CORAZON C. AQUINO, President of the Philippines, do hereby order:

SECTION 4. Labor-based Methods - Whenever technically and economically feasible, labor-based and labor-based/equipment supported methods shall be used in the implementation of the projects authorized in this Executive Order: Provided, that (a) the estimated financial cost of each project done by labor-based methods does not exceed the cost of the best alternative construction method defined by the agency concerned by more than ten per centum (10%), (b) the estimated duration of the project done by the labor-based methods does not exceed the duration of the best alternative method defined by the agency concerned by more than fifty per centum (50%), and (c) the employment of workers in the projects will not unduly impair the labor requirements of agricultural production: Provided, finally, that before any such project is prosecuted, the agency concerned shall prepare at least two alternative methods of construction based on the same plans and structural standards, one being labor-based together with a comparative evaluation of projected financial and economic costs, employment generation, and technical quality, which shall be the basis for selecting the most advantageous construction techniques to be employed in terms of the aforesaid criteria. The District or City Engineer or equivalent officer concerned shall certify in the program of work that he has examined the use of labor-based methods in accordance with the foregoing criteria. For labor-based methods, the purchase of hand tools and other work implements, in no amount not exceeding five per centum (5%) of the estimated project cost, may be charged against the project funds. These implements may be turned over to the laborers with the payments therefor deductible from their wages in reasonable installments during the duration of their employment in the project. The agencies concerned shall refer to and take into consideration the relevant studies of the Department of Public Works and Highways for the identification of project work items or activities for labor-based construction.

SECTION 14. Separability - If any provision of this Executive Order is declared unconstitutional, the remaining provisions shall remain in force.

SECTION 15. Effectivity - This Executive Order shall take effect immediately upon approval.

Done in the City of Manila, this 3rd day of June in the year of Our Lord, nineteen hundred and eighty-seven.

Corazon C. Aquino

By the President:

Guillermo P. Abad
Guillermo P. Abad,
Executive Secretary

ATTACHMENT A - 2



DEPARTMENT OF HIGHWAYS
GOVERNMENT OF INDIA
OFFICE OF THE SECRETARY
NEW DELHI

20.10.1980

OFFICE MEMORANDUM
NO. 100/1980
DATE: 20.10.1980
SUBJECT: Implementation of Demonstration Projects Using Labor-Based Methods

In furtherance of the efforts of the Department toward wider application of labor-based methods in project implementation and in response to the present thrust of providing more employment opportunities to the countryside, all Regional, District and City Offices of the DWH are hereby directed to undertake, at least one road project to be included under the 1980 Infrastructure Program using labor-based methods, in accordance with the following criteria and guidelines, viz:

1. Selection Criteria
 - 1.1 The project should be included and ready to be implemented under the 1980 Infrastructure Program;
 - 1.2 The project should be of such magnitude/size as to require a sufficiently longer period of implementation (3 to 6 months or longer) to enable the acquisition of more accurate, activity-specific data, among others;
 - 1.3 Implementation of such project shall be undertaken by administration (own account) after seeking prior approval by the authorities concerned;
 - 1.4 The project could either be national, secondary, provincial or township roads;
 - 1.5 The scope of work could either be construction, improvement or rehabilitation; and
 - 1.6 The road-right-of-way is fully acquired.
2. Role of Central Labor-Based Cell and District/Region (LBC)
 - 2.1 Formulate procedures in the implementation of projects adopting labor-based methods;
 - 2.2 Consider, assist and monitor the implementation of projects using labor-based methods;
 - 2.3 Review the programs of work prepared by the Regional/District/City Offices for consistency with approved guidelines and procedures for planning, estimating and programming of labor-based projects;
 - 2.4 Submit its findings/comments on these programs of work to the Bureau of Construction for its consideration and action on a non-objective basis and transmittal for approval by the authorities concerned;
 - 2.5 Express technical assistance in the overall implementation of the projects; and
 - 2.6 Consider the establishment of training centers alongside the projects and initiate the training of staff from the Regional, District and City Engineering Offices in the region.
3. Role of Regional Offices
 - 3.1 Identify, from among the projects being or to be implemented, two projects per region for demonstration purposes; and
 - 3.2 Assist in the recruitment of laborers and implementation by tender contract.
4. Role of District/City Offices
 - 4.1 Initiate the planning and undertake the implementation of the project with technical assistance from the LBC, the Bureau of Construction (BUC) or the DWH Labor-Based Office, as may be necessary;
 - 4.2 Monitor the daily progress of work on the project; and

MALACAÑANG
MANILA

BY THE PRESIDENT OF THE PHILIPPINES

DEPT. OF LOCAL GOVERNMENT

EXECUTIVE ORDER NO. 336

ESTABLISHING LABOR-BASED UNITS IN THE INFRASTRUCTURE AGENCIES OF THE GOVERNMENT AND FOR OTHER PURPOSES

SEP 15 1988
 RECEIVED BY [Signature]
 DATE 9-15-88

WHEREAS, it is the policy of the government to adopt labor-based methods in infrastructure projects to alleviate unemployment and underemployment, promote self-reliance, and conserve foreign exchange through reduced importation of construction equipment and fuel;

WHEREAS, to effectively and efficiently undertake infrastructure projects on a nationwide scale using labor-based methods, there is a need to improve existing systems and procedures and strengthen the institutional capabilities of government infrastructure agencies;

NOW, THEREFORE, I, CORAZON C. AQUINO, President of the Philippines, by virtue of the powers vested in me by law, do hereby order:

SECTION 1. Establishment of Labor-Based Units (LBUs)

The Department of Public Works and Highways (DPWH), the Department of Local Government (DLG), the Department of Transportation and Communications (DOTC), and the National Irrigation Administration (NIA) are hereby directed to establish, within six (6) months from the date of this Order, labor-based units (LBUs) in their respective agencies.

1.1 Structure and Composition

- 1.1.1 The LBUs shall be established at the policy (central) and operational (regional/field) levels to be manned by experienced staff trained in labor-based methods.
- 1.1.2 The head of the LBUs at both policy and operational levels shall be at least a third ranking career official of the agency. He shall be assisted by a competent staff of well-trained, experienced personnel.

DEPT. OF LOCAL GOVERNMENT
 OFFICE ASST. SEC.
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- 1.1.3 The sizes of the LBUs at the different levels shall be determined by the respective department/agency heads within thirty (30) days, and the LBUs shall be installed, manned and made fully operational after six (6) months from the date of this Order.
- 1.1.4 The establishment of the LBUs should not result in an increase in personnel services or in the maintenance expenses of the concerned agencies. The personnel to be assigned in the LBUs shall be drawn from the existing units of the agency, through a system of screening, selection and training which shall be immediately instituted for this purpose.
- 1.1.5 The DPWH, the DLG, the DOTC, and the NIA, in coordination with the Department of Budget and Management (DBM), shall make the necessary realignment of their operating budgets, if needed, to formalize the establishment of the LBUs.

SECTION 2. Agency Programs

- 2.1 The DPWH, the DLG, the DOTC, and the NIA shall include in their annual programs, starting CY 1989, provisions for the nationwide use of labor-based methods, particularly small, rural-based projects, and shall allocate specific sums for these projects. Thereafter, the use of labor-based methods on a nationwide scale shall be a regular component of agency annual programs.

- 2.2 For 1988, the DPWH, the DLG through the concerned Local Government Units (LGUs), the DOTC, and the NIA shall identify suitable labor-based methods of construction or maintenance.
- 2.3 The heads of the DPWH, the DLG, the DOTC, and the NIA, shall, jointly or individually as may be warranted, issue the appropriate guidelines for the programming of labor-based projects.

SECTION 3. Encouragement of the Private Sector

- 3.1 The DPWH, the DLG, the DOTC, and the NIA, coordinated by the National Economic and Development Authority (NEDA), shall undertake a review of existing systems and procedures for licensing, bidding, bid evaluation, contract award and related aspects to determine their applicability to labor-based methods, and to formulate improved and/or new systems and procedures with a view to providing sufficient incentives to small contractors to more actively participate in the labor-based programs of the government.
- 3.2 Within six (6) months after the establishment of the LGUs, the DPWH, the DLG through the concerned LGUs, the DOTC, and the NIA shall start the implementation by contract of at least one (1) project in each of the regions covered under their respective programs, using labor-based methods to demonstrate the feasibility and profitability of undertaking labor-based projects through contract.
- 3.3 The DPWH, the DLG, the DOTC, and the NIA shall assist small contractors in organizing labor-based operations and in the training of their personnel.

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SECTION 4. Assistance from Other Agencies

The following agencies are hereby directed to provide needed support to ensure the successful implementation of this Order:

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- 4.1 The DEM shall facilitate the release of funds intended for labor-based projects and/or programs within the approved agency allocations.
- 4.2 The NEDA, as well as the Regional Development Councils, shall assist in the monitoring and promotion of labor-based programs and projects nationwide.
- 4.3 The Department of Labor and Employment shall assist in the recruitment and training of laborers for employment in labor-based projects.
- 4.4 All other agencies and instrumentalities of the government shall provide the necessary support and assistance that may be required of them in the implementation of this Order.

SECTION 5. Repealing Clause

All orders, rules and regulations inconsistent herewith are hereby repealed and/or modified accordingly.

SECTION 6. Effectivity

This Executive Order shall take effect immediately.

DONE in the City of Manila, this 13th day of September in the year of Our Lord, nineteen hundred and eighty-eight.

Fernando B. Aquino

By the President:

Catalino Macapagal, Jr.
CATALINO MACAPAGAL, JR.
Executive Secretary

CERTIFIED COPY:

Aurora T. Aquino
AURORA T. AQUINO
Presidential Staff Director
Malacanang Records Office
11/17/88

APPENDIX B

TECHNICAL ASPECTS OF THE UPLAND ACCESS COMPONENT

Prepared by Raj Sikka

I. BACKGROUND

When the UAC began in mid-1985, its objective was to construct 150 km of upland minor roads, 150 km of trails and 30 footbridges. But for a combination of reasons, the project proceeded slowly. First, it proved difficult to identify viable upland subprojects, and second, training the DLG and the participating PEOs in LB/ES construction methods was a time-consuming process.

By mid-1987, it was clear that the project would not reach its physical or financial objectives. Only about 63% of the targeted kilometers of roads had been built, and trail improvements and footbridge construction were insignificant. A redirection of the project appeared highly desirable.

Based on the findings and recommendations of the Thomas study, it was decided in November 1987 to:

- o upgrade low-volume provincial roads serving the upland areas which were the direct responsibility of the PEOs (but not trails or minor roads which were usually the responsibility of DPWH);
- o institute a maintenance management system for the same roads using LB methods; and
- o add seven provinces to the original eight for a total of 15.

Consequently, although certain elements of the project have changed, the emphasis on uplands accessibility, community participation, LB/ES technology, and institution-building within DLG and the PEOs has remained.

Currently, there are 37 approved subprojects, seven of which have been completed in the original eight provinces. Another six subprojects are actively under review in DLG. In addition, 43 subprojects are included in the UAC budget, with a further 12 subprojects in reserve.

II. SELECTION OF SUBPROJECTS

Identifying suitable roads and trails has posed a problem since the beginning of the UAC. Although certain selections of minor roads have been based on sound decisions, (e.g., the Dao-es-Tadayan Road in Benguet), others like the Bamban-Bolintin Road in Zambales are of doubtful utility and may only become economically viable over the long-term. Some trails subprojects may be of doubtful utility, e.g., Calew-Balococ in Benguet and Dumadalig-Sitio Elnap in South Cotabato.

Selection of provincial roads for rehabilitation has been reasonable, but in the case of the Monglo-Bayabas in Benguet, the unrehabilitated approach section of the road is substandard and could ultimately reduce usage of the upgraded portion.

A. Subproject Selection Issues

Problems of subproject selection stem partly from the complex factors involved in choosing road extensions at the end of a system, particularly in thinly-populated, remote settlements set in rugged surroundings. Selection factors include the degree and type of accessibility needed, the size of the population that will be served, the kind of vehicles that will use the facility, the dependability of post-construction maintenance, and the density of existing roads. In some provinces, enough roads have already been constructed under different programs so that an additional link will improve the accessibility only marginally. In other cases, upland areas already have access to carabao or foot trails. An extra trail under such circumstances is of little practical value. Moreover, many such roads/trails will not generate enough traffic to make their maintenance worthwhile. And finally, the perception in the case of most upland projects is that newly constructed roads should allow motor vehicles access to local residents. If that isn't possible, community interest, even if created initially, will dissipate rapidly.

B. Maintenance Responsibility

A second issue, of even more importance, is jurisdiction over the completed facilities. When the UAC commenced, the control of barangay roads lay with the DLG. However, these roads have since fallen under the jurisdiction of the DPWH making it difficult or impossible for PEOs to suggest new projects of this nature. In addition, once such unclassified roads are built, no government body is responsible for their maintenance. Logically, all the secondary and tertiary roads in a province should be under PEO jurisdiction.

The World Bank recently completed a study on rationalizing the road classification system in the Philippines. The results of this study are expected to provide the basis for reforms of

the classification system. Within the present system, PEOs have no incentive to maintain the minor roads and trails once they are completed and the UAC has made no provision for the maintenance of trails. Sustained interest in roads and trails will depend solely on members of upland communities, and might disappear quickly if engineering problems arise.

Upland projects should not be chosen merely to demonstrate the LB/ES approach or community participation. They should create durable assets which encourage productive usage and have clearly-defined maintenance programs.

C. Revising Selection Criteria

As the UAC continues, selection criteria must be modified, particularly for minor roads and trails. In view of the institutional constraints, it would be advisable to view new construction as an extension of the provincial road system. Trails have their own problems, even for construction, and it would be better to exclude them from the UAC except for rare exceptions. For provincial road rehabilitation, the selection criterion should be their connection to a road of equal or higher standard.

Finally, the provinces have requested that the projects be conducted in as many municipalities as possible. While this concern is understandable, if a viable LB maintenance system is to be established, some clustering will be unavoidable and will most likely occur in provinces with adequate financing.

III. DESIGN STANDARDS

The two main components of road design are geometric standards and pavement design. At the start of UAC, some geometric standards were prescribed based on those developed by the DPWH but soon proved inappropriate for the kind of roads under consideration. Consequently, required changes were made which are incorporated in the latest version of the Project Planning Manual.

A. Geometric Standards

Two basic changes have been made in the design values. For horizontal curves, the minimum radius has been reduced to 15 meters. For grades, the maximum allowable value has remained at 15% but not for more than 200 meters at a stretch. These values represent the bear minimum. Nonetheless, PEOs and local officials have suggested that higher grades of 18 to 20% be permitted. Unfortunately, experience has shown that the only full-size rollers available through PEOs are unable to negotiate even 15% grades. Consequently, compaction has suffered whenever

such grades have been allowed. Roads with steep grades pose other problems. Jeepneys are unable to climb them, and erosion is a constant threat, especially in conjunction with erratic maintenance. To overcome this difficulty, concreting-in small lengths of extremely-graded sections has been provided (e.g., Cuanos-Pitogo Road in Cebu).

It would not be sound policy to relax grade standards. Theoretically, grades of up to 18% would be acceptable if four-wheel vehicles were to use the road, an argument used frequently. If this grade is used, the project should be ready to invest more heavily in erosion protection including concreting of vulnerable portions of the road, an effort which will inevitably increase the per kilometer cost. Maintenance remains a critical factor.

In light of these constraints, using grades higher than 15 to 18% is not advisable, particularly on minor roads. Exceptions could be made occasionally in the case of trails if there is evidence that surplus weapon carriers serving the area use it for public transport.

B. Surfacing Standards and Drainage

For minor roads, the normal practice has been to use a surface gravel thickness of 15 cm which is adequate for easily drained soils found in Zambales and South Cotabato, for example. But the drainage conditions on some upland roads are not good, and the subgrade has a heavy clay content. In such cases, the surface should be "over-designed" to use 20 cm of gravel increasing project cost by roughly 7 to 8%. Considering the erratic level of maintenance after construction, an additional 5 cm would be very cost-effective. For provincial road rehabilitation, a surface gravel thickness of 15 cm is sufficient.

A word is required about the drainage aspects of design. It is impossible to precisely determine the drainage needs at the time of initial design of roads in undulating terrain. It is understood that as construction proceeds and the need for additional pipes, spillways, or lining of a small portion of ditches becomes evident, drainage issues are addressed. But PEOs and the project office must be sure to include costs for such improvements in their initial design cost estimates.

C. Adequacy of Design Standards

Another issue is whether standards adopted are reasonable for project costs. The cost of building minor roads is between 200,000 to 250,000 pesos per kilometer depending on the terrain, and the cost of provincial road rehabilitation is between 250,000 to 300,000 pesos per kilometer. As discussed, design standards

have been pared to a minimum in light of low volumes of traffic. Hence, design criteria are reasonable, and costs using the LB/ES approach range from 20 to 80% lower than using EB methods (see Attachment B-1).

The per kilometer cost of trails is about 100,000 pesos, but because the design approach to trails is ill-defined, it is difficult to assess trail costs. Cost assessment will depend on the completion of trails and how they are used. More detailed study of trail design and costs is required.

IV. CONSTRUCTION METHODS AND DEFICIENCIES

Construction of upland roads was planned on the basis of a previously successful mix of labor and equipment. If any failures or deficiencies have occurred, they are the results of institutional constraints, lack of quality control, or shortage of support equipment. Delays in the release of money to provinces and in payments to workers have also posed serious problem in many cases. These and other institutional issues are addressed in the following discussion.

Notable defects in construction are poorly graded gravel and inadequate compaction. In the case of the Bangbang-Arcanhel Road in Aklan, little attention was paid to the quality of gravel. Because of an insufficient binder fraction, the gravel surface is quite loose making it impossible for jeepneys to travel to the end of the road thereby greatly reducing the benefits of the project.

A more common problem is compaction. Some PEOs do not possess a sufficient number of rollers, and even if available, they simply could not be used because of steep grades. Use of full-scale rollers on trails is impossible because of the narrow width of the trails which are, therefore, constructed without any compaction at all.

Equipment for compaction is indispensable. It is important that PEOs be provided with small pedestrian-led vibratory rollers. Alternatively, since tractors are widely available, PEOs could receive small tractor-pulled rollers which could be easily manufactured locally and ballasted with sand or water. PEOs could also be encouraged to use the Mighty-Mite roller attachments they already have. Access to rollers is a prerequisite to the success of the remaining subprojects.

In the initial stages of the project, hauling of aggregates was also a problem, but this has been solved for the most part by the provision of tractor-trailer units to the provinces.

Occasionally, isolated pockets of rock have impeded construction. In many cases, the rock could be removed easily by manual methods if jackhammers were available. Serious thought should be given to the provision of these devices coupled with better-quality chisels and crowbars. Handtools are discussed further in the following section.

It must be accepted that some of the construction deficiencies were caused by poor supervision, either because no one from PEO remained at the site, or because staff of the UAC are not experienced and have not inspected the projects regularly.

V. HANDTOOLS

There are many good tool manufacturers in the Philippines. At the beginning of the UAC, tools were obtained from the sole recognized supplier and performed quite efficiently. Subsequently, DLG contracted for a supply of tools from the open market with disastrous results. Gradually, with efforts of CLATT, three manufacturers have developed reasonable products (VERGSONS, PHILSHINE, and EVERWEALTH). Under the existing procedures, however, it is not easy to confine the bidding to prequalified suppliers.

Procurement procedures should be reformed. There should be centralized procurement for the UAC, and it should be based on strict prequalification criteria, i.e., only those suppliers who have manufacturing facilities of their own. Others should not be permitted to bid. Otherwise, the quality of handtools will remain a persistent problem with adverse effects on labor productivity.

Even with the efforts of CLATT, some tools are still of lower quality, notably, the crowbar, pickmattock, and chisels. All are crucial for cutting hard soil or rock. CLATT has explored the possibility of having these tools manufactured locally by someone with proper forging facilities, but this will require an upgrading of these facilities and/or firm advance orders. Since the tools mentioned are essential to upland road construction, it would be worthwhile for USAID to provide CLATT with some assistance in procuring better-quality products.

VI. PAKYAW CONTRACTS AND LABOUR PRODUCTIVITY

Since the first pilot projects under World Bank and USAID financing, the pakyaw system has developed to maturity. The pakyaw approach divides work such that a group of 15 to 20 laborers is able to finish the job within about 30 days allowing for a single payment to the group. For programming purposes, the

project office has adopted a daily wage of around 45 pesos which is above the wage rate of 30 to 35 pesos prevailing in most provinces though less than the declared DPWH road work minimum wage of 55 pesos.

In practice, the average take-home pay of a laborer has been 50 to 55 pesos per day. By and large, the pakyaw groups have expressed satisfaction with this wage. Only in Cebu was there initial resistance to working at these rates because on a parallel project under CVRF, work was based on a daily wage of 60 pesos.

Productivity standards have been fine-tuned since the start of UAC. The fact that laborers are able to earn somewhat more than the basic rate adopted for project costing is proof enough that the productivity rates assumed are reasonable. In the field, problem in dealing with the pakyaw groups have been experienced mostly when excessive quantities of rock or hard soil have been met with at a site, causing a big drop in the wages earned because of the fixed amount of pakyaw contracts. The remedy in these cases is to revise the work program, so that workers are not penalized. This has not been done uniformly up to now, but should be adopted as a routine. Productivity standards otherwise need no major change. Small changes are being made continuously.

An argument might be made for stiffening productivity rates since workers are earning more than the programmed wage. However, as conditions can vary widely at each site, there have been cases when the wage earned was less than 30 pesos. Wage incentives must be maintained, otherwise, interest in LB work will slacken.

Institutional delays related to initial signing of the individual pakyaw contracts and final payments have caused the greatest difficulties in dealing with pakyaw groups. The governors sign the contracts and final payments to the groups take up to two months in some cases because of excessive fuss over final inspection by officials from the Office of the Treasurer and Auditor and the staff of PEO. This system must change. There is no reason why certification by the provincial engineer should not be sufficient if followed by the standard provincial audit.

VII. ENVIRONMENTAL IMPACT OF CONSTRUCTION

Any new construction is bound to lead to some degradation of the environment. In the initial design, due care was taken to provide for anticipated erosion by inclusion of measures such as planting vegetation, check dams in the side ditches, and concreting extreme grade portions in a few cases. These have

proved reasonably effective, but not in all cases. Optimum results can be achieved only if local staff are thoroughly familiar with the issues or UAC staff exercise sufficient vigilance during construction. These measures have not been taken.

Possible improvements include better planning of the anti-erosion vegetation and an increase in the frequency of check dams in ditches. Up to now, check dams have been made of ordinary bamboo, but have not functioned well due to the high velocity of run-off water, especially on severe grades. It would be better to construct the check dams of simple stone masonry or even lean concrete, and to place them at closer intervals.

The adequacy of cross-drainage structures and lining the side ditch if necessary are other complementary measures which are useful in environmental protection.

VIII. MAINTENANCE

Maintenance by the lengthman system or variants thereof are perhaps the most important element of UAC. However, the system is yet to be initiated fully and will become effective gradually. Of the six roads completed, maintenance has begun in earnest on only two or three. In some cases, e.g., Aklan, start-up of maintenance has been delayed because the province did not set aside the required funds as a precondition for inclusion in the UAC. This prerequisite for participation must be enforced rigorously.

A. Trails Maintenance

Two additional issues of maintenance funding deserve attention--trails maintenance and maintenance financing. For reasons which are unclear, the project required that provinces provide maintenance funds only for minor roads. Maintenance funds for trails were neglected altogether. The first three years after completion of construction are critical for the stability of trails. Institutionalized maintenance of the infrastructure must be in place from the beginning or trails will deteriorate rapidly to an irreparable state. In the spirit of the original project, the provinces should be asked to provide funds for the initial upkeep of trails.

B. Maintenance Financing

The second issue in the funding mechanism is that maintenance financing levels remain at the rate prevailing when the project was included initially in the UAC. Funding for barangay roads was originally 4,500 pesos per kilometer per year, but maintenance funding for new projects has since increased to

5,800 pesos per kilometer. For roads being completed now, the higher maintenance budget of 5,800 pesos per kilometer must be allowed regardless of the original agreement between the province and DLG. Otherwise, funding for maintenance of transportation infrastructures will be insufficient given current and future inflation rates. It is imperative to successful experimentation with the lengthman system that maintenance funds reflect the current cost of maintenance.

C. Adapting the Lengthman System

Experience with the lengthman system is limited at present. However, two extremes exist in the few subprojects where maintenance is now being attempted. The system is functioning very effectively on the Dao-es-Tadayan Road in Benguet since the road is vital to the residents and the community is taking a very active part in maintenance. They have even adopted a system of rotating maintenance workers so that a bigger pool of trained people is available in the event of emergency maintenance required after a typhoons. The key element of the Dao-es-Tadayan Road system, of course, is that the workers are either located along the road or at the far end giving them a vested interest in maintaining the road.

In direct contrast is the case of the Bamban-Bolintin Road in Zambales. The lengthmen appointed here all live in the barangay at the beginning of the road and have no sustained interest in maintaining the facility. As a result, maintenance is poor or nonexistent and there is no community involvement. To exacerbate matters, maintenance supervision by PEO and UAU is poor, few people are presently living along the road, and hardly any vehicles use it. In-migration to the area could change its characteristics, but will not solve the maintenance problem.

There are many weaknesses in the existing lengthman system. No monitoring system has been established to check the output of lengthmen. PEO back-stopping must be used including methods of supervision, performance incentives and training, ES gravelling, etc. Because LB/ES road maintenance is a new field, staff of both PEOs and UAU are unfamiliar with its requirements. Obviously, the system needs careful grooming and proper procedures must be designed by someone with experience. There is a strong case for seeking specialized assistance from ILO or from the locally-based CLATT. A second aspect needing streamlining are the monthly payments to lengthmen. The existing procedure of inspection by a number of departments must give way to a simple certification by the PEO staff, otherwise the system will not survive. Assuming the UAC will continue, strengthening the lengthman system should be a top priority.

IX. FOOTBRIDGES

There are very few footbridges in the program and all are in Benguet. Their designs were patterned after typical drawings developed by a Swiss consulting group for Nepal, all of which have steel towers.

At the Cayoco footbridge, a concrete tower was constructed in lieu of a steel one. It was not possible to do calculations, but presumably, the tower was constructed using the same specifications as for a steel tower. Engineering tests will be necessary to determine whether the frame structure can adequately bear expected stresses and whether the concrete will withstand the stress of shear and torsion. Some doubts about the quality of the concrete used in the Coyoco bridge also exist because it was mixed on site by hand instead of with a concrete mixer as would have been advisable. Proper mixing and placement of concrete is essential for creating a monolithic tower. Nonmonolithic construction is inadequate.

The Cayoco tower looks functional but might need some kind of bracing system to make it more rigid. It is recommended that a good structural engineer from a teaching institution like the University of the Philippines do the tests and calculations. In the future, in light of maintenance considerations, it would be desirable to use steel towers.

Regarding other materials for future footbridges, it would be better to use galvanized cables for handrails and walkway fixtures, and normal steel wire rope for suspension cables. When using pine lumber for the walkway, there is no need to apply solignum paint for protection against white ants, however, the pine boards might be varnished.

X. USE OF MANUALS

The various manuals prepared for UAC since its inception are listed in Attachment B-2. There are nine booklets and three memorandum circulars.

Some of the outdated manuals have been replaced by others. Booklet No. 1 has been superceded by Booklet No. 5, and No. 2 by No. 9. Booklet No. 6 has become completely redundant. Finally, in Booklet No. 3, the portion dealing with cost standards is no longer valid because revised information has been incorporated into Manual No. 8.

The manuals have proven very useful, and PEOs continue to use them. Other material has also been developed (e.g., the guidelines prepared by CLATT). At some point it would be

worthwhile to consolidate the UAC material into three to four expanded basic manuals which include recent additions.

Existing manuals can effectively aid technical personnel, but manuals using lay-person language should be developed to assist PVO personnel.

XI. LABOUR COMPONENT OF PROJECTS

The labor component of projects varies from between 32 and 84%, with labor on most of them in the range of 60 to 70%. Were these projects constructed using EB methods, the labor portion would range from merely 3 to 13%. (See Attachment B-3).

Rehabilitation of provincial roads is similar in that the labor component is between 57 and 80%, again a high figure. (See Attachment B-4.) If the EB approach were used instead, the labor share would fall to only between 5 and 10%.

In terms of employment generation, this translates into roughly 12,000 person-days of work for every million pesos spent on new construction. In other words, every kilometer of minor road constructed creates about 3,000 person-days of employment, and in the case of provincial road rehabilitation, approximately 4,000 person-days per kilometer are required. The advantages of the LB/ES approach in increasing rural employment are evident.

List of UAP Manuals

BOOKLETS :

- Booklet No. 1 - Planning and Implementation
- Booklet No. 2 - Pre-feasibility Assessment and Environmental Assessment
- Booklet No. 3 - Accounting, Auditing and Budgeting Procedures and Cost Standard
- Booklet No. 4 - Pehyasv Contract Procedures
- Booklet No. 5 - Maintenance
- Booklet No. 6 - Application of Appropriate Technology in Road Construction and Maintenance
- Booklet No. 7 - Site Supervisor's Training Manual
- Booklet No. 8 - Project Planning Manual
- Booklet No. 9 - Community Participation Process

MEMORANDUM CIRCULARS :

- H.C. CE - 32 - Maintenance Guidelines
- Memorandum - Revised Guidelines on UAP Implementation
- Standard Quantities and Inputs

WLAND ACCESS PROJECT
PROVINCIAL ROAD REHABILITATION

EQUIPMENT-BASED RESOURCES BREAKDOWN

NAME OF PROJECT	LENGTH Kms. & COMPONENTS	PRE-CONSTRUCTION SURVEY (P. 50/50/50)	BYPASS CONSTRUCTION (P. 50/50)	CLEANING AND STRENGTHENING (P. 50/50)	GRAVITATION IMPROVEMENT (P. 50/50)	EXCAVATION WASTE (P. 50/50)	AGG. BASE COURSE (P. 50/50)	PCCP (P. 50/50)	DROPTER APPROP (P. 50/50)	EROSION CONTROL (P. 50/50)	SPECIAL ITEM	7% CONTINGENCY	TOTAL	COST/MT	IB	IB/LS				
																	0.00	0.00	0.00	0.00
1. VALENCIA-BALIBISAN PH CERO	7.500 LADDER	37,800.00	3,750.00	10,817.34	4,470.52	4,011.76	33,519.30	7,276.71	11,621.12	12.57	0.00	0,476.33	120,955.20	17,057.50	5,062	76,911				
		0.00	11,250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35,055.55	540,077.71	72,497.05	20,500	30,461			
		0.00	0.00	83,128.76	200,958.99	554,910.24	619,319.26	440.06	2,075.95	4.36	0.00	122,404.68	1,072,265.76	247,654.20	71,442	12,721				
2. MOLLING - MANSIN PH MANSIN CEMENTAL	4.000 LADDER	20,500.00	3,750.00	3,878.55	3,848.74	883.25	20,102.55	4,317.57	11,849.87	10.25	0.00	4,752.37	73,255.18	17,067.12	6,221	67,591				
		0.00	11,250.00	0.00	0.00	0.00	0.00	121,770.00	27,817.67	34,076.70	56.26	0.00	13,644.45	210,642.25	50,000.35	17,721	20,411			
		0.00	0.00	24,500.45	716,477.23	81,443.47	471,412.63	265.72	2,044.43	3.37	0.00	50,569.37	870,274.70	210,357.68	76,051	9,671				
3. MOLLING - BANGSAL PH BANGSAL	2.400 LADDER	12,200.00	3,750.00	1,263.41	476.85	1,766.61	8,974.09	9,140.75	8,074.57	1,918.94	13,026.61	4,246.70	64,913.86	26,414.94	9,631	87,371				
		0.00	11,250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,120.56	5,074.19	23,056.75	8,500.73	131,704.94	51,005.30	19,431	14,661
		0.00	0.00	9,759.59	41,426.57	163,337.37	219,324.35	562.23	1,377.67	336.86	10,767.63	31,249.11	477,665.02	193,764.35	70,001	4,761				
4. BANGSAL-SINGANG PH SINGANG DEL. NGURU	7.500 LADDER	37,800.00	3,750.00	7,257.75	8,143.11	4,253.27	34,265.83	9,735.01	11,565.22	109.24	0.00	8,522.05	170,265.57	17,322.55	4,741	61,611				
		0.00	11,250.00	0.00	0.00	0.00	0.00	242,782.00	62,437.47	33,200.47	3,740.93	0.00	20,570.26	436,879.13	50,070.34	15,811	17,411			
		0.00	0.00	55,444.49	500,801.34	578,144.23	774,243.87	570.86	2,015.01	174.81	0.00	142,309.88	2,401,422.41	290,052.37	79,371	24,911				
5. MANSIN-SINGANG PH SINGANG	11.200 LADDER	50,500.00	5,000.00	14,700.11	3,573.91	4,817.13	37,144.40	20,426.79	45,470.84	7,447.11	50,052.17	17,374.24	245,054.64	25,777.02	10,431	60,771				
		0.00	15,000.00	0.00	0.00	0.00	0.00	0.00	183,070.75	130,848.41	42,167.13	86,262.37	32,045.11	409,373.76	47,447.52	10,741	24,621			
		0.00	0.00	113,682.84	214,295.24	445,381.59	910,025.61	1,740.60	7,922.39	2,514.36	36,270.19	121,471.79	1,054,785.10	100,625.01	71,001	14,911				
6. MANSIN-SINGANG PH SINGANG CEMENTAL	3.700 LADDER	20,500.00	3,446.50	2,414.27	2,040.84	8,272.44	10,234.40	10,947.27	24,467.00	640.90	0.00	4,205.65	97,670.42	26,262.55	5,411	60,041				
		0.00	10,245.50	0.00	0.00	0.00	0.00	73,116.20	70,504.36	70,162.33	3,615.37	0.00	14,379.81	250,683.62	67,476.19	13,011	20,011			
		0.00	0.00	20,098.73	125,761.31	764,852.36	445,747.22	673.43	4,111.35	210.52	0.00	95,219.92	1,457,033.04	191,700.87	60,701	6,871				
7. SINGANG - CANGAL PH CANGAL	4.700 LADDER	34,500.45	3,750.00	4,282.41	3,629.74	9,175.05	33,237.62	28,560.87	24,222.14	23,072.36	0.00	11,531.23	176,263.36	25,545.42	6,711	67,301				
		0.00	11,250.00	0.00	0.00	0.00	0.00	230,420.00	149,773.53	67,302.44	126,817.97	0.00	43,123.08	459,167.03	75,531.45	22,451	31,011			
		0.00	0.00	48,300.39	223,729.09	840,345.91	824,711.22	1,621.60	4,220.23	7,627.75	0.00	137,661.13	2,095,077.32	310,674.39	71,431	5,121				
8. CANGAL - MANSIN PH MANSIN CEMENTAL	5.000 LADDER	25,000.00	3,750.00	7,570.70	3,014.62	13,780.40	24,396.44	12,970.27	12,481.17	3,013.17	62,565.07	11,846.06	161,007.72	36,217.54	6,401	57,301				
		0.00	11,250.00	0.00	0.00	0.00	0.00	90,520.00	83,504.42	33,716.23	20,972.24	102,560.50	23,116.24	203,918.63	76,783.13	13,561	24,721			
		0.00	0.00	50,244.30	184,704.30	1,227,918.52	576,310.08	770.26	2,174.60	1,200.63	45,555.41	140,702.20	2,267,376.46	451,075.27	80,041	15,911				
9. CANGAL-SINGANG PH SINGANG CEMENTAL	3.700 LADDER	17,700.00	3,750.00	4,431.33	2,040.70	4,304.05	10,990.12	4,144.46	13,076.74	5,120.66	0.00	5,470.61	85,172.97	21,316.15	5,011	61,711				
		0.00	11,250.00	0.00	0.00	0.00	0.00	76,720.00	39,791.33	37,620.86	20,210.64	0.00	12,546.44	209,967.07	51,074.12	14,811	24,911			
		0.00	0.00	34,018.63	121,709.14	424,756.17	444,414.60	371.21	2,270.40	1,496.20	0.00	73,750.54	1,127,344.43	209,062.80	70,511	15,721				

APPENDIX C

FINANCIAL ASPECTS OF THE UPLAND ACCESS COMPONENT

Prepared by Norman Ramos

I. GENERAL

Fund flows are a critical factor in the implementation of development projects. The volume and timeliness of such flows are important elements in the execution of project operations. This appendix focuses on:

- o the issue of subproject costs under the UAC;
- o the effects of the flow of funds, including the mode of disbursement, on the performance of the subprojects;
- o the quality of the financial record-keeping system; and
- o exploring alternative means of generating revenues locally for maintenance purposes.

II. PROJECT COSTS AND PRODUCTIVITY STANDARDS

A. Evaluation Findings

Labor costs and material prices being used by the UAC in the computation of subproject costs are generally lower than those used by the DPWH in implementing their projects and evaluating construction contract bids. Table one shows a comparison of selected UAC and DPWH labor, material, and equipment cost data the UAC provinces¹ for which data is available.

¹ Benguet, Mindoro Oriental, Zambales, Cebu, Negros Oriental, and South Cotabato. The data was provided by the UAU of the DLG.

Table 1

COST DATA COMPARISON: UAC VERSUS DPWH RATES

<u>Construction Item</u>	<u>Difference Between UAC and DPWH Rates in Percentages listed by UAC standing</u>
1. Unskilled Labor	26 to 45% lower
2. Skilled Labor	24% lower
3. Materials	
Agg. Base Course	55 to 86% lower
Cement	4 to 18% lower ²
Sand	40 to 67% lower ³
RCCP*	18 to 21% higher
Form Lumber	6% lower ⁴
Nails	13 to 17% lower ⁵
4. Equipment Rental ⁶	
Roller	75% higher
Water Truck	80% higher
Dump Truck	43% higher
Concrete Mixer	80% higher

* reinforced concrete culvert pipes

Note that except for items like RCCP which are heavy and, therefore, require higher transport costs to UAC sites, UAC-set rates for labor and materials are lower than those of the DPWH.

UAC equipment rental rates are higher than the corresponding DPWH rates because the DPWH rates are based on commercial Associated Construction Equipment Lessors (ACEL).

While lower rates are beneficial for overall cost, their application without adjustments for site-specific conditions have led to implementation problems in some areas where material and

² Only in Benguet is the UAC set cement price equal to that of the DPWH.

³ The exceptions are Benguet and Cebu where UAC rates for sand are 20 and 33% higher than DPWH rates, respectively.

⁴ Except in Benguet where it is 4% higher than the DPWH price.

⁵ Except in Benguet and Zambales where the UAC prices are 11% higher.

⁶ UAC data was secured for Benguet province only. The equipment being rented out by the PEO are comparable to DPWH equipment.

labor costs are higher than UAC norms. Site engineers have made adjustments by drawing from their contingencies to cover material cost deficits and by awarding two or more jobs to the same pakyaw group(s) to enable the group to gain from one job what they have lost on another.

Judging by the average daily wages received by pakyaw workers at the UAC project sites, productivity standards have exceeded targeted levels in many cases. Table two summarizes the relevant wage data for selected project sites as provided by the UAO of the DLG.

Table 2

AVERAGE DAILY WAGES RECEIVED BY PAKYAW MEMBERS
IN SELECTED ON-GOING UAC PROJECT SITES

<u>Subproject Location</u> ⁷	<u>Wage Rate In Pesos/Day</u>
1. Benguet	
Banao-FB	52.35
Calew-Balococ-IT	57.38
Monglo-Bayabas-PR	82.52
Cayoco-FB	37.96
2. Zambales	
Nauagsol-Tibag	66.32
3. Mindoro Oriental	
Corason-Buriso	44.56
4. Zamboanga del Norte	
Venus-Buenavista	49.92
5. South Cotabato	
Bulol-Datalfetak	51.54
Dumadalig-Elnap	45.63

Note that except for the Cayoco footbridge in Benguet where technical problems were encountered, the average daily wages of the pakyaw workers easily exceeded the UAC standard wage of 37 pesos per day, and, in most cases, even exceeded the urban legal daily minimum wage rate of 55 pesos. In Benguet (Monglo-Bayabas - 173.33 pesos), Zambales (Nauagsol-Tibag - 146.32 pesos), and Zamboanga del Norte (Venus-Buenavista - 126.66 pesos), daily wages exceeding 100 pesos have been achieved for both new minor road construction and provincial road rehabilitation.

⁷ FB - Footbridge; IT - Improved Trail; PR - Provincial Road (involves rehabilitation); and MR - Minor Road (involves new construction).

B. Recommendations

1. Prices and Unit Costs

DLG should develop a revised set of prices and unit costs on a provincial level, and use it to evaluate PEO-prepared cost estimates for UAC subprojects. These revisions should focus specifically on transport cost differentials for construction materials. The UAU engineers evaluating PEO cost proposals should go to the field and verify the validity of the proposed unit costs.

2. Productivity Standards

Productivity standards should be reviewed and perhaps adjusted upwards as recommended in the Thomas report.⁸ A 15 to 20% adjustment would appear feasible considering there is a 33% differential between the highest average daily wage received by pakyaw members and the prevailing urban minimum legal wage rate (82 and 55 pesos, respectively), and there is a significant degree of unemployment and under-employment in the areas where the UAC operates.⁹

III. FLOW OF FUNDS

A. Evaluation Findings

Interviews with staff of the UAU and the PEOs have shown that delays in the remittance of project funds have seriously hampered subproject implementation schedules. Such delays have resulted in frequent suspension of work.¹⁰

⁸ See W. Thomas, Redirection Of The Upland Access Component, Rainfed Resources Development Project, USAID, September 4, 1987, p. 20. Thomas reported that actual productivity substantially exceeded planned productivity rates. Thus there is a need to review productivity rates to determine whether they can be increased and still provide incentives.

⁹ Random field interviews made by the evaluation team revealed that most workers in the pakyaw groups had no alternative employment opportunities during the time they were working on the subprojects.

¹⁰ The provinces have tried to minimize the effects of such delays by maximizing the use of the DLG counterpart money; advancing money whenever possible; and, in Benguet, having the PEO talk pakyaw groups into continuing despite delayed payments.

Major delays have occurred in the release of incremental funding by the ET to the provinces. Based on information supplied by the DLG UAU, project funds are delayed by an average of 80 days before they reach the province. The Provincial Treasurers reported two- to three-months delays in their fund replenishment.

In addition, minor subproject delays of no more than two weeks have been caused by a lack of required COA technical personnel (i.e., in the Provincial Auditor's Office) to inspect work completed under each pakyaw contract, and improper subproject documentation of work progress.

Data supplied by the DLG UAU show that only eight of the 37 completed and on-going subprojects in 12 provinces have LGU counterpart funding fully-covered with Certificates of Availability Funds (CAF). The remainder are covered only partially by supplemental budgets and/or other mechanisms. While most of the UAC provinces can cover the required 10% counterpart contributions, they are having problems providing maintenance funds because of cash flow problems arising from delays in the release of the national maintenance counterpart (15% of total project cost), which is released during the last quarter instead of on a quarterly basis, and because the Provincial Council relies on supplemental budgets rather than immediately appropriating the required funds.

The UAC provinces visited by the evaluation team have competent Treasury, Accounting and Auditing divisions which can effectively handle the financial control and reporting requirements of the UAC. In fact, even if UAC is discontinued, the existing systems can readily adapt to the financial management of any future projects funded from other sources.

B. Recommendations

1. Funds Flow Reform

Because it is clear that major delays occur in the transfer of funds from the National Treasury to the provinces, the SGV-recommended funds flow process should be implemented immediately to reduce funds release time to no more than 15 days.¹¹

2. Audit Procedure Reform

Delays caused by the lack of COA technical personnel to conduct UAC inspections can be partially remedied by allowing nontechnical personnel to perform certain aspects of site

¹¹ See SGV & Co., Study On The Flow of USAID Advances Through the GDP System, October 1988, pp. 13 to 14.

inspections. Only the structures must be inspected by technical personnel.

An alternative method to address this problem has been used in Cebu Province. The Provincial Auditor believes the function of the COA is to examine only the validity of the financial transactions. He explained that there is an existing regulation issued by the COA Central Office which states that the Auditor need not certify labor contracts of less than 200,000 pesos. Because the individual pakyaw contracts do not exceed this amount, the auditor need not certify pakyaw work progress. Use of either the Benguet or Cebu examples could considerably lower UAC administrative costs.

3. Work Certification

Close cooperation between the site supervisor, the resident engineer, the facilitator and the pakyaw leaders would facilitate the preparation of subproject work progress documentation. Every effort should be made to foster this cooperation for on-going and future UAC projects.

4. Provincial Counterpart Appropriation

If adequate maintenance of subproject infrastructure is to occur, the Sangguniang Panlalawigan must abide by the rules which require timely appropriation of maintenance funds.

5. National Maintenance Counterpart Releases

USAID should take necessary steps to ensure that the GOP release the national maintenance counterpart on a regular quarterly basis.

6. FARA Financing Difficulties

The use of a FARA system would most likely result in liquidity problems for the provinces. It is recommended that the existing PPA be continued. The flow of funds should, however, be improved through:

- o implementation of the SOV recommendations to eliminate undue fund transfer delays from the DT to provincial treasurers;
- o stipulation that UAC trust fund interest earnings be automatically added to trust fund accounts to eliminate the incentive for treasurers to retain trust fund assets in order to earn and keep interest accrued on UAC money; and

- c the provincial treasurers should constantly trace fund disbursements from UAC conduit banks to reduce time delays.

7. Possible PVO Role

The use of PVOs as fund conduits requires the support of organizations with highly trained and experienced personnel, e.g., national PVOs like the Philippine Business for Social Progress (PBSP). Local PVOs may not possess adequate financial and technical expertise, and relying on them as cash conduits may weaken the GOP-to-LGU funds flow mechanism. It is recommended that fund transfers for UAC projects continue to be managed predominantly by government agencies.

8. Increasing Revenue for Maintenance

UAC, in concert with participating LGUs, should consider the following alternative methods for increasing revenue and hence available resources for maintenance:

- e participating LGUs could be required to increase their collection efficiencies from the current 40% to 60%; and
- e creation or improvement of tax mapping services should be encouraged in UAC provinces; (tax-mapped LGUs reported a 30 to 60% increase in real property revenues¹² due to proper identification and classification of real properties).

C. Co-Production of Road Maintenance

User-financed road maintenance options in highly productive areas should be explored. These options would include cash or labor contributions to co-production arrangements with LGUs.

¹² Property taxes constitute the most important source of revenues (as much as 60%) for local governments.

APPENDIX D

SOCIOECONOMIC ANALYSIS OF THE UPLAND ACCESS COMPONENT

Prepared by Norman Ramos

I. INTRODUCTION

Economic and social development is a complex process involving many kinds of change. Some changes occur early, others later. There is a high degree of interrelationship among the changes that occur, but it is usually very difficult to discover how and to what extent any particular change affects other changes.

In appraising socioeconomic development, attention has been focused largely on changes in production, consumption, and/or saving. While these effects are important, attitudinal changes can often be more significant. In certain instances, particularly when some prediction of future behavior is involved, it is only through the understanding of incentive structures that socioeconomic changes can be evaluated.

In this particular evaluation, the first quantitative benefit/cost analysis will be supplemented by sociopsychological perceptions of the evaluation team regarding changes in individuals (their information, skills, and attitudes) as well as social relationships and institutions which may lead to more permanent, positive, and often unintended socioeconomic changes.

II. THE SOCIAL BENEFIT/COST ANALYSIS FRAMEWORK

The quantitative benefit/cost analysis of the UAC addressed the following sets of questions.

- o If road construction methods are typically equipment-intensive, under what conditions is it economically feasible for UAC-type projects to substitute men for machines, i.e., can a UAC-type road be produced more efficiently at market prices¹ using a labor-intensive alternative to equipment-intensive technology?

¹ In the case of developing countries like the Philippines where markets are largely imperfect, market prices will be determined by some set of prices which more accurately reflect opportunity costs of factor use.

- c What are the positive economic changes including increased accessibility to the area for agricultural inputs and technology, a probable reduction in transport costs (fares as well as time), and the resulting impact on production as well as the welfare effects of the employment generated by the project?

In addressing the first question, the analysis will consist of primarily translating available financial construction data² at market prices for substitutable factors of production in the construction of UAC-type roads into social costs; and analyzing the relationships between distributional effects, factor pricing, and employment generation.

The analysis of the second set of questions will focus on:

- c establishing the employment creation effects of the UAC subprojects;
- c determining whether increased accessibility and transport cost reductions have occurred;
- c identifying the beneficiaries of the primary and secondary economic effects of the project; and
- c calculating the welfare effects on project beneficiaries.

III. DATA AND METHODOLOGY

The analysis of the first set of questions utilizes available statistics from the input-output (IO) tables of the National Income Accounts (NIA) of the NEDA; and the Family Income and Expenditures Survey (FIES). The analysis will establish key parameter values for the benefit/cost analysis such as the marginal savings rate on the aggregate as well as sectoral levels; the social conversion factors for investment, foreign exchange costs, and labor; and the weights on social consumption. The estimated parameters are used to convert the financial values of UAC construction cost data into social aggregate values.

The analysis of the second set of questions uses the "before" and "after" survey results of three subprojects--the Dao-Es-Tadayan minor road in Benguet, the Bamban-Bolintin minor road in Zambales, and the San Vicente minor road in South

² The financial cost data for both LB/ES and EB technologies for 15 completed UAC subprojects were supplied by the Engineering Adviser of the UAC.

Cotabato to examine the long-term economic transformation prospects of UAC-type subprojects. The quantitative data are supplemented by field observations and discussions with local officials, DLG personnel and the UAU social science advisor. The analysis focuses on:

- o increased economic benefits and changes in social overhead capital, particularly changes affecting transportation, technical competence, and subsidiary effects like increased family welfare;
- o changes in social relationships and institutions such as increased interpersonal communication, increased economic opportunity, increased rewards for economic activity, increased power of groups participating in UAC-induced changes, increased governmental activity in economic and social development; and
- o social changes like increased literacy and training opportunities.

IV. RESULTS OF THE ECONOMIC ANALYSIS OF LB/ES ROAD CONSTRUCTION TECHNOLOGY

The economic analysis of LB/ES versus EB road construction technologies for the UAC begins with the basic financial construction data for 15 completed minor road projects. These financial values are converted to their economic values using social conversion factors (SCF).

Table 1.

ECONOMIC COST COMPARISON:
LB/ES VERSUS EB TECHNOLOGY IN MINOR ROAD CONSTRUCTION

<u>Social</u> <u>Conversion Factors</u> ³	<u>ASSUMPTIONS</u>	
	<u>Foreign</u>	<u>Exchange Content</u>
Unskilled Labor	0.80	Labor 0%
Skilled Labor	1.00	Equipment 100%
Foreign Exchange	1.20	POL 90%
		Parts 100%
		Materials 0%
	Percent Unskilled Labor 90	

Equipment Operation and
Maintenance Components Breakdown⁴

POL	15%
Spare Parts Including Tires	35%
Skilled labor (Mechanics, Drivers etc.)	15%
Capital Charges	35%

ANALYSIS

	<u>Financial Cost</u> <u>Per KM in pesos</u>	<u>Economic Cost</u> <u>Per KM in pesos</u>
EB Technology		
Labor	23,831	19,541
Materials	65,865	65,865
Equipment	<u>249,513</u>	<u>287,439</u>
Total	339,209	372,845
LB/ES Technology		
Labor	151,115	123,915
Materials	72,981	72,981
Equipment	<u>8,444</u>	<u>9,727</u>
Total	232,540	206,623
LB/ES To EB Cost Ratio	0.69	0.55

³ These factors are based on the coefficients NEDA uses for project evaluation. In previous studies, the author has arrived at figures that are very close to these NEDA estimates. For reasons of comparability, it was decided to use the NEDA coefficients for the UAC Evaluation.

⁴ These values are based on new equipment. For older equipment, the capital charges would be less.

Note that from financial and an economic (social) cost perspectives, LB/ES road construction technology is not notably superior to EB technology. Financially and economically, LB/ES technology is 31% to 45% less expensive than EB technology, respectively. Because there is a large used construction equipment pool with very low capital charges⁵ in the Philippines, strong government support is necessary to encourage the use of the LB/ES approach, even in road construction.

Such support must begin in the planning and design stages of projects. For example, in the feasibility studies of small rural road projects, a large relative weight must be given to rural consumption with regard to that of the urban sector to create a "built-in" project bias favoring the use of rural labor during construction. Also, bid rules can be devised to offer an advantage to contractors proposing LB/ES methods. Only through the exercise of such focused and overt policies can the government promote the LB/ES approach, and thereby, tap the rural employment generation potential of road construction.

V. RESULTS OF THE SOCIOECONOMIC IMPACT ANALYSIS FOR UAC SUBPROJECTS

A. Short-Term Socioeconomic Impact

The employment generation potential of UAC subprojects is substantial. Available data supplied by the UAU of the DLG for six completed new minor roads indicate that approximately 3,000 person-days of employment⁶ is generated for every kilometer of minor road construction. Compared to the estimated 485 person-days for EB construction⁷, these estimates of EB technologies represent more than five times the employment generation potential of the LB/ES construction. The labor generation rate

⁵ This equipment pool exists because depreciation has been discounted almost entirely for most of this used equipment.

⁶ As computed from the project-level data provided by the UAU of the DLG from the following sites: (1) the Dao-Es-Tadayan in Benguet, (2) the Bamban-Bolintin in Zambales, (3) the Burbuli-Pacala in Or. Mindoro, (4) the Cuanos-Pitogo in Cebu, (5) the Bambang-Arcanghel in Aklan, and (6) the San. Vicente-Libas in S. Cotabato, 2,632 person-days are generated per kilometer of minor road construction.

⁷ See W. Thomas, Redirection Of The Upland Access Component, Rainfed Resources Development Project, USAID, September 4, 1987, p. 19.

of trail improvement is about 2,000 person-days per kilometer⁸, and that of provincial road rehabilitation is about 4,000 person-days per kilometer.⁹

Despite the substantial employment generation rate of the UAC, no significant labor displacements in agriculture or other sectors was evident because workers were unemployed or working during a slack in the agricultural production cycle. However, at one or two sites in Benguet, the UAC subprojects experienced employee shortages during the rainy season because workers found it more profitable to engage in gold panning activities.

The UAC also "injected" significant cash flows into the participating communities. On the average, each participating community received more than 300,000 pesos in wages or an equivalent per capita income of 319 pesos.¹⁰ This additional income is substantial considering that socioeconomic surveys indicate most families in these communities normally received cash incomes of less than 1,000 pesos per month.¹¹ The workers were generally satisfied with the wages they received.¹²

Based on available socioeconomic survey data and on field interviews conducted by the evaluation team, families generally spend the additional income on food, clothing, home improvements, radios, and small appliances.

⁸ Based on data from the completed Karao-Ekip Trail in Benguet, a total of 1,738 person-days were generated per kilometer of trail improvement.

⁹ The higher figure generated by new minor road construction is due to the fact that provincial roads are 8.5 meters wide versus UAC minor roads which are 5 meters wide.

¹⁰ This is based on the payroll and population data for the six completed subproject roads and one trail improvement listed in footnote six.

¹¹ For example, in Dao-Es-Tadayan in Benguet, the cash incomes of all the 32 survey respondents were no more than 375 pesos per month. In Aklan, the 35 respondents all had cash incomes of no more than 458 pesos per month. Only in Zambales and South Cotabato did respondents report cash incomes of more than 10,000 pesos per year (more than 800 pesos per month).

¹² In Benguet, pakyaw groups reportedly requested contract adjustments because they encountered "unforeseen" hard rock formations. After due consideration, the PEO made the necessary adjustments using the subproject contingency account.

Women have been employed as pakyaw loaders and site supervisors in Zambales, and have provided labor for clearing, grubbing, and road surfacing in Zambales and Benguet.

Various minority groups have been employed by the projects in Benguet, Zambales, and South Cotabato; but in Zambales, for example, the unstable settlement pattern of the Aetas makes them a transient and, therefore, problematic labor force.

B. Long-Term Socioeconomic Impact

Available "before" and "after" data for three completed new minor road projects in Benguet (Dao-Es-Tadayan), Zambales (Bamban-Bolintin), and South Cotabato (San Vicente-Libas)¹³ indicate a substantial reduction in both travel times and transport fare costs for users.¹⁴ The data as presented in Table 2 shows that, on the average, travel time reductions ranged from 25 to more than 50%, and transport fare reductions ranged from 72 to nearly 100%.¹⁵

Table 2.

OBSERVED TRAVEL AND TRANSPORT COST REDUCTION IN UAC NEW MINOR ROAD PROJECTS

<u>Site</u>	<u>Percent Reduction</u>	
	<u>Travel Time</u>	<u>Transport Cost</u>
Benguet	25%	72%
Zambales	49%	95%
S. Cotabato	57%	No Data ¹⁶

Whether such improvements would lead to long-term positive changes in agricultural production cannot yet be conclusively

¹³ The data for the Bamban-Bolintin in Zambales show some data inconsistencies in the recording of travel times. While there was a reported reduction in travel times for going to work, none were recorded for other purposes.

¹⁴ The reduction for provincial road rehabilitation would probably be less dramatic.

¹⁵ Computed as the weighted average for all trip purposes using the frequency of each trip purpose as weights.

¹⁶ A "No Data" entry indicates either no data were available from the survey results or data were of "doubtful" value and was therefore omitted.

determined from the available survey data and from the limited field observations and inquiries made by the evaluation team. The available socioeconomic survey data for the aforementioned three completed minor road projects in Benguet, Zambales, and South Cotabato shows that positive changes have occurred which have important bearing on the long-term potential of the benefitted areas. These changes include:

- o increased travel by the inhabitants due to the entry of more vehicles into the project area;
- o increased utilization of government/extension and credit services;
- o increased farm hectarage;
- o increased farm production and sales;
- o the opening of new farms; and slow in-migration to the projects' area of influence.

Changes in some of the relevant indicators are summarized in Table 3.

Table 3

SUMMARY OF DEVELOPMENT INDICATORS ARISING FROM NEW ROAD
CONSTRUCTION: "BEFORE" AND "AFTER" CONSTRUCTION

<u>Indicator</u>		<u>Benguet</u>	<u>Zambales</u>	<u>South Cotabato</u>
1. Frequency Of Travel (Per Week)	Before	31	88	16
	After	41	99	31
2. Frequency Of Visit Of Extension Workers (Per year)	Before	39	25	11
	After	45	44	27
3. Farm Hectarage	Before	10.1	34.20	No Data
	After	15.3	No Data	No Data
4. Farm Production (Per Year)				
Palay (Cavans)	Before	360	981	98
	After	360	981	500
Corn (Kg)	Before	0	None ¹⁷	35,500
	After	4,000	None	No Data
Vegetables (Kg)	Before	11,335	32,088	0
	After	15,300	43,000	7,250
Fruits (Kg)	Before	3,300	0	None
	After	5,533	16,460	None
Root Crops (Kg)	Before	7,850	3,240	None
	After	9,500	No Data	None
Comm'l Crops (Kg)	Before	204	No Data	None
	After	204	No Data	None
4. Farm Sales (Pesos/Year)	Before	41,557	243,574	77,750
	After	104,698	391,250	11,238
5. Number Of Farms	Before	10	14	8
	After	55	30	8

¹⁷ An entry of "None" indicates that there was no observed value for the particular indicator during the survey period.

Note that all of the development indicators exhibited sizeable increases on a "before" and "after" project basis except for the South Cotabato site farm data because of reported "peace and order" problems.

More important than the physical and economic improvements is the sense of pride and hope participating communities have gained. Through participation in the subprojects. Their sentiments reflect the improvements evident on an "after" project basis in the physical and the perceived quality of life indicators. The changes in selected physical quality of life indicators and in the overall self-rated quality of life indicators are presented in Table 4. The evaluation team confirmed these perceived changes through random interviews.

Table 4

CHANGES IN SELECTED PHYSICAL AND PERCEIVED QUALITY OF LIFE INDICATORS: "BEFORE" AND "AFTER" CONSTRUCTION

<u>Indicator</u>		<u>Benquet</u>	<u>Zambales</u>	<u>South Cotabato</u>
1. Percent Of "Strongly" Constructed Houses	Before	0	35	0
	After	89	35	0
2. Percent Of Household With "Piped" Water	Before	30	9	0
	After	33	22	0
3. Number Of Households With Appliances	Before	10	27	7
	After	10	40	8
4. Percent Of Population In Different Perceived Quality Of Life Positions*	<u>Before</u>			
	0	0	0	0
	1	30	10	12.5
	2	50	60	37.5
	3	20	25	37.5
	4	0	5	12.5
	5	0	0	0
	<u>After</u>			
	0	0	25.9	0
	1	33.3	3.7	12.5
	2	66.7	18.5	37.3
	3	0	44.5	50.0
	4	0	7.4	0
	5	0	0	0

* quality of life position rated on a scale of 0 to 5

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With the exception of the South Cotabato site where "peace and order" problems persisted, the selected physical quality of life indicators exhibited improvements at all subproject sites. Improvements in the perceived quality of life indicators at the Zambales site are probably typical of what is happening at other UAC sites. The lack of change observed in the perceived quality of life indicator at the Benguet site is probably due to the fact that there were changes may reflect a change in the sample population during the "after" project survey resulting in noncomparable perceptions.

The positive changes in the perceived quality of life can become permanent if there is maintenance of peace and order in project areas¹⁸ and if the project roads are properly maintained so that they can remain serviceable during their economic life¹⁹, and thus enable the project sites to reach their long-term potential in three to five years.²⁰

VI. RECOMMENDATIONS

A. Additional Data Analysis

There is a need for more analysis of the long-term socioeconomic impact of the UAC. The UAC staff has gathered a large amount of high quality socioeconomic data on new road sites which could be most useful if studied by a consultant with extensive experience in statistical analysis. The results of the statistical analysis, will be useful in developing an "expert system" which the DLG UAU can use to objectively evaluate the suitability of PEO-proposed project sites.

¹⁸ The potential success of a UAC road project in South Cotabato was jeopardized when the beneficiaries had to move out of the area because of peace and order problems.

¹⁹ As evaluation team engineer, Raj Sikka pointed out, these roads can last indefinitely given their usual traffic volumes if they receive proper routine maintenance and periodic regravelling (every five years).

²⁰ For example, the Bamban-Bolintin Road in Zambales may look desolate, but its long-term potential is promising as more people move into the area. However, if it is not properly maintained, its benefits to the community will probably disappear.

B. Expert Systems for Project Identification

The goals of the proposed system would be:

- c to analyze the socioeconomic potential of UAC-type of projects, particularly the prerequisites for success;
- c provide a simplified list of success indicators for UAC-type projects which clarify selection criteria for future UAC sites; and
- c develop an "expert system"²¹ including the developed indicators which the UAU can use to evaluate UAC sites proposed by participating provinces and identify alternative UAC sites.²²

Because provincial road rehabilitation is becoming an important component of the UAC, socioeconomic survey data must also be collected for "rehabilitated" roads and subjected to statistical analysis for generation of a short and simplified list of indicators that could be used to select rehabilitation projects in the UAC provinces.

²¹ An expert system is a computer software package that embodies knowledge and expertise about a particular subject matter. Such expertise can be tapped for decision-making purposes.

²² With such an expert system, the choice of UAC sites will be consistent and the contribution of the factors which entered into the final choices and decisions will be easily traceable.

APPENDIX E

ORGANIZATIONAL AND MANAGERIAL CAPABILITY FOR LB/ES SUBPROJECT IMPLEMENTATION

Prepared by Bruno Navera

I. PRESENT STATUS

A. Introduction

The technical performance of UAC implementors (measured by the number of completed subprojects) at both the national and field levels will not adequately reflect the organizational and managerial (O and M) capability for LB/ES subproject implementation. While the technical capacity for LB/ES construction has to a certain extent been achieved, an institutionalized capacity to maintain the road subprojects is not evident. In general, the capability of management and leadership at all UAC implementing levels should be strengthened.

UAC institutional development focuses on developing the capacity to manage LB/ES subproject implementation from a wider O and M perspective. In developing this capacity, the aim has been to ensure synchronization and coordination of efforts among project implementors to achieve the project goal. However, O and M capability development training strategies have focused primarily on PEOs and PPDOs. The institutionalization effort has never been viewed from a wider organizational perspective to include other provincial offices, such as those of the treasurers, the auditors, and the budget officers, who play critical roles in provincial-level UAC implementation. Coordination of these offices remains a problem

Symptoms of O and M weakness include the following:

- inability of the UAU to respond effectively and efficiently to UAC work load demands;
- delays in subproject implementation;
- lack of initiative in instituting actions to address LB/ES implementation problems;
- weak LGU administrative support systems for LB/ES subproject implementation;
- inactive UAC ad hoc committees in the provinces that were evaluated, with the exception of South Cotabato; and

- e weakness in motivating subproject beneficiaries, specifically in maintaining completed LB/ES road projects.

These summary observations are based on information presented in the remainder of this appendix.

Several significant findings stand out in the evaluation:

- e the effect of the 1988 government reorganization on the present O and M capacity of all UAC implementing offices;
- e the limited present O and M absorptive capacity of the UAU and provincial governmental organizations for LB/ES subprojects implementation; and
- e problems with the support system for LB UAC subproject operations and with the decision-making process for LB/ES subproject identification and prioritization.

B. Effect of Government Reorganization on UAC Organization and Management Capacity.

To a certain extent, the nationally mandated reorganization has strengthened the organizational structures of the DLG, the UAU, and the provincial government units. The UAU, which was formerly part of the Barangay Roads Development Program office, is now an independent unit. The organizational structure and staffing pattern of the UAU is shown in Figure 1.

The 1988 reorganization largely focused on clearly defining the goals, objectives, and functions of government departments, divisions, and units. The reorganization also emphasized personnel task assignments, authority, duties, and responsibilities. It effectively raised salary standards and strengthened employees' job security.

A prescribed organizational model was adopted by the five provinces visited by the evaluation team. Organizational charts for a PEO and a PPDO typical of those in the five provinces are shown in Figures 2 and 3, respectively.

The degree to which the prescribed reorganization has been implemented differs among the five provinces. Variations depend largely on the availability of funds as well as on political factors. The two first-class provinces of Cebu and South Cotabato have fully implemented the reorganization. The fifth-class provinces of Benguet, Zambales, and Aklan have only achieved a 60% implementation of the changes. In Aklan, the temporary appointment status of all employees as well the

transfer and demotion of some technical personnel has led to the present demoralization of Aklan personnel; this remains a critical problem.

C. Organization and Management Absorptive Capacity to for LB/ES Subproject Implementation

1. The DLG Upland Access Unit

Organizationally, the UAU is under the newly created Office of Project Development Services (OPDS), which is also in charge of DLG's other special projects. Under this setup, the UAU remains to some extent an independent unit nominally headed by a Project Manager. This is the only position that still remains unfilled. At present, the Assistant Project Manager oversees UAU operations. She is advised by a USAID HCN engineer and a social science staff. Most DLG decision making is referred to the DLG Assistant Secretary.

Of the 26 contractual personnel, 70% are technical, as noted in Figure 1. Technical staff members have acquired some degree of expertise that they can use in responding to UAU job requirements. However, counterproductive behavioral patterns, such as a passive attitude towards work, an indifference to change, and perhaps even a misplaced sense of loyalty, prevail at the UAU.

2. The Provincial Engineering and Provincial Planning and Development Offices

Organization and Staffing

At the local government level, the PEO and the PPDO play key roles in implementing LB/ES subprojects under the UAC. These two offices work closely during the operational stages of UAC: project identification, community participation, institutionalization planning, organization of pakyaw groups, construction, monitoring, evaluation, and post-construction maintenance activities. Collaboration between the PPDO and the PEO was evident in all provinces visited by the team except Aklan. PPDO-PEO collaboration is negligible in Aklan because of a weakened operational structure and low morale triggered by a politically motivated, misguided reorganization¹.

No separate units at the PPDOs and PEOs have been specifically assigned to handle UAC tasks. At the PPDO, UAC

¹ Governor Conazon Cabagnot removed the Aklan Provincial Engineer from office during much of 1988. He has only recently been reinstated. This event disrupted UAC subproject implementation in the province.

activities are assigned to the Special Programs Division. The institutionalization activities are assigned to the sociologist, supported by the Plans, Programs, and Research Divisions, under the direction and supervision of the Provincial Planning and Development Coordinator (PPDC). The involvement of PPDC in UAC operations is not very evident in the provinces of Aklan and Cebu. In Aklan, the PPDC has limited knowledge of UAC operations. At the PEO, UAC tasks are distributed among the Planning, Construction, and Maintenance Divisions. Engineers are assigned full time to the implementation of LB/ES subprojects.

The number of personnel and their employment status in the PEO and PPDC vary widely among the five provinces as shown in Figure 4. The availability of funds, the class of the province, and the degree of local leadership commitment to infrastructure development influence personnel factors in each province. In Cebu and Cotabato, PEO maintenance funds are used for maintenance. In Benguet, Zambales, and Aklan these funds are commonly used for hiring casual employees deployed at various offices (especially at the Governor's Office). These casual employees function as security personnel, clerks, technical assistants, drivers, and janitors. In South Cotabato and Cebu, the numbers of PEO permanent and casual employees have been significantly reduced (by 423 employees and 168 employees, respectively) because maintenance work on some provincial road sections in these two provinces is contracted out, using the LB/ES subproject pakyaw strategy.

Maintenance and Equipment Capability

The comparative equipment and maintenance capability among the five provinces is shown in Figure 5. Records show that Cebu has the lowest equipment deadlined (non-operational) rate of 12% and South Cotabato has maintained a 20% non-operational equipment standard, while Zambales and Aklan are slightly below this maintenance standard. Benguet has no available deadlined rate data. The differences in the five provincial equipment deadlined rates can be attributed to the availability of funds.

LB/ES Subproject Funding Capability

Records of the five provinces show that regardless of class, all provinces could fund the LB/ES subproject 10% UAC counterpart requirement. Funds will largely come from the regular LGDF under the 20% Bureau of Internal Revenue (BIR) allotment and from local infrastructure funds of the provinces. However, a lack of technical capability in cash flow programming at the treasurer's and budget offices remains a critical problem for LB/ES subproject implementation.

D. Provincial Government Support System to LB/ES Subproject Implementation

The support system for LB/ES subproject implementation under UAC is generally weak in all five provinces, as demonstrated by various management practices. These issues are outlined in the following paragraphs.

1. Complex Internal Control System

The delay of payment of pakyaw contracts for LB/ES construction can be attributed to the complexity of the internal control system at the provincial level. Three offices are involved in processing payment vouchers: the Provincial Auditor's Office, the Treasurer's Office, and the Internal Control Office (ICO) under the office of the Provincial Governor. The delay averages five to six days for each pakyaw contract at Cebu, South Cotabato, and Aklan, while Benguet and Zambales demonstrate a one to two-day voucher processing efficiency.

The considerable cost in time, effort, and money wasted to follow delayed payments is borne by the pakyaw group. In South Cotabato, this problem triggered a mild sit-down strike at the Capitol building by the pakyaw group. Delays are caused primarily by the inability of the three offices to synchronize inspection for completed LB/ES road subproject construction under the pakyaw system. This inspection is a pre-payment requirement imposed by the treasurer and the governor. Inspection by the Auditor, however, is optional for projects of this kind with a cost below 200,000 pesos. The average pakyaw contract voucher is normally well below this amount.

2. Degree of Leadership Support to LB/ES Subproject Implementation

The degree of leadership support for LB/ES subproject implementation varies among provinces. The provision of logistical support, such as vehicles for the PEO and the PPDO, is one indicator. Proper use of maintenance funds and giving high priority to LB/ES subproject construction are also indicators which demonstrate substantial support from the governor and other provincial government decision-makers. The provinces of Benguet, South Cotabato, Cebu and Zambales demonstrated this support, although in varying degrees. This support, however, is not evident in the province of Aklan.

3. Decision-Making for LB/ES Subproject Selection

LB/ES subproject siting is largely based on the socioeconomic and technical viability of potential subprojects. This ensures, for the most part, that the decisions of local leaders are not politically motivated. Community participation

in decision-making for LB/ES subprojects depends not only on need, but on whether the community accepts and is willing to participate in the LB/ES subproject construction. So far, the UAC community participation process in identifying LB/ES subprojects, has been well-received by subproject beneficiaries. Final approval however remains at the DLG UAU, which takes considerable time before actual construction begins.

4. Lack of Significant Provincial Development Council (PDC) Role in UAC Operations.

Among the five provinces visited by the team, only South Cotabato's PDC is functioning. The rest are inactive. To remedy this situation, a UAC ad hoc committees were formed and charged with providing general oversight of UAC operations in terms of formulating policy guidelines, coordinating various UAC implementation factors, and resolving problems related to UAC operations. Most of the ad hoc committees of the provinces visited are not fully functioning except for that of the South Cotabato province. There is no evidence of local PVO participation in subproject identification and prioritization.

II. PROJECT IMPACT

At this point, it is difficult to fully assess the project impact on O and M capability developed for LB/ES operations at the provincial and community levels based on available qualitative and quantitative data. The post-project O and M capability evaluation should be undertaken two to three years after project completion. The UAC has not had the opportunity to fully mature due to interferences beyond its control, such as the 1986 change in administration, the 1987 election, and the 1988 government reorganization.

While the provinces visited by the evaluation team have developed some capability to handle the technical aspects of the UAC, they have not fully developed O and M capability to implement the UAC concept and system. This evaluation assumes that the development of this capability has been achieved when UAC subproject beneficiaries can maintain the serviceability of the LB/ES subprojects. At this stage of UAC implementation, the UAC subproject communities are not ready to assume this critical role. The following is a discussion of the progress which has been made toward the development of O and M capability.

A. Provincial Government Level

The impact of the UAC on O and M capability for implementing the LB/ES system varies slightly among four of the provinces visited by the team. The project impact in Aklan cannot be

comparatively treated because of the unusual political situation discussed in a previous section of this report.

1. Internalization of UAC Operation

Internalization of UAC operations is most evident at the PPDOs and PEOs of the provinces evaluated. Execution of UAC tasks is internalized in the regular operations of the units within these offices. UAC is not therefore treated as a special project that requires a separate special unit to perform its designated purpose. This practice reduces UAC operational costs and also indicates progress toward sustainability of the LB/ES system at the provincial government level.

2. Improved Decision Making Process for LB/ES Subprojects

UAC operational guidelines for decision-making for LB/ES subproject identification require a prioritized listing of subprojects and an initial assessment of socioeconomic indicators for the proposed subproject areas. This process minimizes the potential for politically based decisions. An institutionalized decision making process could potentially be implemented here, especially within the Provincial Development Council that sets priorities and makes decisions regarding development projects. This potential is most evident at Benguet and South Cotabato. Cebu is already significantly advanced in this process because of assistance it received from various foreign aid projects. Politically based decision making is still evident at Zambales and Aklan.

3. Commitment and Willingness to Initiate a Locally Funded LB/ES Infrastructure Project

Interviews with the PPDCs of Benguet, Zambales, and South Cotabato indicate that provincial government decision makers are willing to implement LB/ES infrastructure projects using the Local Government Development Fund (LGDF) 20% BIR allotment funds. This fund commitment may demonstrate increasing confidence on the part of local officials in their ability to initiate their own LB/ES subprojects. It may also merely demonstrate provincial officials' ability to identify an attractive opportunity, i.e., heavily subsidized, politically attractive road projects. The PPDCs of Cebu and Aklan were unavailable for interviews by the evaluation team.

B. Community Level

1. LB/ES Technology Transfer

The LB/ES concept and system can trigger community-initiated, LB construction of foot trails using the bayanihan² strategy. This effect was demonstrated by the Bilaan minorities residing in the village of Bulol-Datalfetac at South Cotabato. This group constructed a non-UAC assisted upland mountain trail at sitios Akob, Olam-Jao, and Cloklofe, with a total length of 11 km. From the UAC LB/ES subproject experience, this group learned that roads can be constructed even without equipment support.

2. Institutionalization of the Pakyaw Group into a Farmers' Cooperative

The village leader (the Barangay Captain) in one area used the pakyaw group as a starting point for organizing a local farmer's cooperative. The provincial engineer is now seriously considering using subunits of this cooperative for the pakyaw maintenance contract on the UAC subproject in the area.

III. RECOMMENDATIONS

A. Project Management Level

To ensure that the grant money is efficiently and effectively used for its designated purpose, the capability of the UAC to carry out project activities must be improved by:

- o reorganizing the UAU staff incentive system to reward job performance as opposed to aptitude test performance;
- o hiring a Project Manager with strong administrative skills to provide leadership and proper direction to the UAU;
- o enlisting the services of full-time Filipino and expatriate consultants working under the UAU to provide necessary technical assistance.

² Community collective action to accomplish tasks in the public interest which exceed the capacity of individuals.

B. Field Implementation Level

Training should focus on:

- orientation/reorientation toward the UAC concept and procedures,
- encouraging teamwork within the LGU, and
- conducting systems analysis for provincial government officials to ensure their appreciation of UAC concepts and procedures and to ensure coordination among local officials.

1. Equipment Maintenance

Equipment maintenance must be accorded enough emphasis to keep the deadline rate to a minimum, ensuring an effective capability to carry out periodic road maintenance.

2. Budgeting UAC Support

The commitment of funds to the project must be reflected in the regular budget. If the UAC counterpart fund comes from the LGDF 20-percent-of-BIR allotment, the LB/ES project should be reflected in the LGDF annual implementation plan. Financing counterpart funds by having supplemental budgets enacted by the Sangguniang Panlalawigan to finance LB/ES operations must be discouraged altogether or kept to a minimum.

3. Provincial Ad Hoc UAC Committees

The ad hoc committees should be replaced by the PDC; specifically, the PDC executive committee should provide broad policy guidelines and directions for UAC implementation. The PDC executive committee must be the forum for resolving issues concerning the general implementation of UAC subprojects as well as their prioritization and approval. The PPDO must play an active role as a technical and secretarial arm of the PDC. Payment of honoraria for political supervision of UAC subprojects should be suppressed. In this way, the UAC could function as a catalyst for developing a more functional PDC.

4. The Municipal Development Councils

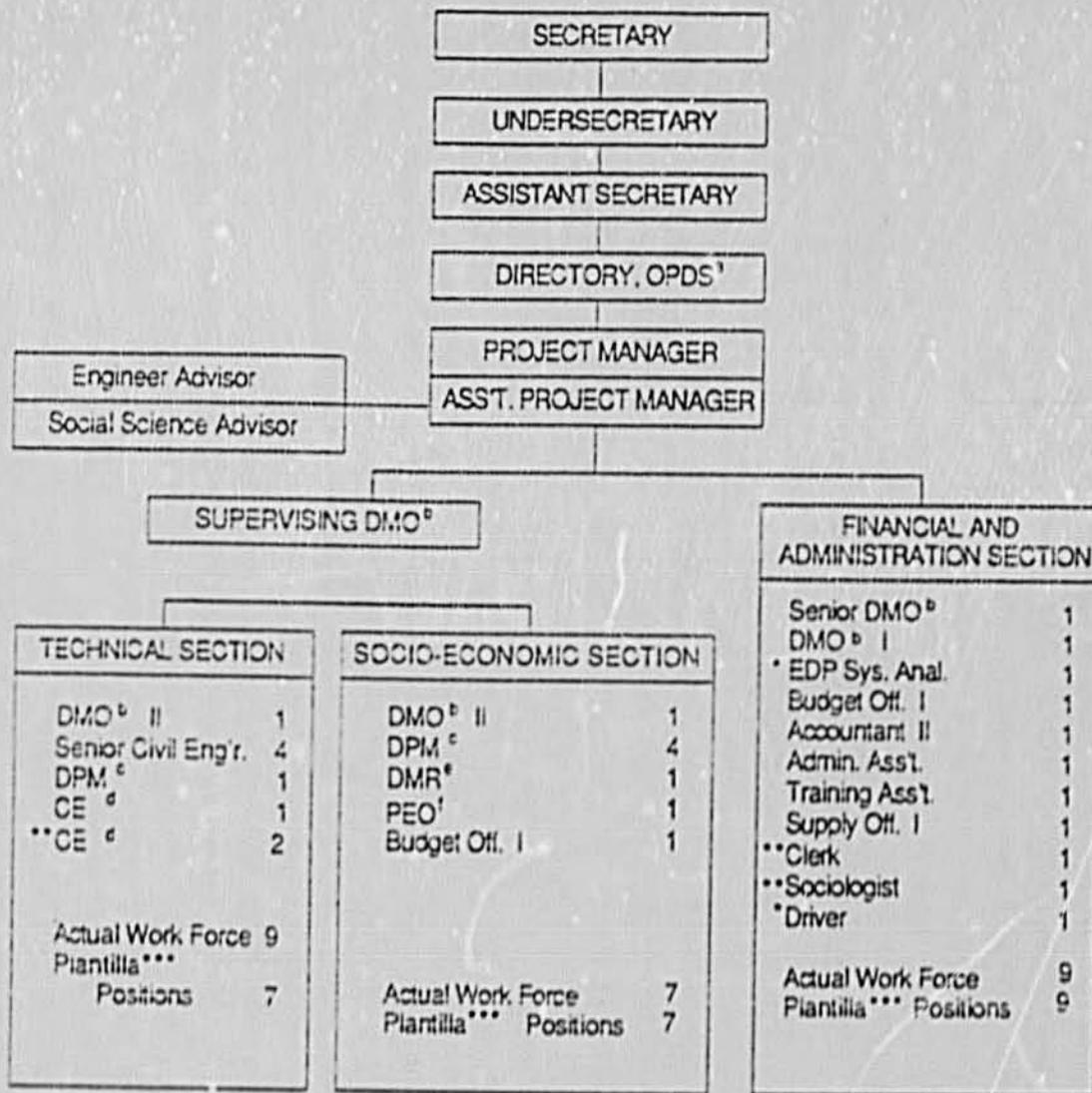
The Municipal Development Councils' involvement in policy and decision making for LB/ES subproject implementation must be explored. This is in preparation for possible turnover of LB/ES implementation to the municipal governments in accordance with the national government's decentralization initiatives.

IV. SUBPROJECT AREA LEVEL

The possibility of involving indigenous PVOs in community organization and participation in LB/ES projects should be explored. Their involvement in UAC activities can also serve as a catalyst for other PVO rural development initiatives. Intermediary PVOs could be tapped as financial resource managers at the provincial or national level.

Training and consultation at the community level must strongly emphasize the need for maintenance. A maintenance strategy must be carefully developed by the subproject beneficiaries with the assistance of trained institutional development personnel supplied by PVO or PPDO staff.

Figure 1. UPLAND ACCESS PROJECT
Upland Access Unit (UAU) Organization Chart



Total Work Force (Actual) - 27
Total Plantilla Positions - 26

*Detailed to Other Unit
**Detailed to UAC from Other Unit
***Approved and Permanent Positions

- ^a Office of Project Development Services
- ^b Development Management Officer
- ^c Development Project Manager
- ^d Civil Engineer
- ^e Development Management Researcher
- ^f Project Evaluation Officer

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Figure 2. PROVINCIAL ENGINEER'S OFFICE
ORGANIZATIONAL CHART

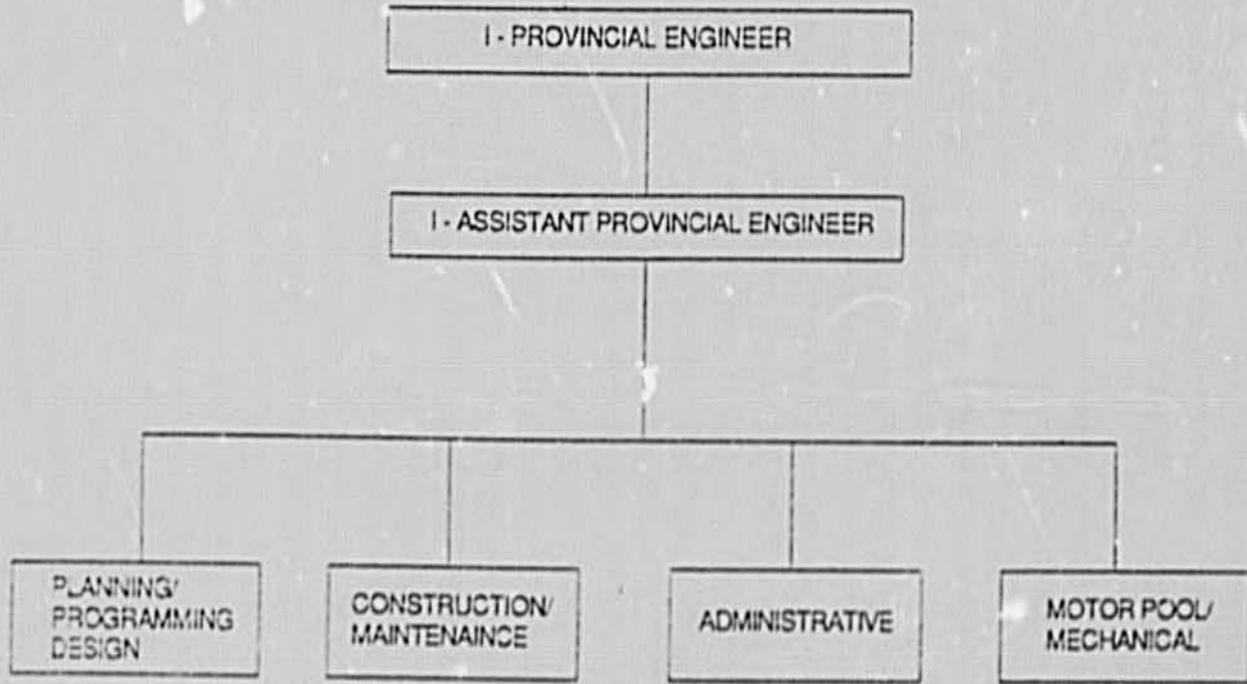


Figure 3. PROVINCIAL PLANNING and DEVELOPMENT OFFICE
ORGANIZATIONAL CHART

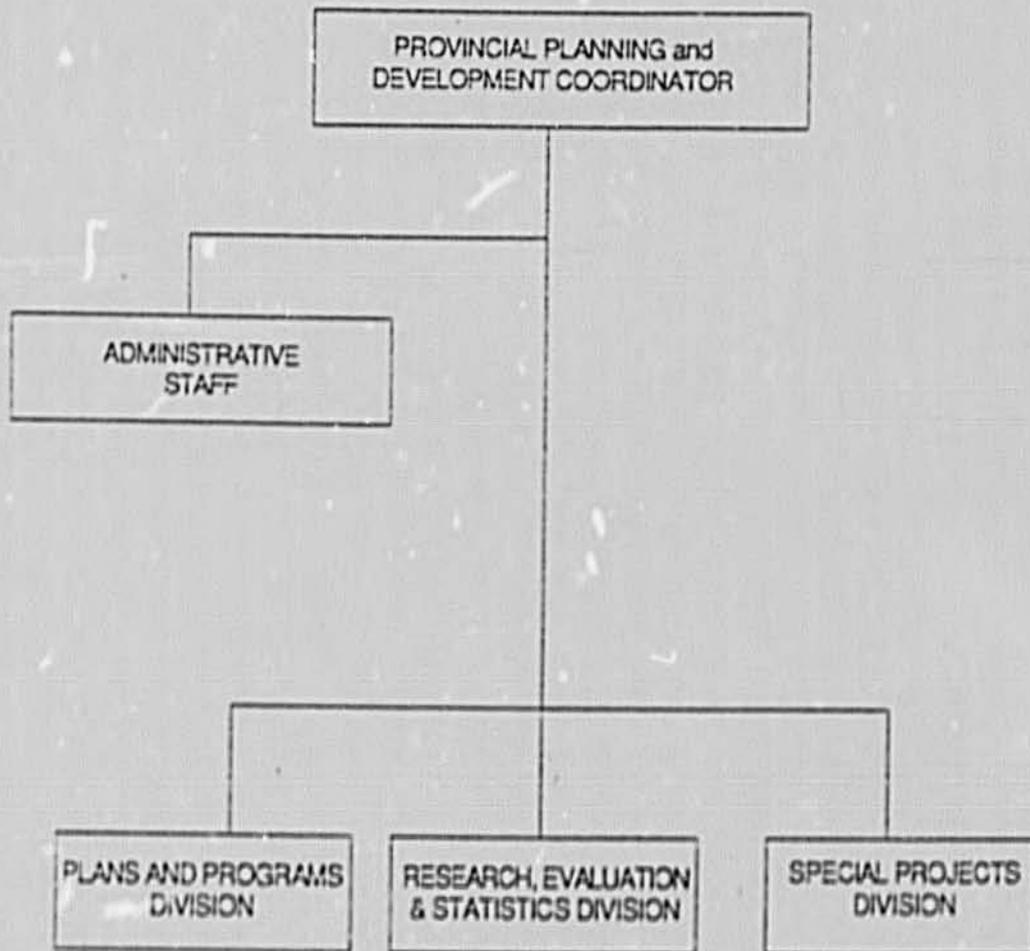


Figure 4. COMPARATIVE ORGANIZATIONAL CAPABILITY
OF PPDO AND PEO AMONG 5 UAC PARTICIPATING PROVINCES
AS OF FEBRUARY 1989

	SOUTH COTABATO	CEBU	AKLAN	ZAMBALES	BENGUET
A. PROVINCIAL PLANNING & DEVELOPMENT OFFICE					NDA
1. TOTAL NO. OF PLANTILLA* POSITIONS	30	56	22	25	
2. PRESENT NO. OF PERSONNEL	27	56	13	20	
• TECHNICAL STAFF	22	41	10	15	
• ADMINISTRATIVE STAFF	5	15	3	5	
3. TOTAL NO. OF UNFUNDED POSITIONS	—	—	9	5	
4. EMPLOYMENT STATUS:					
• PERMANENT	27	39	—	20	
• TEMPORARY***	—	—	13	NDA	
• CASUAL****	—	17	—	NDA	
5. PRESENT NO. OF STAFF WITH UAC TRAINING/INVOLVEMENT	20	1	3	6	
B. PROVINCIAL ENGINEER'S OFFICE					NDA
1. TOTAL NO. OF PLANTILLA* POSITIONS	234**	152	89**	74**	
2. PRESENT NO. OF PERSONNEL	231	152	73	48	
3. TOTAL NO. OF UNFUNDED POSITIONS	—	—	16	NDA	
4. EMPLOYMENT STATUS:					
• PERMANENT	220	152	—	NDA	
• TEMPORARY***	11	—	73	NDA	
• CASUAL****	5	—	—	NDA	
5. PRESENT NO. OF STAFF WITH UAC TRAINING/INVOLVEMENT	21	6	13	10	

*Approved and Permanent Positions
**Does Not Include Casual Personnel

***Contract On a Monthly Rate Basis
****Contract on a Daily Rate Basis

NDA - No Data Available

Figure 5. PEO COMPARATIVE INFRASTRUCTURE EQUIPMENT
 MAINTENANCE CAPABILITY AMONG 5 UAC PARTICIPATING PROVINCES
 AS OF FEBRUARY 1989

	SOUTH COTABATO	ZAMBALES	AKLAN	CEBU	BENGUET
1. PRESENT NO. OF PLANTILLA* POSITIONS PERSONNEL FOR MAINTENANCE	67	49	218	97	NDA
• PERMANENT	61	NDA	—	97	NDA
• TEMPORARY	6	NDA	18	—	NDA
2. PRESENT NO. OF CASUAL MAINTAINENCE PERSONNEL	—	78	200**	—	NDA
3. PRESENT NO. OF EQUIPMENT	87	19	63	97	NDA
• HEAVY EQUIPMENT	76	19	51	36	NDA
• SUPPORT EQUIPMENT	11	NDA	12	61	NDA
4. DEADLINE RATE***	20%	21%	26%	12%	NDA

*"PAKYAW" Group is Contracted for Maintenance

**Approximated Figure

***Currently Non-operational

NDA - No Data Available

- determine criteria for any future USAID assistance as appropriate for the LB/ES sector (also in view of the on-going Local Development Assistance Program (LDAP) design).

Any proposed future support for LB/ES must consider USAID's interim strategy which includes emphasis on decentralization and more immediate rural impact.

II. OBJECTIVE

The evaluation will build on the aforementioned Thomas report. It will be both diagnostic and prognostic, comparing accomplishments against project objectives, identifying key issues and lessons learned. Suggesting next steps and providing actionable and specific guidelines, as appropriate, on how/whether support for the LB/ES sector should continue in some form (such as through LDAP or other options as appropriate).

III. STATEMENT OF WORK

General: The evaluation team will collect data, conduct visits to Upland Access sites, assign and carry out specific evaluation tasks as appropriate, coordinate inputs, and prepare a final evaluation report. The report should follow the guidelines outlined in the AID Evaluation Handbook (Report No. 7 dated April 1987).

Specific: The evaluation will address and make recommendations on:

- A. the operational history of the project and the causes of performance or non-performance of the project's objectives (including the continued relevance of those objectives in 1988);
- B. rural impact and the factors affecting the achievement or non-achievement, including employment from the construction and access from the project (whether a road, footbridge or trail);
- C. the projected status of physical activity as of 9/30/89 recommending alternative courses of action;
- D. detailed criteria, as appropriate, for any future USAID assistance in the LB/ES sector (such as the LDAP approach), emphasizing the shared USAID and GOP goals of decentralization and more immediate rural impact;

- E. related to (c) above, the need for basic infrastructure to drive rural economic recovery and the continued relevance and effectiveness of the LB/ES approach to carry it out, given all the changes in the Philippines since the project was designed; and
- F. the longer-term sustainability of the LB/ES technology for construction (or rehabilitation) and maintenance of provincial minor roads, footbridges and trails.

The conclusions of the evaluation will assist a decision-making process which will conclude the next generation of USAID support for the LB/ES sector, if any. Thus, this evaluation is not a traditional "performance against objectives only" exercise.

To accomplish the above A-F tasks, individual team assignments will provide information in six areas: technical, financial, economic, social, institutional and future support.

A. Technical

The analysis should lead to a clear and detailed picture of the provincial and barangay environment (the context in which LB/ES construction took place) and how effectively the resources of personnel, financing and equipment have been used to design and implement subprojects. This analysis is essential to develop general hypotheses, conclusions, and alternative options about the nature and requirements of LB/ES construction.

1. Review the relevance and adequacy of manuals and procedures for community LB construction. Address the following questions: Do provinces use the manuals (why or why not) and do they see value in the procedures? How would provinces suggest streamlining technical procedures? Would the same procedures and manuals be applicable for the participation of PVO's?
2. Review the LB/ES quality of the project's design standards for roads (construction and rehabilitation), trails and footbridges. Address the following questions:
 - a. Are the design standards being followed during construction? If not, suggest what modification of the standards may be needed. Explore at length whether the standards are reasonable for project costs, construction schedules and design according to the needs of LB construction and low-volume traffic. Should projects be "overdesigned" for

longer-term sustainability given the historical lack of maintenance in the Philippines?

b. Footbridges -- Assess whether current designs are appropriate or what changes are needed, including cost and construction schedules. Is the use of steel wire rope acceptable in lieu of galvanized cables for handrails, fixation and suspension cables? What problems are likely to occur with non-monolithic construction? What surface treatment is necessary for pine lumber?

c. Review construction methods and recommend changes as necessary. Suggest areas for improving construction techniques, as appropriate. Are productivity standards adequate? Review in-depth the pakyaw method of construction, its strengths and weaknesses recommending means of improvement. What are common construction deficiencies and is this to do with labor techniques, design, supervision or lack of appropriate handtools or support equipment (or a combination of factors)?

d. The maintenance system: This should be viewed as a significant area of USAID concern. The use and maintenance of subprojects are perhaps the best and most visible evidence of effective planning, analysis and implementation.

Are the subprojects adequately maintained? Is the current maintenance plan G system sufficient? To what extent is the "lengthman" system used and working. How was it introduced and managed?

Assess thoroughly maintenance costs, needs and resources over a projected life of a road. Suggest what optimal/reasonable mix of labor, equipment and institutional mechanism is needed to carry it out in the long-term.

Assess the feasibility of community involvement in routine maintenance and, if appropriate, define a strategy for it, distinguishing between routine and periodic maintenance needs (relate to lengthman system as appropriate).

e. Examine the environmental impact of construction. Has this area been adequately addressed in design and construction? Suggest any areas for improvement.

B. Financial

This area focuses on financial implementation and its impact on subprojects. Specific concerns are:

1. Assess the reasonableness of subproject costs, including unit and total project costs. Are productivity standards reasonable?
2. Assess the timeliness of cash remittances from USAID, DLC and LGU's. Examine thoroughly and use as a major part of this analysis the recently-completed SGV study on the flow of funds for Upland Access. Determine whether this fund flow problem had a major effect on the performance of subprojects.
3. Analyze the actual construction costs against the actual contributions made and the approved Percentage Payment Agreement (PPA). If the PPA was not an effective financial instrument, suggest other alternative means of more efficiently and effectively financing subprojects. Would, for example, a Fixed Amount Reimbursement have worked better or faster? Would PVOs have been more effective and efficient fund managers than the GOP system?
4. Assess the extent of LGU financial resources for accounting to USAID and DLG.
5. Explore alternative means of locally-generating revenues for maintenance and describe a system of appropriate checks and balances for not only the generation but the actual application of the funds for the longer-term.

C. Economic Impact

This component will determine the short- and long-term economic impact generated by a road, trail or footbridge, including a cost/benefit analysis between LB and equipment-based construction. (The work in this section should complement and build on the economic analyses in the Thomas report and need not duplicate it.) Short-term benefits will focus on the employment and income generated in the local community from construction. Long-term benefits will focus on such factors as (if known and information exists): increased agricultural production, reduces travel time, lowered transport cost for agricultural production, reduced travel time, lowered transport cost for agricultural produce, etc. Specific issues include:

1. Determine short-term impact (quantitative or qualitative) of subprojects. Address the following, as known or information exists: What are the levels of part-time employment generated? How much wages were received by the Community? What were the impacts of cash injection in the local economy? Were there displacements of workers in other sectors during the construction?
2. Contrasting the analyses in the Thomas report, quantify/qualify the long-term impact on the community. This includes determining as and where possible changes in transport cost, travel time, marketing cost, prices of agricultural products, land use, extension services, etc. For rehabilitation..(original not legible)..costs before and after the upgrading. For access roads, did jeepneys enter the area before the road? Do more vehicles offer transport now? Do they charge the same price for transporting different agricultural produce?

Have farmers produced more perishable crops or cash crops? What has been the effect of transport prices in and out of the access area?

3. Cost comparison between LB and ES -- this section will compare in economic values the cost of subprojects using LD and equipment-based construction (refer to the Thomas report for this area).

D. Social Impact

This component will identify impact and changes in the affected communities resulting from the infrastructure. Concerns include:

1. Beneficiary impact: This involves quantifiable and non quantifiable social benefits. This analysis should draw on the large amount of socio-economic data generated for subproject approval (eg. household, barangay and pakyaw surveys). Address the following: Comment on the usefulness of the various socio-economic surveys. Was the information analyzed and used in decision-making? Suggest the minimum necessary socio-economic information, how to generate it and its analysis and use. Who benefited from the subprojects (classification by social strata/interest group if known)? What social benefits resulted during and after construction? In what way did the project impact on cultural

minorities, if known? To what extent have women participated? Were construction workers satisfied with the amounts earned? What has been the impact of roadside (trail, footbridge or road) residents' in improving their perceived quality of life?

2. Community participation: This involves identifying and measuring the extent of community participation. Address the following: What factors motivated the community to participate? How were pakyaw leaders selected? What problems were encountered by the community during planning and construction and how were they handled? What spontaneous activities resulted during/after the subproject construction? Did the subproject result in better integration of the community? Examine closely the effectiveness of the facilitators' role and recommend changes or improvements as needed.
3. Sustainability: How do local officials (particularly the PBO) view the merits of LB construction as a result of this project: Will the province undertake LB construction for minor infrastructure projects using their own funds? Is long-term sustainability of this technology necessary or is the shorter-term impact of the infrastructure provided, and the employment and income gained, more important? Is the community willing to undertake maintenance on their own? Has their participation in the pakyaw system contributed to this willingness?

E. Organization and Management

The area focuses on the capacity developed for LB construction at DLG, the province and local communities. Recommend changes as appropriate to better respond to current needs in the Philippines.

1. The human element of LB construction requires a heavy management load since people replace machines and require supervision.

Productivity norms require periodic adjustment and worker output must be recorded and monitored. Review the management capacity of provinces for LB construction and attribute the causes of strength and weaknesses in this area. The quality of the management should be a function of the structure (allocation of tasks and responsibilities among people) and the management process (the way decisions are made within this structure). Using

this review, discuss the difference in management capacity, and the reasons for it, between provinces.

2. Review the overall relevance and effectiveness of the organizational structure, its strengths and weaknesses. Is there a role for the Provincial Development Council and municipal officials? Can PVO's participate?
3. Management: What are the current problems/weaknesses of the management practices? How can it be improved? Is there a willingness to change?

F. Future Support

The results of the evaluation will help guide decisions on the next generation of USAID support for the LB/ES sector, if any. In that context, it will also help align the project with USAID's strategic goals on decentralization and more immediate rural impact. The team will address the following issues only if a basic recommendation is made to continue support for LB/ES activities in some form. (The issues will cut across individual team assignments.) The team will need to understand the enabling/constraining characteristics of what exists first before it can suggest how the future may look.

The team will also be guided by an on-going objective to consolidate the USAID portfolio and concentrate USAID resources on those projects and programs having the greatest (and quickest) impact on the income and well being of poor rural Filipinos. Toward that end, the team will assess options and recommend a strategy for USAID's continued involvement, if appropriate, in the LB/ES sector.

1. Among other factors, there are two key shortcomings effecting a heavy DLG and USAID transaction cost for each subproject:

-Construction funds are released on a subproject basis, in two to percent tranches. The method is slow, management intensive and ineffective (construction invariably stops because the second tranche does not reach in time).

-DLG and USAID are involved in a lengthy and equally management intensive review and approval process for each subproject.

a. Given these factors and the need for decentralization and short-term rural impact, recommend what changes are needed, and the means for carrying them out. Describe any other significant

factors that influence project performance and future potential for decentralization and faster rural impact. This information is essential to ensure any further LB/ES support is based on a sound understanding of present conditions.

b. To decentralize and achieve faster rural impact of this activity, describe in detail the nature and requirements of USAID's assistance.

What will be the decision-making process, how will funds flow and how will the review and approval of subprojects work?

c. Suggest a short- and medium-term strategy for the next generation of USAID support for LB/ES as appropriate. Factor into this strategy the varying capacities of provincial government: Identify and discuss the reasons for it. What does this mean for when decentralization should occur? Can the stronger Upland Access provinces become a "springboard" for the next generation of support?

2. Should the activity continue to use the traditional pakyaw method of contracting? Describe why the method has been successful or not. Is, for example, the local community more willing to maintain a road they built through pakyaw? What is the transaction cost or management load of pakyaw? Is there a role for the private sector in either the review and approval of subprojects or in site supervision?
3. A sound maintenance program must be an integral part of an overall LB construction/rehabilitation program. Examine DPWH policies and practices for barangay and provincial road construction and maintenance to determine how these affect the activity and can be either modified or improved by a continuation of the activity.

a. Low volume LB roads require frequent maintenance.

Since the history of maintenance in the Philippines is very poor, should fewer roads be constructed but to much higher (therefore more costly and possibly not LB) standards since the road would require less maintenance and last longer?

b. In a community maintenance program (such as the "lengthmen" system), identify what local government support (e.g. supervision, motivation, technical advice, training) is needed to carry it out.

4. Analyze the DLG/USAID review and approval process. Has this had a significant effect in improving the quality of subproject plans?
 - a. Was such a centralized subproject review and approval system necessary as part of the project's learning curve before decentralizing the process?
 - b. To decentralize, define precisely the minimum accountability and management oversight requirements for DLG and USAID. Redefine the role of DLG for decentralization.
 - c. Assess current documentation requirements (social and technical): is the information essential and, if so how does its analysis and use contribute to management decisions? If not, suggest what documentation should any negative findings that may adversely affect decentralizing this project.
 - d. In consultation with the USAID engineers, determine, given our engineering requirements, how far decentralization can be pushed in this project.
5. Recommend how greater flexibility can be introduced into the programming of project funds while still satisfying GOP and USAID financial accountability requirements. One major area of concern is the high DLG and USAID transaction cost for approving and funding discreet, small activities.
 - a. Could the province contract with local PVO's who could act as intermediaries for the pakyaw construction and be responsible for "blocks" of subprojects? Is the absorptive capacity of PVO's necessarily any better than the existing GOP system?
 - b. Can provinces propose LB "programs" rather than discreet subprojects? How would a program (or PVC) mode satisfy USAID engineering requirements? Can Provincial Development Councils become the focal point for deciding infrastructure priorities?
 - c. Draw significantly on the flow-of-funds recommendations in the November 1988 SGV report. Can funds be released annually to provinces?
6. Upland Access operates in 15 provinces of which seven were added only in May 1988.

Is this activity ready to spread to more provinces? What are the pros and cons of increasing participation? Suggest a team recommendation and the steps for carrying it out. If the team recommends increasing participation, suggest the steps necessary to shorten significantly the learning curve of new provinces for identifying, planning and executing LB/ES activities.

G. Methodology

The evaluation will use available data from USAID, DLG, and the provinces. Major documents as the project paper supplement, manual of operations, specific plans and designs, barangay surveys, and socio-economic reports and other documents will be examined.

During the evaluation, field trips will be made to selected provinces/subprojects to undertake key informant survey. For field work, USAID and DLG will select sites representative of success, failure, and geographic, ethnic, and socio-economic diversity, including a mix of roads (new construction or rehabilitation), trails and footbridges completed or under construction. Other data generation techniques to supplement and/or validate available information will be undertaken as necessary.

H. Team Composition

A four-person team is planned--three expatriates and one local national as follows:

Expatriate:	1-Institutional Specialist (Team Leader)
	1-Engineer (Specialist in LB construction)
	1-Public Finance Economist
Local National:	1-Local Government Specialist

Two host country contractors for the project, a social science advisor and a civil engineer, will be key resource people for the team. The team leader will be responsible for assigning and scheduling work, writing the abstract and narrative sections of the AID evaluation summary form, finalizing, revising as necessary and submitting the final evaluation report and debriefing USAID and designated GOP counterparts on the findings.

I. Duration

The evaluation team will be in country five weeks.

J. Reporting Requirements

The report will follow Chapter 12, Handbook 3 and AID Evaluation Handbook (No. 7 p. 26-27 and p. 30-32). A draft report shall be prepared at the end of the 4th week for review and comments of USAID/Manila. It will contain a concise executive summary, with well-focussed, actionable recommendations following the required AID format. To assist in a decision-making process, the narrative report will be organized around the recommendations and the relationship, in any, between the goals of decentralization and more immediate rural impact and any recommended next generation support for the LB/ES sector. The report will use the following outline:

- executive summary: not more than 3-4 p. single spaced; (recommendations should respond to conclusions with actionable steps and a suggested timetable for implementing them);
- project identification data sheet;
- table of contents;
- body of report: describe context in which project was developed and implemented; provide information (evidence and analyses) on conclusions and recommendations; not more than 40 single-spaced pages with remainder as appendixes as needed; and
- appendixes: scope of work; log frame; bibliography of documents and people contacted; and methodology of the evaluation.

APPENDIX G
LOGICAL FRAMEWORK

Life of Project: 5 years
From FY 84 to FY 88
Total U.S. Funding: \$2.0 Million
Date Prepared: June, 1983

ACT TITLE & SUPPORT: Inland Access (Component) Rainfed Resource Development (P91-0264)

Active Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Program or Sector Goal			
The RRD Logical Framework is on page 17.			
Project Purpose: To test the feasibility of addressing inland access constraints by strengthening provincial capabilities to assist rural barangays plan and undertake the construction and maintenance of inland minor roads, trails and foot bridges, using equipment-supported, labor-based technology.			
Intermediate Project Status			
1. Six to nine provinces working with inland barangays in the effective planning and construction of community-managed rural access projects utilizing labor-based methods of construction. Access to approximately 100 barangays improved.		<ul style="list-style-type: none"> - Reports from monitoring and evaluation contractor - Periodic panel appraisals - Impact Evaluation 	<p>The design of this activity is built around several basic principles and assumptions. The key assumptions are:</p> <p>a. Given the present and near-term financial constraints of the national government, this activity must seek to maximize the use of local resources.</p> <p>b. Construction and maintenance activities must seek to maximize rural resources (education, employment and rural income) through utilization of labor-based methods.</p> <p>c. The development of access to inland areas requires a different approach than previously utilized in the lowlands due to several unique factors. They include:</p> <ul style="list-style-type: none"> - the potential for mobilization by landowners, particularly in the area of logging; - the use of the inland as base area for anti-government insurgents; - inland are the primary location of many indigenous minority groups. <p>d. There is a potential for negative environmental impacts if project activities are not properly planned and monitored.</p> <p>e. The self-selection of local communities by having to meet certain criteria will obviate possible weak and poor projects.</p> <p>f. Cooperation by RPN and RFD in project implementation.</p> <p>g. Provincial engineering staff and SDDPM staff have interest and will actively promote labor-based, community management approaches.</p>
2. Completed projects being maintained, primarily by the concerned barangay residents--with assistance from local government.			
Project Outputs			
1. Provincial engineering staff and community trained in the planning and implementation of community managed sub-projects utilizing labor-based technology.	Number to be determined	<ul style="list-style-type: none"> - Quarterly reports from provinces - Evaluation reports, monitoring and - Visual inspections 	<p>g. Provincial engineering staff and SDDPM staff have interest and will actively promote labor-based, community management approaches.</p>
2. Manuals and other documents detailing processes and procedures for realization.	Various		
3. Small equipment pools for labor-based construction.			
4. Inland construction			
Inland roads constructed	<ul style="list-style-type: none"> - 150 km roads - 150 km trails - 30 mwh 		
Maintenance plan	<ul style="list-style-type: none"> - comprehensive plan - subproject plans 		
5. Environmental Action Plan	<ul style="list-style-type: none"> - comprehensive plan - subproject plans 		
Project Inputs			
USGID Inputs (\$000)			
1. Technical Assistance		<ul style="list-style-type: none"> - Reports from procurement agent and receiving reports - Ref/bureaucracy request from USG - Completed T.A. contracts - Visual inspections - Field reports 	<ul style="list-style-type: none"> - USG : cost available on timely basis
- U.S. Short Term	\$ 50 3 person months		
- Long Term	200 24 person months		
- U.S.	125 144 person months		
- Filipino	75		
2. Training	25 various		
3. Commodities	5.25 tools and equipment for 64 provinces		
4. Construction/maint.	1,870 (as indicated above)		
5. Evaluation	50 See Evaluation plan		
OPM Inputs (\$000)			
Direct Costs:			
1. Training	\$ 45 various		
2. Equipment	30 local hand tools		
3. Construction/maint.	1,800 As indicated above		
4. Evaluation	25 See Evaluation plan		
Indirect Costs:			

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APPENDIX H

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APPENDIX I

PERSONS CONTACTED

- USAID:
- | | |
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| 1. Malcolm Butler | - Mission Director |
| 2. John S. Blacton | - Deputy Director |
| 3. Kenneth A. Prussner | - Chief, ORAD |
| 4. Charles R. Rheingans | - Chief, RDD/ORAD |
| 5. Jane Nandy | - Project Officer, RDD/ORAD |
| 6. Paul Deuster | - Program Economist |
| 7. Leroy Purifoy | - Deputy Chief Engineer/OCD |
| 8. Jean DuRette | - Project Officer, PDID/OCD |
| 9. Leonardo Dayao, Jr. | - Program Specialist, ORAD |
| 10. Sulficio Roco | - Program Specialist, PO |
| 11. Armando Feliciano | - Program Specialist, OCD |
| 12. Rene Camina | - Program Specialist |
- DLG:
- | | |
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| 1. Cesar Sarino | - Undersecretary |
| 2. Andres V. Sanchez | - Assistant Secretary |
| 3. Rosalina de los Santos | - Unit Head, UAU |
| 4. Lily Hidalgo | - Social Science Advisor, UAU |
| 5. Edgar Agana | - Local Engineer Advisor, UAU |
- Province of Benguet:
- | | |
|------------------------|---|
| 1. Dr. Andres Bugnosen | - Provincial Governor |
| 2. Aning Binayan | - Provincial Engineer |
| 3. Bial Palaez | - Provincial Planning & Development Coordinator |
| 4. Wright Molintas | - Provincial Treasurer |
| 5. Pablo Wagtingan | - Provincial Auditor |
- Province of Zambales:
- | | |
|-----------------------|---------------------------------|
| 1. Amor Delloso | - Provincial Governor |
| 2. Leticia Dollete | - Supervising Engineer, OIC/PEO |
| 3. Francisco Martinez | - Provincial Auditor |
| 4. Francisco Alcala | - Upland Access Engineer |
| 5. Manlicmot | - Upland Access Engineer, PEO |
- Province of Cebu:
- | | |
|--------------------|-----------------------|
| 1. Emilo Osmena | - Provincial Governor |
| 2. Adolfo Quirroga | - OIC, PEO |
| 3. Edgar Sibonga | - Consultant, PPDO |
- Province of Aklan:
- | | |
|-----------------------|----------------------------|
| 1. Corazon Cabagnet | - Provincial Governor |
| 2. Florencio Gonzalez | - Provincial Administrator |
| 3. Victory Fernandez | - Provincial Engineer |

Province of South Cotabato:

1. Ismael Sueno
2. Gregorio Serisola
3. Danil Supe

- Provincial Governor
- Provincial Engineer
- Provincial Planning & Development Coordinator