

PD-AAZ-980

632 000

A.I.D. PROJECT NO. 497-0353

Loan and Grant Agreements

FM, DMD (if Loan)

FM, PAFD

FM/CAD

GC/ANE

ANE/Desk

ANE/TR Officer

ANE/PD Officer & File

PFC/CDIE/DI

AMENDMENT NO. 2 TO  
PROJECT GRANT AGREEMENT  
BETWEEN THE  
REPUBLIC OF INDONESIA  
AND THE  
UNITED STATES OF AMERICA  
FOR  
RURAL ROADS MAINTENANCE SYSTEMS

DATED: August 23, 1989

Dated: August 23, 1989

This AMENDMENT No. 2, is entered into between the REPUBLIC OF INDONESIA ("Grantee") and the UNITED STATES OF AMERICA, acting through the AGENCY FOR INTERNATIONAL DEVELOPMENT ("A.I.D.").

WHEREAS, the Grantee and A.I.D. entered into a Rural Roads Maintenance Systems Project Grant Agreement on August 31, 1987 which was amended on May 9, 1989 ("Grant Agreement"), whereby A.I.D. agreed to grant to the Grantee not to exceed Five Million Six Hundred Twenty Thousand United States ("U.S.") Dollars (\$5,620,000) ("Grant");

WHEREAS, pursuant to Section 2.2 of the Grant Agreement, the Grantee and A.I.D. desire to amend the Grant Agreement, to provide an additional increment of A.I.D. funding of One Million Four Hundred Fifty Four Thousand United States ("U.S.") Dollars (\$1,454,000) for the Project, and to make other changes in the Grant Agreement;

NOW, THEREFORE, the Grantee and A.I.D. hereby agree as follows:

1. Section 3.1. of the Grant Agreement is revised to read as follows:

"SECTION 3.1. The Grant. To assist the Grantee to meet the costs of carrying out the Project, A.I.D., pursuant to the Foreign Assistance Act of 1961, as amended, agrees to grant to the Grantee under the terms of this Agreement not to exceed Seven Million Seventy Four Thousand United States ("U.S.") Dollars (\$7,074,000) ("Grant").

The Grant may be used to finance foreign exchange costs, as defined in Section 6.1, and local currency costs, as defined in Section 6.2., of goods and services required for the Project."

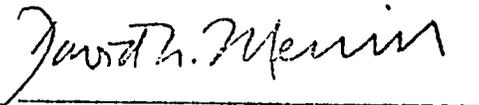
a

2. A revised Annex I, Amplified Project Description, including an Attachment 1 thereto, Budget Summary, is attached to this Amendment No.2, and is hereby substituted for the Annex I which is currently part of the Grant Agreement.

3. Except as expressly amended herein, the Project Grant Agreement is unchanged and, as amended, remains in full force and effect.

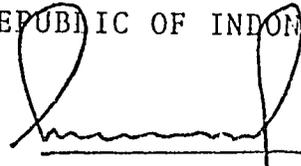
IN WITNESS WHEREOF, the Grantee and the United States of America, each acting through its duly authorized representative, have caused this Amendment No. 2 to be signed in their names and delivered as of the day and year first above written.

UNITED STATES OF AMERICA



\_\_\_\_\_  
David N. Merrill  
Director  
USAID/Indonesia

REPUBLIC OF INDONESIA



\_\_\_\_\_  
Nugroho  
Secretary General  
Department of Home Affairs

*slu*  
*12-19/3-07*

AMPLIFIED PROJECT DESCRIPTION  
RURAL ROADS MAINTENANCE SYSTEMS PROJECT

I. DESCRIPTION

1. Project Purpose

The purpose of the project is to establish effective and financially sustainable systems to maintain and manage district roads. The project will focus on a total of eleven districts in South Sulawesi and Nusa Tenggara Timur (NTT), nine at first with two added later. The life of the project will be eight years.

2. Project Approach

A sustainable system for maintenance and management will require: establishing a planning framework for roads in each district, developing procedures and skills to implement road work effectively, and expanding the financial base to maintain the networks over the long term.

The planning approach to be applied will be to promote the establishment and maintenance of economically viable road networks which support the economic and social development of districts. The primary challenge in implementing an improved planning approach will be to achieve the reconciliation of three things: first, network size and condition; second, the level of service desired from different links (according to traffic density) in the network, and third, the availability of funds.

Establishing the planning framework will take the first three and one-half years of the project and will proceed in accord with the above sequence. First, existing district networks and the demand for road service will be identified by condition and traffic surveys. Second, working priorities will be established along the following general lines:

- ° highest traffic roads (which will comprise a Very Important Network, a VIN, in the desired network) will be eligible for rehabilitation to design standards appropriate to the level of traffic (AID funds will assist to rehabilitate roads in this category only). Maintenance will be performed on all roads in this category which are in maintainable condition.
- ° lower traffic roads within the desired network will receive second priority. Within the constraint of funds available to the district, the length of roads in this category may be small or large and the road repair determined by a cost minimization approach to assuring year-round access. Maintenance will also be performed on all roads in this category which are in maintainable condition.

- ° roads which do not qualify for inclusion within the desired network will be given lowest priority and may be assigned to other government administrative levels. Conventional maintenance will not be conducted on roads in this category since they will be below maintainable standards.

The third step will be to determine the projected financial capability of the district to sustain its network which will determine the amount and type of work which can be done and, hence, the size of the desired network.

While the planning framework is being established, DPUK\* skills and procedures for effective management and maintenance of their networks will be developed. The project will assist DPUKs to: monitor road and traffic conditions; apply a simple Maintenance Management System (MMS); implement maintenance effectively; design rehabilitation work to acceptable standards; control the performance of contractors; control materials quality; and manage equipment efficiently. The project will encourage institutional improvements to develop: a program for Province Public Works Offices (DPUPs) to provide active technical support and guidance to DPUKs; job definitions and work plans for DPUK road divisions and staff; measures of staff performance for maintenance and equipment; and improved organizational structure and incentives for all road operations.

Since the financial base for district road work determines the size and quality of network a district can sustain over time, increased funds, particularly for maintenance, are necessary if road improvements are to last. The project will assist to increase maintenance funds by exploring the potential to transfer increased responsibility for financing maintenance to the districts themselves. Pilot revenue generation or revenue sharing arrangements will be initiated in selected districts.

To assist in resolving key financial, economic and institutional constraints, the project will fund a series of Special Studies analyzing selected problems and recommending policy improvements to key GOI decision makers for the sector.

Implementation will be phased: for the first three and one-half years (Phase I of the project), rehabilitation and maintenance programs will begin in nine of the eleven districts. The end of Phase I will be a point for review and decisions on key issues including the definition of desired networks and VIN, district equipment policy, additional equipment procurement to replace deadlined units, and decisions on DPUK organization and staff needs for the future. Districts which have done well in conducting maintenance and managing equipment may be assisted to accelerate rehabilitation work in Phase II while rehabilitation may be slowed down for those which have done poorly. The end of Phase I will

---

\* District Public Works Offices in South Sulawesi, or Cabang Dinas in NTT

also be the time by which pilot revenue efforts must be initiated and the testing of alternatives to force account maintenance will be underway.

Emphasis will be placed on monitoring and evaluation to identify successes and failures and adjust implementation accordingly.

### 3. Project Outputs

The outputs of the project will be the core elements of a sustainable program for management and maintenance of the networks:

- a) Systems to Establish Work Priorities: the systems established by the project will have several characteristics. First, a higher priority to maintenance than at present. Second, procedures to select links for rehabilitation which prioritize high traffic roads. Third, the use of traffic volume to determine the standard for rehabilitation. Fourth, the application of maintenance in accordance with the condition of road features and the relative cost effectiveness of different maintenance tasks.
- b) Systems to Balance Budget Resources with Network Needs: balancing budget resources with network needs involves reconciling three variables: funds, network size, and the level of service desired for different links in the network. The immediate need is for sufficient funds to maintain the "maintainable" roads in each district. Under the project, the GOI will provide funds for maintenance which exceed the current 25% earmark of Inpres Dati II (see discussion of Road Maintenance below). The project will also initiate local revenue generation/sharing experiments so that districts begin to assume increased responsibility for funding maintenance from their own resources.

In the long term, planning approaches are required which incorporate all three variables. During Phase I, the project will develop: network management models incorporating and clarifying the Very Important Network and desired network concepts; guidelines for the growth or contraction of networks; alternative approaches to low-priority roads. The models developed will be applied during the second half of the project.

- c) Procedures and Skills for Effective Implementation: DPUK procedures and staff skills will be developed to monitor road and traffic conditions, select links for rehabilitation and determine optimal levels of investment for each, conduct a maintenance management system, operate an equipment management system, supervise contractors and force account crews, and test soil and materials. In addition, alternative means of conducting maintenance (force account, the roadman system, contractors, community initiative) will have been tested and will be being applied as appropriate. New contract formats and improved supervision procedures for controlling contractors' performance will be tested.

- d) Organization and Incentives for Effective Implementation: a variety of improvements will be implemented in each district to improve DPUK staff effectiveness. These include:
- ° a program for DPUP staff to guide and support the technical performance of district road operations;
  - ° distinct units in each DPUK for road maintenance and workshops;
  - ° defined tasks and procedures for key DPUK organizational units and job descriptions for key staff;
  - ° critical staff positions occupied by permanent employees;
  - ° performance standards for maintenance management and equipment management established and used to plan and control staff and equipment time and performance.

Benchmark measures of progress toward the institutional improvements sought under the project will be mutually agreed upon. These will be incorporated in annual program/budget documents and progress in meeting them reviewed at least annually. An overall framework for identifying and measuring progress on institutional goals of the project will be agreed to prior to the GOI 1989/90 financial year. Progress in meeting these benchmarks will be factored into AID's decision to move ahead with each year's rehabilitation plan.

#### 4. Project Inputs

In order to achieve these outputs, the project will finance the following inputs:

- a) Road Rehabilitation: AID funds will assist to rehabilitate a core network of economically viable roads in each district. It is expected that a total of 1,600 km. of road will be rehabilitated. The selection of links will be made each year by DPUK and Bappeda staff for approval by province and central government authorities and by USAID. Selection will be based on internal rates of return (IRR) as measured by traffic volume and calculated by means of the IBRD Simplified Method Tables modified to local conditions. It is anticipated that a 10% IRR will be used. The Simplified Tables will be updated periodically by the Department of Public Works Directorate General of Highways (DGH) to reflect changing costs.

Designs will be based on the standards for district roads issued by the DGH in August, 1986 unless otherwise agreed by USAID and the GOI in writing. Each design will be approved by project field consultant engineers. Additional guidelines for drainage, acceptable to AID, will be developed by the DGH before the first year's rehabilitation program begins.

Rehabilitation will be conducted by contractors registered within the project provinces. To assure that contractors have the equipment and staff to meet design requirements, it is anticipated that Class B<sub>1</sub> contractors will be the minimum class eligible to bid. In one district per province a Model Force Account Crew will be formed to conduct, for training purposes, some of the rehabilitation work in the two districts.

Rehabilitation costs will be shared. AID will pay 80% and the GOI 20% of the total cost of each eligible link rehabilitated. It is anticipated that GOI contributions will be made from each district's Inpres Dati II budget. The districts will have significant amounts of Inpres Dati II left over. Following mid-project agreement on the Very Important and desired network model, left over Inpres Dati II or other Inpres funds used by the districts for non-project road work will be allocated according to the mutually agreed upon model.

- b) Road Maintenance: the maintenance component of the project will determine the most effective ways for districts to:
- determine the maintenance requirements of their networks;
  - prioritize maintenance tasks in order of their cost effectiveness;
  - plan and budget for annual maintenance programs;
  - manage labor, materials and equipment to implement maintenance;
  - evaluate the effectiveness of their programs and make improvements accordingly.

The project will assist each district to develop a simple Maintenance Management System. The main elements of the MMS will be:

- periodic condition inventories, to list and update the condition of features (pavement, shoulders, bridges, etc.) of the network;
- a list of maintenance tasks, arranged in order of cost-effectiveness in sustaining road condition;
- "Performance Standards" for each maintenance task which define the resources and the time required to complete each task for a given unit of work (kilometer of ditch, meter of bridge, etc.).

Each district will develop Annual Road Maintenance Plans which identify, for the upcoming fiscal year, the road features to be maintained and the tasks to be performed. The Plans will budget for equipment, personnel, and materials and will be used to monitor and control maintenance work in the field. The Annual Maintenance Plan will project the future recurrent costs of the year's rehabilitation program and will be approved by USAID before AID funds are committed for the year's road rehabilitation program.

Maintenance will be applied to roads in maintainable condition. Initially, roads in "good" condition will receive first priority and roads in "fair" condition second priority. Once Maintenance Management Systems are in place, the MMS will determine how maintenance funds are allocated. It is anticipated that by the end of the project at least 1,600 km. of road will be receiving maintenance on a continuous basis.

All maintenance will be initially performed by Force Account crew(s). Although Force Account crews will conduct some maintenance through the life of the project, alternatives will be tested in order to determine the most cost-effective approach. By the end of the first 18 months of the project, the GOI and AID will develop a plan of action to test such alternatives. These will include at least: contracting to small firms (e.g., C2 and C3), the roadman ("mantri jalan"), and reliance on local community groups to maintain their own roads.

Maintenance will be fully GOI financed. For the first full fiscal year of the project (1988/89), the source of maintenance funds will be the 25% of Inpres Dati II currently earmarked for maintenance. Funding requirements will begin to exceed the 25% Inpres earmark in 1989/90 and will grow each year as more roads are rehabilitated. These requirements in excess of normal Inpres levels will be met from other GOI funds. The anticipated need will be as follows:

<u>Year</u>	<u>Anticipated Maintenance Funds Available from Inpres Dati II</u>	<u>Additional from other GOI Sources</u>	<u>Anticipated Total GOI Funding</u>
1989/90	\$ 669,000	\$ 300,000	\$ 969,000
1990/91	\$ 682,000	\$ 450,000	\$1,132,000
1991/92	\$ 696,000	\$ 600,000	\$1,296,000
1992/93	\$ 710,000	\$ 750,000	\$1,460,000
1993/94	\$ 724,000	\$ 900,000	\$1,624,000
Total	\$3,481,000	\$3,000,000	\$6,481,000

A technical meeting will periodically review the progress of maintenance programs and recommend improvements. It will be based in the respective DPUPs. Participants will include representatives of the DGH, Bangda, and one or more DPUK chiefs.

To increase the awareness of maintenance, the project will prepare a series of articles for Indonesian engineering journals on maintenance of low volume roads and videotape materials, explaining maintenance, will be produced and used in and beyond the project area. These activities will be assisted by consultants and supported with AID funds. Project consultants will assist to prepare a Maintenance Manual for districts.

- c) Workshops: district workshops will perform preventive maintenance, adjustments and minor repairs (DGH Level II and III) for DPUK equipment. Major repair work will be referred to province-level Public Works workshops (ALKALs) or private repair shops.

It is expected that seven workshops will be upgraded during the first phase of the project, two more in Phase II. The estimated value of the existing workshops (\$500,000) is attributed to the GOI as a contribution in-kind. The estimated construction cost of upgrading is \$32,000 per workshop. AID will pay for the contracted cost of upgrading. GOI funds will cover Public Works supervision and taxes.

The project will construct new workshops in Phase I in two districts. It is expected that an existing DGH workshop design will be used with modifications. The estimated cost is \$82,000 per workshop. AID will finance the contracted cost of construction. The GOI will pay for land, Public Works supervision and taxes. The DGH will prepare final designs for both workshop upgrading and new workshop construction. USAID approval of final designs will be required.

For all workshops, the GOI will finance the costs of personnel, materials and supplies. These are estimated to total \$700,000 over the life of the project. Each workshop will implement an Equipment Management System (EMS) which will be based on ALKAL systems but simplified and adapted for district use. The EMS will be used to monitor equipment use, condition, operating and maintenance costs, and the efficiency of management of equipment in the field.

- d) Equipment: Maintenance equipment will be provided to each district's maintenance crew and a rehabilitation fleet to the two districts which will operate Model Force Account Crews for rehabilitation. All districts will receive support equipment for transport to sites and condition surveying and all will be provided with workshop equipment. Small amounts of miscellaneous equipment including materials testing tools, drafting tables and surveying instruments will be supplied.

Equipment already in the districts and in good operating condition will be used. It will remain in its present locations. Since most of it will be at the end of its useful life around the mid-point of the project, it will be necessary to replace it at that time. Thus, a procurement at the beginning of the project and one around the fourth project year are anticipated. This fourth year coincides with the expected expansion of the project to two additional districts so the procurements will be joined. It also coincides with the end of an expected International Labor Organization (ILO) sponsored project which will test appropriate technology tools for low-volume roads. The results of the ILO project will be reviewed before the mid-project procurement.

Project equipment will, initially, be controlled by the Department of Public Works but assigned to the districts. A review of this arrangement will be part of a Special Study (below) of DPUK equipment policy. Transfer of equipment control to the districts may be considered once this study is complete.

The estimated new equipment requirement is \$9.6 million of which about \$3.7 million is needed at the beginning of the project and \$5.9 million halfway through the project. This will complement an estimated \$3.6 million of existing equipment which is budgeted as a GOI in-kind contribution. AID funds of \$6.9 million and GOI funds of \$2.7 million (PL 480 Title I proceeds) will finance the total cost of new equipment.

- e) Equipment Maintenance: an equipment maintenance budget will be provided yearly by the GOI. The total estimated cost, \$2.1 million (\$2.0 from PL 480 Title I proceeds, \$0.1 in additional allocations), will be a GOI responsibility and will be budgeted beginning in 1988/89 in accordance with need as defined by district equipment management systems.

Equipment maintenance funds may be programmed to the ALKAL to pay for servicing DPUK equipment and/or allocated to the DPUK to purchase repair services. These and other alternatives will be analyzed in the Special Study on equipment policy. Project consultants will recommend an interim arrangement to be used for the early years of the project.

- f) Training: The project will provide short-term, long-term and on-the-job (OJT) training in planning, technical and equipment management skills. It is expected that all training will be conducted in Indonesia. The primary emphasis will be short-term and on-the-job training targeted to DPUK staff. AID funds will finance all training costs except for honoraria which will be the responsibility of the GOI.

Initially the project will utilize the existing DGH courses for DPUK staff and, for equipment, training from equipment suppliers. A review of training needs, conducted by the consultant Training Advisor in 1989, will consider: increased use of DPUP and ALKAL staff to train DPUK personnel, increasing the field-orientation of courses and, ultimately, conducting training in the districts themselves. An important training tool throughout the project will be the Model Force Account Crew in each province: DPUK staff from other districts, particularly contractor supervisors, will work with the Crew on a rotating basis under the supervision of an experienced consultant Works Supervisor.

Long-term training will be less important but up to two undergraduate civil engineering degrees per district will be financed for DPUK staff at the level of Section Chief or above,

and up to eight Masters (or S2) level degrees in road management, planning, transport economics or related fields will be funded for DPUP, Bappeda, DGH or Department of Home Affairs staff involved in district road programs.

- g) Technical Assistance: it is anticipated that AID funds of \$13.8 million will finance an estimated 47 person-years of expatriate assistance (4 persons for 5.5 years each, others for shorter periods) and 150 person-years of Indonesian technical assistance (19 persons for 5.5 years each, others for shorter periods).

The majority of technical assistance will be provided under a long-term contract which will supply services to the district, provincial and national levels. The anticipated major responsibilities of consultants are described below. At the district level, local engineers in each DPUK will assist with design, civil works supervision and equipment management. A Works Supervisor will be attached to each of the two Model Force Account Crews. The function of each province-level team will be to oversee development of maintenance systems, rehabilitation skills, and equipment and workshop programs within their province and to develop a support role for their DPUP counterparts in these areas. Province-level consultants will review all Annual Maintenance Plans and each road rehabilitation design and will certify completed rehabilitation work. The function of the national-level team is overall project management with a particular emphasis on policy development and the direction of institution-building activities. It is expected that the Chief of Party will be a senior road engineer with extensive experience in road policy, planning and management.

- h) Planning and Monitoring: AID funds of \$250,000 will finance three activities related to project planning and monitoring. Approximately \$75,000 will be used to finance Phase I DPUP staff expenses to monitor and support the DPUKs' technical performance. This experimental activity will help to operationalize the new DPUP-DPUK relationship and demonstrate the benefits of timely support in the field. AID funds will be used for travel and per-diem costs only. The GOI will assume the cost for Phase II of the project. An estimated \$80,000 will finance the costs of travel and per diem for the DPUKs to update traffic and condition surveys during Phase I of the project. The GOI will also assume this cost for Phase II of implementation. Finally, approximately \$95,000 will finance the life-of-project costs for an annual budget preparation meeting in each province.

- i) Special Studies: A \$1.5 million of AID funds will finance a program of studies into particular problems for maintaining and managing district roads. Each Study will result in recommendations for improved policy or procedures and will be presented to the Chairman of Bappenas and the Director of USAID. Bappenas and USAID will arrange a subsequent forum for further

discussion of Study results between representatives of GOI departments including Departments of Home Affairs, Public Works and Finance. This group will approve each year's agenda of topics, review the prior year's work for action, and consider broader application of the findings of studies. Other donors involved in supporting local roads will also receive and participate in the review of studies conducted as appropriate so that their results can most effectively be considered and applied.

Several Special Studies will be conducted by the resident long-term consultant team. Consultant assistance not available through the long-term contract will be financed from the Special Studies fund. Special Studies funds will also be used for limited field trials of new techniques and procedures. Resident consultants will recommend an agenda of topics each year and will prepare background materials and assist to draft scopes of work for studies performed by outside parties.

The program will include at least topics in the following areas (Studies expected to be performed by the resident consultants are marked with an asterisk):

- ° Local Revenues for Maintenance
- \* ° Sustainable District Road Management Strategies
- \* ° Alternative Approaches to Conducting Maintenance
- ° District Equipment Policy
- ° Budget Procedures and Work Delays
- ° Role of Private and Public Sectors in District Road Programs

Terms of reference for Studies will be mutually agreed upon between USAID and the GOI.

## II. IMPLEMENTATION

### 1. Implementing Agency

The Directorate General for Regional Development (Bangda) in the Department of Home Affairs will have overall responsibility for the project. For technical and road planning or policy matters, Bangda will be assisted by the Directorate General of Highways in the Department of Public Works in accordance with GOI regulations.

### 2. Project Phasing

Phase I: During Phase I of the project, maintenance and rehabilitation will start in nine districts (seven in South Sulawesi, two in NTT). Special Studies will focus on the institutional and financing issues which must be resolved before project activities continue into Phase II. Project TA at the province level will develop effective

procedures for DPUP staff to support the development of DPUK capabilities. Maintenance revenue pilot efforts and alternative approaches to force account maintenance will begin. It is anticipated that one DGH engineer will have been seconded to each project district by August, 1989 to assist with implementation.

### Anticipated Project Districts

#### Province: South Sulawesi

Kabupaten: 1. Pinrang  
2. Jeneponto  
3. Bulukumba  
4. Takalar  
5. Sidrap  
6. Sinjai  
7. Bone

#### Province: Nusa Tenggara Timur

Kabupaten: 1. Kupang  
2. Belu  
3. TTS \*)  
4. TTU \*)

Note: \*) Project implementation scheduled to begin no later than IFY 1991/92.

Phase II: Pending satisfactory resolution of institutional, planning, and financial issues, Phase II will continue work in the original nine districts and initiate rehabilitation and maintenance in an additional two in NTT. The amount of rehabilitation to be financed in specific districts will be increased or decreased in Phase II depending on their Phase I performance in conducting maintenance and managing equipment. Criteria for judging performance will be agreed upon by USAID and the GOI at least one year before Phase II begins.

### 3. First Eighteen Months Plan

At GOI request, the project will attempt to begin both rehabilitation and maintenance civil works in 1988/89. This will require accelerated preparation during 1987/88 which will be facilitated by special assistance from DGH and DPUP staff to supervise the selection, design and tendering of civil works for the following year.

### 4. Annual Reviews

Prior to agreement on annual programs and budgets for the project there will be annual reviews of progress on major elements of the project including representatives of the GOI and AID. Reviews will be organized by Bangda. Anticipated other GOI participants will include representatives of Bappenas and Department of Public Works and Finance. More frequent reviews should be considered if useful and necessary. These reviews will at least cover performance in providing and disbursing funds over the current and prior years, overall project management performance and progress in meeting mutually established targets in

institutional structure and performance as well as in meeting physical targets. These reviews of prior performance will be a critical basis for determining realistic program goals and budgets for the coming year.

## 5. Technical Assistance (TA)

Three major contracts for technical assistance are planned: a short-term contract for engineering-related services to get project activities started before the arrival of long-term TA; a contract for long-term technical assistance; and a contract for the certification of rehabilitation work. Needs for consultant assistance for Special Studies will be met by the long-term technical assistance team and a combination of short-term sources. AID (non-project funds) will pay for an Equipment Specialist to assist to prepare final equipment specifications, procurement documents and review workshop designs. All technical assistance will be provided in kind and directly contracted for by AID. Mutually acceptable plans and procedures for contracting and fielding TA will be identified in a Project Implementation Letter (PIL) jointly approved by AID and the GOI.

### a) Bridging Services

Engineering and transport economics services are required for 12-13 months to initiate project activities prior to the arrival of the long-term TA team. It is anticipated that these will be provided by a U.S. engineering firm working in conjunction with an Indonesian engineering company. Bridging services are tentatively scheduled to begin in December, 1987.

### b) Long-Term Technical Assistance

A long-term contract will meet project requirements for road planning, road engineering, institutional development and transport economics expertise. The total amount of TA anticipated is 184 person-years: 39 expatriate, 145 local.

A collaborative arrangement between a U.S. and an Indonesian engineering firm, and a U.S. firm with particular expertise in local government institution-building activities is anticipated. It is expected that the length of the contract will be five and one-half years (but structured for an initial three years with an option to renew for an additional 30 months) with services expected to begin about November, 1988.

### c) Contract for Certification of Rehabilitation Works

It is expected that certification of completed road rehabilitation work will be performed by a GOI supervision team (including DPUP staff) and an AID consultant (one individual). A total of five person-years of the services of the AID consultant will be required. The first services will be needed about December, 1988.

## 6. Equipment Procurement

At the beginning of the project, equipment required to complement existing fleets will be procured for the initial nine districts. At the beginning of Phase II equipment for the districts added at that time will also be purchased; replacement equipment will be purchased as needed for the original nine districts. Minor procurements (miscellaneous office and field tools) will be conducted in year two.

AID funds (\$6.9 million) and GOI contributions from PL 480 proceeds (\$2.7 million) will be used for new equipment procurement. It is expected that the PL 480 contribution will be used for purchases of primarily locally available equipment, that these funds will be budgeted in GOI fiscal year 1987/88 and/or 1988/89 through Inpres Roads (Inpres Penunjang Jalan), that the Phase I equipment tender will be issued by the end of 1987, and that Phase I equipment will be delivered to the project districts by December, 1988.

Project procurement will provide, where practical, for delivery CIF Ujung Pandang and Kupang with advance arrangements made for on-forwarding. Where many small items are being purchased, the services of a procurement services agent may be used. To assure that specifications are sound, AID (non-project funds) will pay for an Equipment Specialist for up to four months in 1987 to assist to prepare final specifications for AID funded equipment and to review specifications on AID's behalf for PL 480-financed equipment. The specialist will also review terms for warranty, delivery, etc. Equipment specialists under the long-term TA contract will perform the same function for later procurements.

It is expected that Phase I equipment procurement will be the responsibility of the GOI. AID funded procurement will be subject to standard AID regulations for host-country procurement and will be carried out by the Department of Home Affairs with the full assistance of the DGH. The full assistance of the DGH in other procurements is anticipated.

## 7. Civil Works

Civil works fall into three categories: road rehabilitation (80% of mutually agreed upon total estimated cost will be AID-funded); road maintenance (100% GOI-funded); and workshop upgrading/construction (80% of mutually agreed upon total estimated cost will be AID-funded).

### a) Road Rehabilitation

Except for the two districts with Model Force Account Crews, all project-financed rehabilitation will be implemented by contractors through local competitive bidding conducted by each district in accordance with GOI procedures. It is anticipated that road rehabilitation will be pre-financed by the GOI and that AID payment will be based upon Fixed Amount Reimbursement procedures (FAR). Alternatives to FAR may be considered and final detailed payment mechanisms will be mutually agreed upon by

PIL. To facilitate quality control, monitoring and AID payment, the number of contracts per district per year will be kept to a minimum. USAID approval of a standard contract format will be required prior to any AID commitment of funds for rehabilitation.

b) Road Maintenance

Initially force account will be used for all maintenance work. However, pending conclusions of Special Studies, some maintenance tasks will be let to small (Class C) contractors beginning in the third or fourth project year and both roadman and community initiative approaches will be tested. Project consultants will assist to formulate appropriate contracting and administrative arrangements for these approaches.

c) Workshops

It is anticipated that all upgrading and construction in each province will be tendered by Province Public Works offices in a single package, and will be funded through the central government for implementation by the DPUPs. Bridging TA will monitor implementation with final certification made by a USAID engineer. FAR procedures are anticipated for AID payment of completed workshops. Alternatives to FAR may be considered and final detailed payment mechanisms will be mutually agreed upon by PIL.

8. Training

For the first two years of the project, formal training will be limited to the existing courses provided for DPUK staff by the DGH and to operator and mechanic training provided by equipment suppliers. The bridging TA team will evaluate both of these sources in early 1988 and assist to prepare an interim training plan. With the assistance of the long-term Training Advisor and consultant engineers, the use of Model Force Account Crews will begin as a practical training exercise in IFY 1989/90. The long-term technical assistance team will, during its first year, assist to prepare a training plan for the remainder of the project. USAID approval of this plan and of selection criteria for both long and short-term trainees will be required prior to USAID commitments of funds for training after IFY 1989/90. Since no overseas training is anticipated, training costs will be channeled through GOI annual budgets.

9. Disbursement

Disbursement will be handled in compliance with the Joint Decree of the Minister of Finance and the Minister of State for National Development Planning/Chairman of Bappenas No. 48/KMK.012/1987 dated Kep.004/Ket/I/1987

January 27, 1987, based on details to be determined between USAID and the GOI. Disbursement procedures for various project activities, consistent with the details determined between USAID and the GOI above, will be agreed upon by PIL.

GRANT AGREEMENT AMENDMENT NO. 2

BUDGET SUMMARY (U.S. \$000)

ACTIVITIES	OBLIGATION BY FISCAL YEAR				TOTAL OBLIGATION TO DATE		TOTAL LIFE OF PROJECT						PROJECT TOTAL
	AID FY 87		AID FY 89		A I D		A I D			G O I			
	LOAN	GRANT	LOAN	GRANT	LOAN	GRANT	LOAN	GRANT	TOTAL	G O I	PL-460	TOTAL	
ROAD REHABILITATION	6,500	0	0	0	6,500	0	6,500	19,100	25,600	6,400	0	6,400	32,000
ROAD MAINTENANCE	0	0	0	0	0	0	0	0	0	6,500	0	6,500	6,500
WORKSHOPS	450	0	0	0	450	0	450	0	450	1,200 *	0	1,200	1,650
EQUIPMENT	1,241.3	0	0	100 ***	1,241.3	100	1,241.3	5,758.7	7,000	3,600 **	2,700	6,300	15,300
EQUIPMENT MAINTENANCE	0	0	0	0	0	0	0	0	0	100	2,000	2,100	2,100
TRAINING	620	0	0	0	620	0	620	1,480	2,100	100	0	100	2,200
SPECIAL STUDIES	0	200	0	0	0	200	0	1,500	1,500	0	0	0	1,500
TECHNICAL ASSISTANCE	0	2,899	0	3,854 ****	0	6,753	0	13,800	13,800	0	0	0	13,800
PLANNING & MONITORING	150	0	0	0	150	0	150	100	250	250	0	250	500
EVALUATION/AUDIT	0	0	0	0	0	0	0	300	300	0	0	0	300
CONTINGENCY/INFLATION	820	21	0	0	820	21	820	3,180	4,000	0	0	0	4,000
<b>TOTAL</b>	<b>9,781.3</b>	<b>3,120</b>	<b>0</b>	<b>3,954</b>	<b>9,781.3</b>	<b>7,074</b>	<b>9,781.3</b>	<b>45,218.7</b>	<b>55,000</b>	<b>18,150</b>	<b>4,700</b>	<b>22,850</b>	<b>77,850</b>

\* Consist of in-kind contribution of \$0.5 million and operating expenses of \$0.7 million.

\*\* In-kind contribution.

\*\*\* This amount was obligated under Grant Agreement Amendment No.1 dated May 9, 1987.

\*\*\*\* \$2.4 million was obligated under Grant Agreement Amendment No.1 dated May 9, 1987, and \$1.454 million is obligated under this Grant Agreement Amendment No. 2.

15