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497-0241

CLASSIFICATION
 PROJECT EVALUATION SUMMARY (PES) - PART I

23p
 Report Symbol U-947

PROJECT TITLE ACEH ROAD BETTERMENT PROJECT	2. PROJECT NUMBER 497 - 0241	3. MISSION/AID/W OFFICE Indonesia
	4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 80-13	
<input type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		

KEY PROJECT IMPLEMENTATION DATES	6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
First PRO-AG or Equivalent FY 75	A. Total \$ 51.9M* B. U.S. \$ 10.3M	From (month/yr.) 12/78 To (month/yr.) 5/80 Date of Evaluation Review
B. Final Obligation Expected FY 75		
C. Final Input Delivery FY 9/80		

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR		
A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., telegram, SFAR, PID, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. P.T. Nindya Karya should add additional expatriate construction supervision to their staff.	P.T. Nindya Karya Project Manager	October 1980
2. P.T. Hutama Karya should add additional expatriate construction supervision to their staff.	P.T. Hutama Karya Project Officer	October 1980
3. The GOI should extend the Consultant's Service for one additional year.	Bina Marga Project Officer	December 1980
4. USAID should do an updated analysis of internal rate of return on the project.	USAID/Jakarta Economist or TDY Consultant	December 1980
5. Finalize date and methodology for impact study on Aceh Road Project including a baseline summary.	Bina Marga Project Officer & U.S. Bureau of Census.	December 1980
6. Consultant to provide qualified replacement for Engineer-in-Charge.	Consultant	July 1980
* GOI is providing \$ 41,6 M equivalent in local funding from their own sources.		

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS	10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT
<input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Financial Plan <input type="checkbox"/> PID/T <input type="checkbox"/> Logical Framework <input type="checkbox"/> PID/C <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Project Agreement <input type="checkbox"/> PID/P	A. <input type="checkbox"/> Continue Project Without Change B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change implementation Plan C. <input type="checkbox"/> Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Name and Title)	12. Mission/AID/W Office Director Approval
Project Officer: L.C. Koski <i>L.C.</i> Clearances: PTE:AGrayson <i>AG</i> PRO:REllert-Beck <i>RE</i> PRO/Evaluation Officer: RZimmerman <i>RZ</i> DD:WGBollinger	Signature: <i>Thomas C. Niblock</i> Typed Name: Thomas C. Niblock Date: July 29, 1980

ACEH ROAD BETTERMENT PROJECT



SEC. I : BINA MARGA AWCAS
SEC. II : PT. NINDYA KARYA
SEC. III : P.T. HUTAMA KARYA

ACEH ROAD BETTERMENT PROJECT - PES
AID LOAN 497-T-036

13. SUMMARY - The Aceh Road Betterment Project provides for the upgrading and construction of 321 Kilometers of road and 4,846 meters of bridges in northern Sumatra. The project includes engineering supervision of construction and all highway components. The supervisory engineering consultant is Louis Berger International Inc. in association with P.T. Asa Engineering Pertama, an Indonesian consultant. The road project is divided into three sections with construction currently underway by Indonesian contractors on two of the three sections. On the remaining section, the Indonesian contractor, P.T. Marjaya, was terminated in February 1979.

Progress as of the end of February 1980 on each Section is:

Tapaktuan	-	Kruengluas Section (I)	=	7%*
Kruengluas	-	Sidikalang Section (II)	=	34%*
Kutacane	-	Blangkejeren Section (III)	=	18%*

Bina Marga has been actively pressing for completion of the AWCAS (All Weather Compacted Aggregate Surface) on the entire length of project prior to completion of the permanent works.

The AWCAS work is planned to support the permanent road construction. The AWCAS will provide access for the full length of road and will be used as the subgrade for the permanent road.

In the Tapaktuan - Kruengluas Section (I), Bina Marga has opened 70 Km of the 96 Km to traffic by force account under the AWCAS program. The remaining 26 Km should be open to traffic by September 1980 under Bina Marga's AWCAS force account program.

In the Kruengluas - Sidikalang Section (II), Bina Marga is contracting with Nindya Karya to complete the AWCAS work on the remaining part of this Section by late 1980. Thus, by the end of 1980 entire section from Tapaktuan to Sidikalang will be open to traffic, a total of 213 Km.

* Based on physical progress

In the Kutacane - Blangkejeren Section (III), Hutama Karya has completed the AWCAS work for the entire Section of road and it is open to traffic. Due to the difficult mountainous terrain it traverses, this Section requires considerable maintenance to keep the road open. Hutama Karya is responsible for the maintenance.

Both Contractors (Nindya Karya and Hutama Karya) are doing quality construction on the roadwork and bridges. Maintenance should be minimal the next few years except for unforeseen landslides during the rainy season.

Both Contractors plan to open a second road construction operation on their sections. They plan an additional input of personnel and equipment to support these operations.

Bina Marga has mobilized an expatriate equipment specialist for the Contractors. A second expatriate equipment specialist will arrive on site, May 20, 1980.

Nindya Karya is introducing a work incentive program with their field personnel to encourage discipline and increased productivity. They are exploring the possibility of hiring expatriate construction superintendents from RSEA (Taiwanese Road Contractor) to reinforce their road construction management.

Bina Marga has made progress in settling the outstanding issues with Marjaya on their termination of Section I. They have settled the allocation of equipment remaining on site. Still to be resolved is Marjaya's claim for demobilization costs. It is anticipated that Bina Marga will be able to settle the remaining outstanding issues with Marjaya by the end of 1980 at which time they would be in a position to negotiate a new contract for permanent work on Section I.

The survey and redesign of the Aceh Road Project by the Consultant (Louis Berger) continues on schedule. Scheduled completion for the redesign work is June 30, 1980. The Consultant has been able to stay far enough ahead of the Contractors' activities so as not to impede their progress.

Based on past and present performance and projected additional inputs to the project, the following are the current estimated completion dates:

1. Tapaktuan - Kruengluas Section (I) - AWCAS work will be completed by the end of 1980, opening the entire road to traffic. However, substantial maintenance will be required to maintain this section of road. The permanent work probably will not be accomplished during the period in which USAID participates in the project.

2. Kruengluas - Sidikalang Section (II) - with additional management, personnel and equipment inputs, Nindya Karya could finish by the end of 1982.

3. Kutacane - Blangkejeren Section (III) - thus far Hutama Karya's performance has been fair, although they have shown marked improvement in bridge construction and culvert installation. Hutama Karya is committed to opening up a second road construction operation with substantial inputs of additional manpower and equipment. Assuming that Hutama Karya improves their progress they could finish their section of the road by December 1984 if not sooner.

Bina Marga is currently revising the CPMs in conjunction with USAID, Consultant and Contractors for Section I and Section II. Upon completion of the revised CPMs, a determination will be made as to what additional inputs will be required to complete the Sections within a reasonable time frame.

Bina Marga has tentatively agreed with USAID that Bina Marga would begin accepting short sections of completed road (10 Km increments) so that the Contractor's maintenance responsibility could end after one year. USAID has proposed that Bina Marga, in conjunction with the Consultant and Provincial Public Works, prepare a permanent maintenance program to be implemented after the Contractor's maintenance period expires on completed sections of road.

14. EVALUATION METHODOLOGY

a. Review of records such as actual progress versus scheduled progress and actual quantities completed on unit work items.

b. Monthly site inspection trips.

c. Periodic discussions have been held with the Supervising Consultant and Officials of the GOI implementing agency, Bina Marga (Highway Dept.), to evaluate progress on the project and discuss problems affecting progress.

15. PURPOSE - The purpose of this project is the opening up of areas in Aceh Province which have high agricultural production potential to consumer markets, permitting easier entry of better service facilities and communications and to provide support for other rural development projects in the northern Sumatra region.

There has been a marked increase in bus and truck traffic on the sections of road which the Contractors have improved. Further increases can be expected upon completion of a section of road. Full benefit of the project will not be achieved until the entire length of road on all three sections is completed.

Another important purpose of this project is developing Indonesian road contractors and supervisory engineering consultants. A great amount of effort is being applied to developing Indonesian contractor and consultant capabilities.

16. GOAL/SUBGOAL - This project is part of the GOI's five year highway plan to do 32,000 Km Maintenance, 14,480 Km Rehabilitation, 7,997 Km Betterment and 1,555 Km New Construction. The Aceh Road Project comes under the 7,997 Km of Road Betterment.

Because of general poor condition of the existing 32,000 Km of the National and Provincial Road Network in Indonesia, Bina Marga has had to allocate approximately 75% of their budget for maintenance, rehabilitation and betterment of existing roads. The World Bank is involved in a US \$100 M regional road betterment program in Indonesia. The No. 1 goal of Bina Marga is to maintain and improve existing roads.

17. EXTERNAL FACTORS - One of the assumptions made in the Project Paper was that the bridges could be constructed with timber cut at local saw-mills within the project area. This assumption was not valid because there was lack of suitable timber in the project area. Also, it was assumed that the bridge timber would be pressure treated. However, the high cost of pressure treatment made it more economical to go to reinforced concrete bridges, plus the life of reinforced concrete bridges is around 50 years versus 10 to 15 years for timber bridges. The bridge design standards were changed from wood to reinforced concrete.

The new bridge design standards were completed in February 1978. Actual delays in progress caused by the bridge design standard changes have been negligible inasmuch as the Contractors were not mobilized to undertake a major bridge construction program.

Another assumption made in the original Project Paper was that local Indonesian contractors had the capability of doing major highway construction. This was a very optimistic assumption. As noted in the following items of "Inputs and Outputs" there have been many shortcomings with the Indonesian contractors.

The GOI devalued the Indonesian Rupiah by 50% (from 415/US Dollar to 625/US Dollar) on November 15, 1978. The Contractors legitimately complained about increased prices for the cost of construction materials, new equipment and increased wage costs. The Contractors have been granted a series of unit price increases by Bina Marga based on the escalation clauses in their contracts. Total increases granted thus far have averaged about 50%.

18, 19. INPUTS AND OUTPUTS - USAID has provided a loan of \$10.3 M for the engineering supervision and construction of the highway. Current estimated total cost of the highway is US \$51.9 M. The GOI is committed to make up the difference.

Both Contractors (Nindya Karya and Hutama Karya) have shown improvement in progress since the last project evaluation. Nindya Karya's performance has been far better than Hutama Karya's. Nindya Karya has had the services of an excellent expatriate highway construction adviser since the beginning of the project. The top management (including directors) of Nindya Karya has been far more receptive to advice given by expatriates than has the management of Hutama Karya.

The Consultant is now taking a very active role in guiding the Contractors in construction and scheduling. Many factors continue to impede the Contractors, including:

a. Adverse Cash-Flow;

Both Contractors on the Aceh Road Betterment Project have experienced problems in cash-flow due to poor planning

on their part, but mainly due to administrative difficulties on the part of the GOI in paying the Contractors for work completed. The Contractors received no payment on vouchers during the period from June 1979 to February 1980. In February 1980 payments were brought up to date. The GOI has instituted a new procedure in paying vouchers. The money for the project is deposited at a bank in the province where payments are made directly to the Contractors. In the case of the Aceh Road Project, the money for the project is deposited in a Medan bank for the fiscal year. The Consultant certifies the Contractors' monthly vouchers, which are then approved by the Bina Marga Project Manager. The Contractor then takes the approved voucher to the Medan bank and receives payment. It is no longer necessary to get approval of the vouchers by the central government in Jakarta.

USAID has provided a loan which covers the cost of an expatriate supervisory consultant, procurement of project vehicles, and reinforcing steel. The remainder of the loan covers about 25% of the construction costs. Reimbursement of loan funds is based on percentage of progress completed. Bina Marga tried to pre-finance USAID's share of construction costs which was based on percentage of progress completed. Unfortunately, because of administrative delays in various governmental departments involved, the GOI did not receive their supplement budget until 1978 which covered the period from the beginning of the contracts up to April 1978. During the period prior to April 1978, the Contractors had been receiving 75% of bid items minus 10% retention funds or only 68% of total work items up to that time. The GOI has now adopted a procedure where both supplemental and regular budget are submitted on an annual basis each fiscal year. Therefore, Bina Marga will receive the total budget each fiscal year.

In the earlier part of the project, USAID was not able to reimburse the GOI for construction completed. After numerous meetings and discussions between USAID and the GOI Ministry of Finance, new procedures on reimbursement have been worked out. Thus far USAID has reimbursed US \$1,770,000 for construction costs on the Aceh Road Project.

b. Redesign of Bridges

The bridges had to be redesigned from wood to reinforced concrete because of lack of available timber and the high cost of pressure treatment. The Contractors were

delayed on bridge construction for lack of bridge design standards and site plans, although it is questionable how far they had been prepared to mobilize for bridge construction during the preceeding months of construction. The new bridge design standards were completed in February 1978. However, there was a time lag before the Consultant could provide sufficient number of bridge site layout plans to the Contractors. The Contractors were delayed in planning their procurement of materials and equipment for their bridge construction programs. At the present time the Contractors have sufficient bridge plans to schedule their bridge construction programs.

c. Contractors Lack of Management Expertise

Both Contractors have lacked management expertise, especially Hutama Karya. The Contractor's site management has had experience in vertical construction but relatively little if any experience in highway construction. From the outset, Bina Marga has required each Contractor to retain an expatriate adviser to advise the Contractor on construction management and operations. In the case of Nindya Karya the expatriate adviser has made and continues to provide valuable assistance in prosecuting the work. The last two advisers assigned to Hutama Karya at most made a marginal contribution in prosecuting the work due to the limited responsibilities given to the advisers.

Nindya Karya realize their shortcomings in construction management and are actively exploring the possibility of hiring expatriate construction superintendents from RSEA (Taiwanese Contractor) and also from the Philippines. Hutama Karya have retained a Japanese construction superintendent, and have indicated they plan to try to recruit additional construction supervisors.

d. Lack of Equipment

The Contractors have been short of certain types of equipment. Both Contractors were given a sizeable amount of equipment by Bina Marga on a loan basis. Some of this equipment was too big to be used effectively on the road designed for Aceh. Also, the equipment given was not matched too well for efficient operations. Although Nindya Karya and Hutama Karya have augmented their construction plant with additional equipment they still lack certain types and numbers of equipment for a well

balanced operation. This will be doubly so when the Contractors start second phase of construction operations. Hutama Karya has been grossly short of rock crushing equipment ever since the inception of the project. Hutama Karya has a major rock crushing plant on order with expected delivery to site in about 4 months. Both Contractors have additional equipment on order. The additional equipment is expected to arrive on site during the next 6 months.

e. Lack of Maintenance of Equipment and Spare Parts

The Contractors have experienced a very high rate of deadlined equipment. In a few categories such as dump trucks, Hutama Karya has had as high as 80% deadlined. This has been due to lack of spare parts, shop tools and equipment, and mechanics. Both Contractors now are allocating more funding for these items. Both Contractors are carrying more spare parts but still have a long way to go before they have an adequate stock of spare parts. They have added more mechanics to their staff but still will need many more. Each Contractor could utilize a minimum of 6 more qualified mechanics. The Consultant is in the process of procuring a half a million dollars in IHC spare parts for the Contractors' dump trucks. Bina Marga, through PAE-RMI, has mobilized an expatriate equipment specialist for the Contractors. The second expatriate equipment specialist is scheduled to arrive on site May 20, 1980. The expatriate equipment specialists plan to set up a spare parts procurement center for the Contractors in Medan. Also, the Contractors are contracting out major equipment repairs with service repair centers such as Caterpillar in Medan. The Contractors are not equipped to do major repairs such as motor overhauls on the job sites. Economically, it would not be feasible for the Contractors to invest the large sums of money required to set up major repair operations on the job sites. Spare parts availability was not a factor in Contractor's decision to utilize service repair facilities in Medan.

f. Shortcomings in Original Design Drawings

One of the purposes of the project was to build in-house capability within Bina Marga (GOI Highway Dept.) to undertake survey and design of roads. Bina Marga engaged local Indonesian Consultants to prepare the design drawings on this road project.

The completed design drawings submitted by Bina Marga contained the normal required data for road design, plan, profile, cross-sections, alignment and curve data, etc. USAID approved the design drawings with understanding that the Consultant, Louis Berger, would make any necessary corrections required in the layout of the road. It is impossible to verify the corrections and accuracy of road design drawings without a detailed survey stakeout of major portions of the road in the field, this involves a considerable amount of time and personnel.

It became more and more apparent to the Consultant during 1978 that the design drawings furnished by Bina Marga were not satisfactory and contained numerous errors. USAID pressed both Bina Marga and the Consultant to correct the situation by mobilizing additional survey/design Consultant staff to do the necessary survey and redesign of the road.

The Consultant mobilized an expatriate Alignment Engineer in August 1978 and a Hydrological Engineer in October 1978 to do corrective work in the roadway and bridge design. As the corrective work proceeded it became apparent that the entire project would have to be redesigned. In June of 1979 Bina Marga agreed to have the Consultant mobilize a survey/design team to do the redesign. The survey/redesign of the Aceh Road Project has proceeded on schedule with the scheduled completion June 30, 1980. Fortunately, the Consultant has been able to maintain a pace of design far enough ahead of the Contractors' construction schedules so as not to hold-up progress.

g. Consultant Shortcomings

The project was designed by local consultants under contract to Bina Marga. Errors/omissions in design data surfaced as work progressed. The necessity for resurvey of basic ground data, redesign of drainage structures, and realignment of road has placed an unexpected burden on the project. Fortunately, the Consultant was able to mobilize personnel for the survey/redesign in a timely manner. The Contractors have been furnished sufficient design drawings in advance to support all the construction operations undertaken by the Contractors with no further delay in project construction progress.

The American Consultant was staffed with the regular type resident engineers, as would be expected, in anticipation of standard engineering supervision type operations. Instead, the Consultant has been faced with providing day-to-day guidance to the Contractors in management and construction operations that goes far beyond the norm and requires staff well versed in construction as well as engineering. The Consultant has only belatedly restaffed and reorganized to cope with these inexperienced Contractors. The Consultant is now engaged in a major training operation with both Contractors in addition to performing their normal supervisory duties. Unfortunately, with the untimely death of Mr. Ed Foran, Engineer-in-Charge, on March 1, 1980, the Consultant has not been able to nominate a suitable, qualified replacement which has caused some slackening in the momentum of the project. USAID/Jakarta has requested AID/W to contact the Consultant's home office about getting a replacement as soon as possible. The local subconsultant signed a "body type" contract with no provision for follow-up of staff provided nor responsibility for performance. This situation, combined with lack of communications between all parties concerned, led to inadequate support from the subconsultant. It was necessary to have the subconsultant's responsibilities fully defined. The subconsultant's pay scales were adjusted to current going rates. As a result, the subconsultant was able to provide qualified staff and follow up of their performance in conjunction with the prime consultant.

Project plans call for a phase over of duties of Resident Engineers from the expatriates to Indonesian Deputy Resident Engineers beginning June 30, 1980. This will require very close monitoring by the Consultant to insure that adequate supervision is maintained in all phases of the project. With the opening of second operations by the Contractors, it will be necessary to train a second Indonesian subconsultant Engineer for each road section. The Consultant and subconsultant are currently scheduled to phase out at the end of 1980. Projected earliest completion by any contractor is December, 1981. Therefore, it would be prudent to extend the staff of both the Consultant and subconsultant for at least another year, especially given the proposed increase in construction activities. Discussions have been held between USAID and GOI. Bina Marga had indicated willingness to retain the services of the Consultant and subconsultant another year.

20. BENEFICIARIES - The farmers and merchants in the area serviced by the road will directly benefit from the road project. The road will open up areas of high agricultural production potential to consumer markets in the Medan area. In turn, manufactured products and agricultural inputs will be more readily available to the farmers in the area. Approximately 300,000 people in the area will benefit by the project.

The benefits of the project justify the costs. The GOI, with the assistance of a UNDP planning team, did a study of the technical and economic aspects of the Aceh Road system and the economy's needs. On the cost side, four initial types of road improvements were evaluated. Two types of benefits were analyzed by the UNDP; (a) Estimates of development benefits based on national, provincial and district level statistics on production of more reliable, lower cost transportation, and access to markets for obtaining production inputs and selling output commodities, (b) benefits in user costs, i.e. the reduction in vehicle operating costs and user's time savings arising from higher average speeds. In the case of the USAID Aceh Road Project, only development benefits were included in the analysis. The UNDP team determined that the majority of development will come from increased production of the principal commodities of rice, rubber, palm oil and palm kernels, pine resin, turpentine, coconut, coffee, patcholi, cloves and nutmeg. These increases are due principally to the expected introduction of presently unutilized cultivable land, in consequence of increased market access and reduced transportation costs resulting from the road betterment.

USAID economic advisers reviewed with Bina Marga and UNDP the data on the Aceh project area and checked the assumptions made in the analysis. Based on their review, the USAID advisers projected an internal rate of economic return for the total USAID sponsored project of 45%. Because of major increases in the cost of the project, it would be advisable to have the USAID economic adviser or a TDY economic consultant do an updated analysis of the projected internal rate of economic return on the project.

The U. S. Bureau of Census in conjunction with Bina Marga plans to conduct an impact study on the Aceh Road Betterment Project. The actual date of the study has yet to be finalized by U.S. Bureau of Census and Bina Marga.

21. UNPLANNED EFFECTS - There has been a sharp increase in traffic, namely buses and trucks, in sections of road where Contractors have improved the old road. It can be noted that as soon as a road becomes passable and useable, there is a sharp upturn in commerce in the area being served by the road. However, increases in the volume of traffic have far exceeded expectations. In many cases the increase has been five-fold.

This project has led to connecting projects. For example, West Germany is financing the road betterment from Tapaktuan to Meulaboh. The Canadian Government has agreed to finance the Road Betterment from Meulaboh to Banda Aceh. These additions are extensions of the existing Aceh Road Project.

The Indonesian Contractors are using this project as a training ground for future road projects in Indonesia. For example, Nindya Karya has been assigning their employees to the Aceh Project from various other projects throughout Indonesia in order to provide road construction training for personnel. They are attempting to build a solid base of road construction management staff for future road projects in Indonesia.

22. LESSONS LEARNED - The local construction Contractors engaged on this project have lacked the experience and knowhow to prosecute a road construction project. It has been necessary to bring in expatriate expertise to help the Contractors proceed with the work. The American Consultant on the project has had to take an ever increasing role in keeping the project moving. On future projects USAID should require that local contractors retain the necessary expatriate expertise in areas they are deficient prior to any award of contract.

Another possible solution is to award (by bidding) the construction contract to a qualified foreign construction contractor with provisions for local subcontractors to participate in each step of the work and thus be trained in the process.

The scope of work for each Contractor has been far too ambitious. One hundred plus kilometers of road in difficult terrain and about 70 drainage structures to be completed in 4 years is an extreme amount of work. Even American contractors would find the job difficult. It would have been far more practical to have construction contracts for about half this size. Unfortunately, the project could only be divided into three sections because of lack of physical access to the interior areas. GOI and USAID

should consider extensions to the construction contracts of at least one year.

23. SPECIAL COMMENTS OR REMARKS - This project has been plagued with numerous problems as pointed out in Sections 18 and 19. Developing local contractor capabilities in highway construction is proving to be very difficult. Local contractors have some experience in building construction and, to a lesser extent, in bridge construction. The contractors have little to offer in the way of highway construction capabilities and have had no experience with the caliber of specifications and quality control applied to this project. However, it can be noted that, through the concerted efforts of all parties concerned, both Nindya Karya and Hutama Karya are producing above average quality road and bridge construction.

The rate of progress of both Contractors has improved during the present period of evaluation. Additional improvement in progress will be required if the project is to be completed within a reasonable time frame. The Contractors should complete on the average at least 2.5 Km of road per month at the present time. Having started from ground zero with Indonesian contractors, improved performance takes time. The GOI and USAID have continued to press for additional expertise to be added to the Contractor's organizations. As of May 20, 1980, two expatriate equipment specialists will be on board to help alleviate equipment downtime. Additional equipment has been added to the project by the Contractors with still more on order. The GOI has realized that one of the major stumbling blocks was late payments to the Contractors. They have now instituted a new payment system whereby the project money is deposited at a local bank in the province each fiscal year and the Contractors are reimbursed directly in the province thus bypassing the central government's bureaucratic setup in Jakarta.

One of the important components of this project is to train and develop Indonesian Highway Contractors. Given sufficient time and effort by all parties concerned, we should continue to see improvement in the performance by the Contractors. The GOI and USAID both realized that there would be numerous problems in implementing this type of project. However, the long term impact on development of the Indonesian highway

construction industry will more than compensate for slow progress in the beginning. In a like manner, the GOI and USAID are trying to develop an Indonesian capability for engineering supervision of highway construction on this project. The Indonesian Deputy Resident Engineers of the subconsultant, P.T. Asa, are scheduled to begin taking over duties as Resident Engineers on June 30, 1980 on a phased schedule with expatriate Resident Engineers providing the needed back-up support.

The need for upgrading the road construction industry is receiving increasing attention by other donor agencies. The World Bank has engaged a Canadian consultant to assess the local consultant sector and prepare recommendations as the basis for a World Bank funded program to upgrade road construction management and engineering consultant capability. The World Bank consultant has coordinated his assessment with USAID.

24. PROJECT ALTERNATIVES - In the last PES, dated 29 January, 1979, USAID presented the pros and cons of a number of possible alternatives for expediting the completion of the project. USAID noted that the best solution would be to continue with the present contractors, with additional support from the GOI, the Consultant and USAID.

USAID continues to believe that supporting the existing local contractors is the most logical course of action for completion of the project in view of the quality construction being accomplished, the steps being taken to improve the Contractor's operations, and the high priority that continues to be placed on developing Indonesian contractor capability in highway construction.

The GOI has assigned two expatriate equipment specialists to the Contractors to sort out the Contractor's problems on equipment repair and maintenance. The GOI through the Consultant is placing an order of US \$0.5M for IHC spare parts to rehabilitate the deadlined dump trucks on the project and to maintain the current operable dump trucks. The IHC spare parts order was completed in June 1980.

The GOI is revising the CPM's for the Aceh Road Project in conjunction with USAID, Consultant and Contractors. Upon completion of the revised CPM's, a determination will be made as to what further inputs will be required to complete the project within a reasonable time frame. The revised CMB's were completed by Bina Marga in June 1980.

The GOI, in conjunction with the Consultant, is monitoring the project very closely. A detailed weekly progress report is being issued by the Bina Marga Project Manager. Data from this report will be fed into the central Bina Marga computer facilities to closely monitor progress and identify resource needs that could be filled from current Bina Marga inventory.

The GOI, through the Consultant, has instructed the Contractors to submit a series of 3 month construction schedules. These schedules will be monitored very closely to insure that the Contractors achieve their scheduled goals during the period.

RATING OF PROJECT PERFORMANCE

Unsatisfactory			Satisfactory		Outstanding	
1	2	3	4	5	6	7
			X			

PROJECT TITLE: Aceh Road Betterment Project - AID Loan 497-T-036.

I. Impact re Section 102(d) Criteria: (Explain How)

Increase Agricultural Productivity

The highway will open up areas in Aceh Province which have high agricultural production potential for consumer markets. The principal commodities produced in this area are rice, rubber, palm oil and palm kernals, pine resin and turpentine, coconut, coffee, patcholi, cloves and nutmeg.

Reduce Infant Mortality

The highway will permit easier entry of health service facilities by the GOI.

Control Population Growth

The highway will provide easier access to the people in the area by the GOI Ministry of Health, for the family planning program.

Promote Greater Income Distribution

The highway will promote greater income distribution by providing ready consumer markets for the farmers in the area.

Reduce Un-Under Employment

By providing ready consumer markets, the highway will encourage increased agricultural production, thus increasing employment in the area. Also the construction of the highway will employ several thousand local people.

And related criteria:

Strengthen/Create institutions which aid social/economic development

Improve condition of women: Social/Economic/Political

II. Benefit Incidence* (Please specify effect on women wherever possible)

A. Direct Beneficiaries

	(Number)	(Who)	(Where)
Income	300,000	Farmers	Aceh
Labor	2,000	"	"
Agricultural Production	2,000	"	"

Education/Training/Management

Medical Treatment (Reduction of Disease, available facilities/services)

Living Conditions Improved (water, housing, sanitation, nutrition, institutions, decrease cost of living)

Provision of Power/Transportation 300,000

Estimated Overall Total Without Double Counting 300,000

B. General Population in an Area that indirectly benefits from:

increased availability of food _____

increased mobility in area _____

general health improvement _____

or overall economic improvement _____

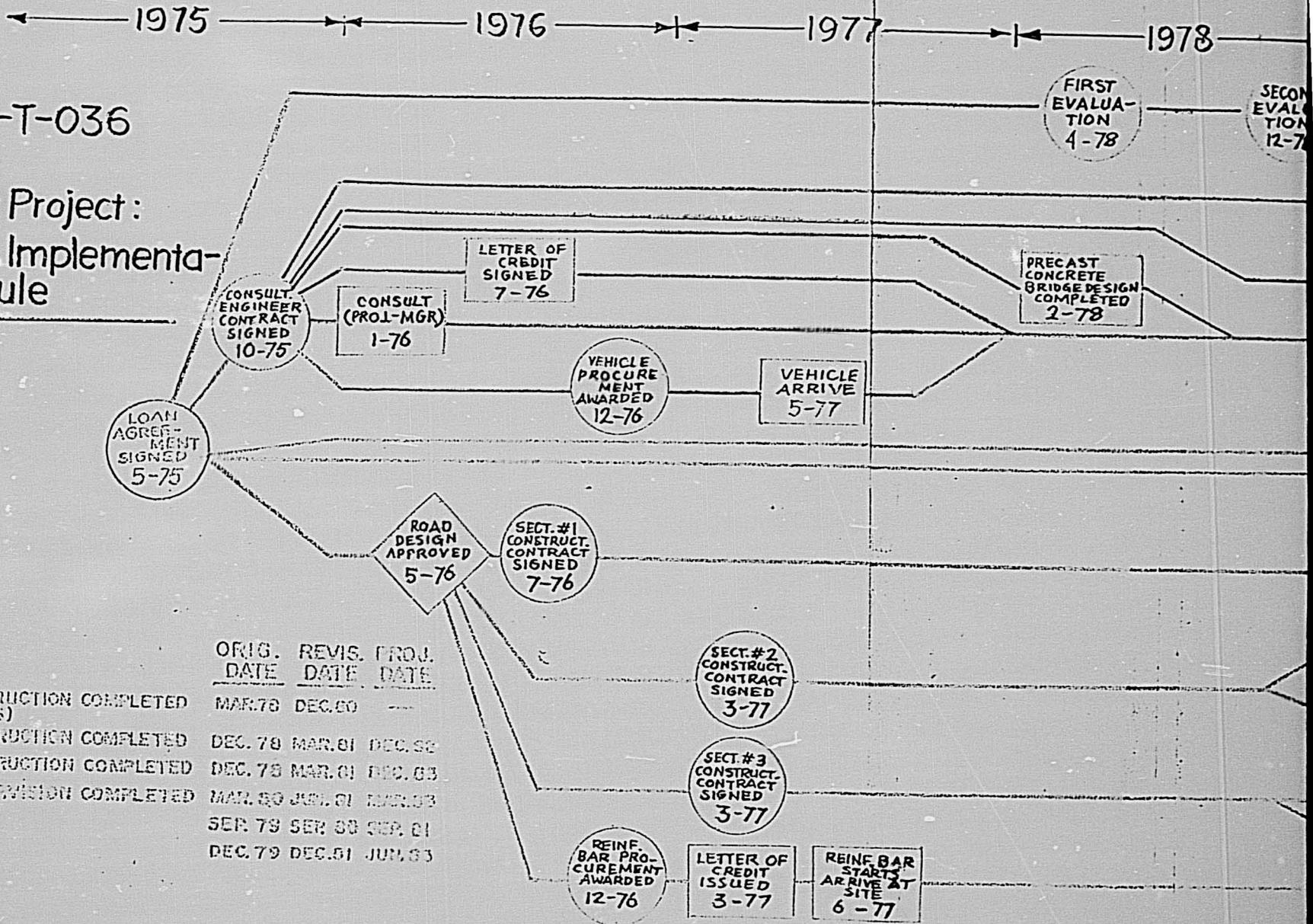
Overall 300,000

C. People in Area not affected. Why?

D. People in Area adversely affected. How?

* Most of these figures are not mutually exclusive and many will include people who benefit in two or more ways.

LOAN 497-T-036
 Aceh Road
 Betterment Project:
 Activities & Implementa-
 tion Schedule



NOTE:

ACTIVITY

	ORIG. DATE	REVIS. DATE	PROJ. DATE
1. SECTION 1 CONSTRUCTION COMPLETED (AWCAS)	MAR. 76	DEC. 80	---
2. SECTION 2 CONSTRUCTION COMPLETED	DEC. 78	MAR. 81	DEC. 82
3. SECTION 3 CONSTRUCTION COMPLETED	DEC. 78	MAR. 81	DEC. 83
4. CONSULTING SUPERVISION COMPLETED	MAR. 80	JUL. 81	DEC. 83
5. TDDA	SEP. 79	SEP. 83	SEP. 81
6. TDD	DEC. 79	DEC. 81	JUN. 83

