UNCLASSIFIED
CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
RURAL ROADS SYSTEMS PROJECT	615-0168	USAID/KENYA 000106

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) 79-1

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING		7. PERIOD COVERED BY EVALUATION	
A. First PRO-AG or Equivalent	B. Final Obligation Expected	C. Final Input Delivery	A. Total	$ 21,248,000	From (month/yr.)	July 1, 1978
FY 77	FY 80	FY 84	B. U.S.	$ 14,748,000	To (month/yr.)	June 30, 1979
					Date of Evaluation Review	July 19, 1979

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., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Two projects have been evaluated concurrently: Roads Gravelling Project 615-0170 and Rural Roads Systems Project 615-0168. This summary sheet pertains to the Rural Access Roads portion of Project 615-0168; a complementary summary sheet pertains to the Roads Gravelling Project 615-0170 and the GBC portion of Project 615-0168. Items 13 thru 23 are presented jointly for both projects.		
a) The requirement to gravel all roads is being reexamined.	M.O.W.	June 1980
b) Annual Construction Rate revised to 36 km per unit. Revise Implementation Plan.	M.O.W./USAID	31 Oct 1979
c) Selection criteria require revision.	J. Pastic	31 Oct 1979
d) Fixed Amount Reimbursement (FAR) to remain unadjusted.	J. Pastic	N.A.
e) Forty percent of FAR to be paid upon satisfactory completion of earthwork.	J. Pastic	31 Dec 1979

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☒ Implementation Plan e.g., CPI Network
- ☐ Other (Specify) _____
- ☐ Financial Plan
- ☐ PIO/T
- ☐ Logical Framework
- ☐ PIO/C
- ☐ Other (Specify) _____
- ☐ Project Agreement
- ☐ PIO/P

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☒ Continue Project Without Change
- B. ☐ Change Project Design and/or ☐ Change Implementation Plan
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Clearance: M&E:SPShah
PROG:CPenndorf
PROG:RCristea
CONT:BWhipple

12. Mission/AID/W Office Director Approval

Signature

Typed Name: Glenwood P. Roane

Date: August 21, 1979

AID 1330-15 (3-78)

UNCLASSIFIED
CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
ROADS GRAVELLING PROJECT	615-0170	USAID/Kenya

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) 79-1

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING		7. PERIOD COVERED BY EVALUATION	
A. First PRO-AG or Equivalent	B. Final Obligation Expected	C. Final Input Delivery	A. Total	$12,300,000	From (month/yr.)	July 1, 1978
FY 77	FY 77	FY 83	B. U.S.	$ 9,300,000	To (month/yr.)	30 June 1979
					Date of Evaluation Review	July 19, 1979

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., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Two projects have been evaluated concurrently: Roads Gravelling Project 615-0170 and Rural Roads Systems Project 615-0168. This summary sheet pertains to the Roads Gravelling Project 615-0170 and to the GBC portion of Project 615-0168. A complementary summary sheet pertains to the Rural Access Roads portion of Project 615-0168. Items 13 thru 23 are presented jointly for both projects.		
a) The rate of construction progress will depend on the relative proportions of road sections requiring complete reconstruction to sections needing spot improvements. Revise Implementation Plan.	J. Pastic	30 June 1980
b) Sufficient manpower is available to start up the first unit. Recruitment is currently underway for staffing the second unit.	J. Pastic	1 Oct 1979
c) Construction start slipped from June 1979 to Sept. 1979, due to delay in equipment arrival. Although the equipment arrival problem has been resolved, some has arrived in an unsatisfactory condition. The suppliers have been notified; this is not expected to further delay construction start.	J. Pastic	1 Oct 1979

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☐ Financial Plan
- ☐ Logical Framework
- ☐ Project Agreement
- ☒ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☒ Continue Project Without Change
- B. ☐ Change Project Design and/or ☐ Change Implementation Plan
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Clearances: M&E:SPShah
PROG:CPenndorf
PROG:RCrist
CONT: BWhipple

12. Mission/AID/W Office Director Approval

Signature

Typed Name: Glenwood P. Roane

Date: July 21, 1979

AID 1330-15 (3-78)

13. SUMMARY

This evaluation pertains to both the Roads Gravelling Project (615-0170) and the Rural Roads Systems Project (615-0168). The format provides for reporting on two major components: Gravelling, Bridging and Culverting (GBC); and Rural Access Roads (RAR). The former consists of the Roads Gravelling Project (615-0170) and the GBC portion of the Rural Roads Systems Project (615-0168). The latter consists of the RAR portion of the Rural Roads Systems Project (615-0168). This format has been followed because each component is managed and executed by separate MOW branches.

The GBC component finances two construction units to bring 3,300 km of secondary and minor roads in Western and Nyanza Provinces to an all-weather standard. The RAR component finances eight labor-intensive construction units in Western and Nyanza Provinces to construct 942 km of farm-to-market rural access roads.

A. GBC

The Gravelling, Bridging and Culverting construction units have not yet started work, with the start-up date slipping from June 1979 to September 1979, due to a delay in arrival of equipment. Although the equipment arrival problem has now been resolved, some equipment arrived in an unsatisfactory condition. Project activities have, until now, been primarily those of staff recruitment and training, equipment acquisition, candidate roads selection, and base camp selection. Based on initial qualitative observations, the prospects of achieving the project purpose and goal are very favorable.

Sufficient manpower is available at this time to start up the first GBC unit. Recruitment is currently underway for staffing the second unit, and the Ministry of Works (MOW) anticipates that sufficient manpower will also be recruited for this unit in time for an estimated starting date of October 1979.

The rate of construction progress will depend on the relative proportion of road sections requiring complete reconstruction to sections needing spot improvements.

B. RAR

Rural Access Roads units financed by USAID commenced construction activities in the first half of 1978. As of May 31, 1979, six construction units are operating. They have completed 116.7 km of earthwork, which represents sixty percent of the original target, based on

42 km per unit-year. However, only 7.4 km of these roads have been gravelled, which is considerably below the target. The MOW is re-assessing the gravelling program in order to improve on this performance.

It appears, based on experience with construction units operating throughout Kenya over the last four years, that the average construction rate should be revised to 36 km per unit-year. With this change, the program target of 942 km will still be met by 1982, the Project Assistance Completion Date (PACD) being March 1, 1984.

Problems of adequately trained and sufficient numbers of personnel have largely been obviated by program management decentralization, and training programs. However, officers-in-charge remain in short supply.

Based on initial qualitative observations, the prospects of achieving the purpose and goal are very favorable. The five-year Devres Socio-Economic Study to quantify the program achievements has begun, with initial data expected within the year.

14. EVALUATION METHODOLOGY

There are three elements of evaluation for the rural roads projects: (1) Annual RAR joint donors review; (2) socio-economic impact analysis; and (3) Mission annual evaluation.

The RAR program is reviewed annually at a joint donors' review. This year it was held during 12-21 June. The donors' review consisted of: (a) An initial formal presentation by the Ministry of Works; (b) field inspection of RAR camps and worksites; (c) donor discussions; (d) meeting with the MOW; and (e) composition of the draft donor review by donor representatives.

Besides presenting the progress report, the MOW presented nine discussion papers which provided the basic reference materials for subsequent discussions.

Donor representatives included Denmark, Switzerland, The Netherlands, Norway, United Kingdom, United States of America, World Bank, UNDP, and the International Labor Organization. The Ministry of Works was represented by several top-level people, including the Minister, Mr. N. Munoko, who gave the opening address. At the working session, the MOW was represented by: Mr. N.P. Radier, Chief Engineer (Roads); Mr. P. Wambura, Chief Executive Officer at MOW; Mr. A.A. Quinn, Chief Superintending Engineer for Special Projects; and Mr. J.A. Simpson, Superintending Engineer for RAR Program, among many others.

The second evaluation element is an analysis of the socio-economic impact of the roads on the target area and target population (including an environmental impact analysis) to determine: (1) If the forecast benefits are being achieved, and, if not, which socio-economic benefits and costs are occurring; (2) the distribution of these benefits among farmers, traders and consumers and whether the distribution could be improved; (3) the level of local participation in the projects; and (4) the degree of coordination of the AID projects with other Government of Kenya rural development programs. Devres, Inc. has been awarded the impact study contract and their personnel have begun their work in June 1979. The evaluation will be conducted over a five-year period.

To enable the GOK to provide analytical support for the socio-economic impact study, project funds have been used to obtain the services of Mr. Harvey Herr (PSC). Mr. Herr arrived in Kenya in February 1979,and is assigned to the Central Bureau of Statistics. He is supporting the socio-economic impact study by developing, designing and implementing a statistical data processing system which will be used by the Rural Roads Impact Study team. —

The third evaluation element is the Mission Annual Evaluation. This evaluation is an outgrowth of the Mission's Quarterly Reviews in which program progress is measured and issues are monitored. The Annual Evaluation combines the Quarterly Reviews, the Annual Joint Donors' Review, and information generated by the impact study.

Sources of information used for the Quarterly Review have been joint MOW/USAID staff discussions, field inspections by the USAID Project Manager, Quarterly Progress Reports for both the RAR and GBC program and, for the RAR program, reports from a local consulting engineering firm (Liburd and Associates) on construction status. A copy of the last Mission Quarterly Review Discussion Paper is attached for reference.

This PES has been developed from internal review resources and has not been prepared by a contractor.

15. EXTERNAL FACTORS

The assumptions made in the development of the Roads Gravelling and Rural Roads Systems Projects remain valid. During site visits and discussions with residents within the project areas, it is qualitatively clear that the rural access roads are making favorable changes in accessibility for social and economic activities.

The GOK, in its 1979-84 Development Plan, has re-emphasized its priority on the development of rural areas as a means of realizing more equitable

income redistribution and alleviating poverty. Both the RAR and GBC programs continue to appear to be necessary tools to achieve this development.

It is increasingly obvious, however, that other factors like agricultural extension services also have major impact on increased productivity and improved welfare. Improved access roads facilitate the availability of these other factors, but do not necessarily guarantee them. The subject project papers were developed with the explicit understanding that roads by themselves would not guarantee the delivery of services. The areas selected for road construction/improvement are areas where major rural development programs are underway. The criteria for specific road selection includes consideration of development programs/projects active within the road's zone of influence. This issue will be more fully addressed during the next annual evaluation.

16. INPUTS

A. GBC

1. T.A. Personnel

All AID-financed technicians are in place.

2. Commodities

Considerable delays have been experienced in the receipt of dump trucks, fuel and water tankers, and low-bed trailers. Originally scheduled for delivery to a U.S. port by 17 March 1979, International Harvester has over-run this date by several weeks. Thirty-six vehicles arrived in late June of this year. Thirty-two vehicles were shipped from New York on June 22, and the remaining six are scheduled for shipment by August 23. The MOW and the Mission have been disappointed with the quality of some of the vehicles, and with the quality of support from the local IH agent. The Mission has notified IH of our concern, and expects the situation to improve. The vehicle discrepancies should not have a serious impact on the project. Other supply items are being acquired satisfactorily.

3. Staff Recruitment

The MOW began staff recruitment during the period July 1, 1978 - June 30, 1979. After cooperating with all Provincial Engineers, the MOW Direct Labor Office, National Youth Service, Settlement Road Project at Kabozi, Thika-Kangondi Road Project, and the Office of the Chief Mechanical and Transport Engineer, a total of 115 skilled personnel have been recruited. This is only 34 percent of the estimated manpower needs. The shortage of trained personnel is a Government-wide problem, and its resolution is beyond the capability of the MOW alone. The MOW will recruit from the private sector during the next 6-8 weeks. The MOW feels that sufficient manpower will be available so as not to delay construction starts.

B. RAR

1. Supervisors

In the AID project area, the lack of skilled supervisory staff was felt to be a major constraint to overall progress of the program. The decentralization of the program will help to provide more effective supervision, and the MOW is continuing its efforts to increase the supply of officers-in-charge. The proposed new organization structure of the RARP will reduce the number of Engineers posted at headquarters from five to two. Four new posts will be set up in the Provincial Engineer's Offices in Kisumu (AID project area), Nakuru, Nyeri and Nairobi. Advertisements have already been placed for the recruitment of the necessary and prescribed administrative support staff. All other posts on engineering or senior technician levels are presently filled and no serious problems are envisaged in the near future.

2. Expatriate

Five donors are committed to providing three Engineers each to the program. Of these five, DANIDA and the Swiss are presently meeting that commitment while the Netherlands, NORAD and the U.K. are providing two. The remaining three field posts are filled by two volunteers, one from the Netherlands, one from the U.K., and a Kenyan Engineer. In addition, there is one Dutch volunteer, and one U.K. volunteer acting as Assistant Engineers. Thus, while all donors have not met their commitments, there are presently sufficient Engineers in the field.

It was recognized that frustrations and loss of motivation did arise among some expatriate Field Engineers when faced with many unexpected administrative matters caused by a lack of supporting staff. The MOW is now making serious efforts to overcome this problem by recruiting a sufficient number of suitably qualified senior administrative staff for each Engineer. This should alleviate, but not eliminate, hassles with bureaucratic procedures. For expatriate Engineers who have not worked in a similar system before, it is quite difficult to adopt an appropriate attitude required to work efficiently with the prescribed procedures. Nevertheless, the donors felt that prospective candidates for Field Engineer posts should comprehensively be briefed by the respective donor agencies.

3. Commodities

All equipment, tools, and materials are in place and available.

17. OUTPUTS

A. GBC

Since neither gravelling unit is as yet operational, no actual progress in terms of length of road regravelled has yet been achieved.

Because of delay in equipment deliveries, construction start has slipped about three months, and is now expected in September 1979.

The MOW has submitted the Candidate Roads List for Bungoma District to the District Development Committee (DDC). Discussions between the MOW/DDC are now underway to resolve final details. The Bungoma District Candidate Roads List and Annual Work Plan are expected from the MOW by August 15, 1979. Work is expected to start in Bungoma District by September 1979.

The rate of construction, as extrapolated from the Project Agreement, is: For 615-0170, 1300 km by 1983; for 615-0168, 2000 km by 1984. This equates to 370 km per unit-year for the former, and 440 km per unit-year for the latter. It is estimated that 25 percent of the total roads will require improvement for full length of the road, while the balance would require "spot improvements" to upgrade them to an all-weather standard.

The Canadian-assisted units have averaged 12 km of complete recontruction per month. Since the MOW has improved on the equipment mix used by the Canadian units and has benefitted from lessons learned, the emphasis on partial reconstruction should result in a considerable increase in gravelling rates. However, actual field performance during the coming year will determine the final rates.

B. RAR

Unit	Achieved Thru 31 May 1979	
Bungoma I	35.52 km	1.78 km
Bungoma II - not yet started	-0-	-0-
Busia	8.85 km	-0-
Kakamega I	9.01 km	-0-
Kakamega II - not yet started	-0-	-0-
Kisii I	33.56 km	5.57 km
Kisumu	29.72 km	-0-
Siaya	-0-	-0-
	116.66 km	7.35 km

As of May 31, 1979, earthwork on 116.66 km of roads has been completed which is approximately 60 percent of the 190 km which should have been

completed by May 31, 1979 under the original target, at the rate of 42 km per unit-year. USAID expressed its concern over the short-fall in an April 17, 1979 letter to the MOW, stating that this could affect the construction completion date and the cost of the 934 km of roads financed by AID. In an April 30, 1979 reply, the MOW acknowledged that start-up delays have prevented them from meeting the original targets. Now that operational experience has been gained, they feel that this situation will improve. USAID concurs.

The average rate of construction (excluding gravelling) for all units (including that financed by other donors) since project start has been 36 km per unit-year. Although this is below the 42 or 45 km per unit-year estimated by USAID and MOW respectively, this rate is considered to be realistic and reasonable, and will be taken as the revised output rate. The 942 km should be completed by 1982.

Gravelling operations have lagged behind earthwork operations. The MOW has studied this situation; they report the causes as poor on-site planning; improper quarry selections; and poor equipment utilization. The MOW has undertaken corrective action of these factors, but it will be several months before results can be observed. The donors, at the 1979 Annual Review, have requested the MOW to develop criteria under which gravelling would not be required for an all-weather standard road, i.e. in-situ material is satisfactory.

C. Maintenance

The Roads Maintenance Engineer (F.R. Harris, Inc. employee) submitted his "Annual Report - Highway Maintenance" on March 27, 1979. The document reports the failure of the previous years' maintenance program. A prerequisite to the establishment of a maintenance program was to bring these roads up to a maintainable standard. The project suffered from lack of equipment, spare parts and money. Only 21 km of the pilot roads were ever brought up to standard before the program failed completely by December 1, 1978.

The report identifies the following reasons for pilot project failure:

1. Practically all of the maintenance budget is being used on the primary system in an effort to keep it from deteriorating further.

2. Maintenance funds are being used for betterment and possibly other non-maintenance activities.

3. Selected roads were not up to maintainable standards. Earmarking was proposed to assure that a reasonable pro-rata share of attention would be given to the maintenance of minor roads.

Based on the first year experience, the Roads Maintenance Engineer has developed a scope of work for a revised maintenance program. A specific funding commitment has been obtained from the MOW. With earmarked funds, a cost accounting system and a set of maintainable roads all of the obstacles to a successful initial program have been obviated.

By September 30, 1979, an Inception Report will be prepared which will contain specific test parameters, methodologies, data to be recorded, how data will be used, and purpose of each test. Four general aspects will be tested: Intensive machine maintenance; maintenance by casual laborers stationed at 2-3 km intervals; maintenance by casual laborer crews organized to work cyclically; and labor-intensive but with some use of equipment.

Furthermore, the Inception Report will specify the work plan for each test, key milestones and their target dates, and target dates for presentation of both general recommendations and detailed recommendations.

Subsequent reporting will consist of Quarterly Progress Reports formatted after the Inception Report; reports on accomplishment of milestones; and occasional spot reports as desired by the Roads Maintenance Engineer and the MOW.

Development and implementation of a viable maintenance activity for minor roads will be the cornerstone of a successful Rural Roads Systems Program. The Canadian aid program in Eastern Province has been a disappointment because newly regravelled roads deteriorated to unsatisfactory condition because they had received no maintenance for eighteen months. Virtually all participants in the program realize the importance of adequate maintenance. The World Bank, as a condition of its $90 million loan, has stipulated a large increase in the maintenance effort. The Mission has been especially active in pursuing the need for adequate maintenance efforts. Implementation Letter No.16 was especially addressed at this matter. The MOW has been allocated approximately 33 percent more funds this year for the maintenance of roads compared to the last year allotment. It appears that with the increased allotment, the MOW should be able to undertake adequate maintenance for practically all roads.

18. PURPOSE

The approved project purpose for Project 615-0170 is: "To improve smallholder access to agricultural institutions, services and infrastructure, including inputs, credit, knowledge/extension to apply inputs, markets and/or storage facilities, roads and water." For Project

615-0168, the approved purpose is: "To provide isolated rural areas with improved accessibility to public and private factors of production and social services."

The Socio-economic Impact Study began in June 1979 by Devres, Inc., which will run for a five-year period, will investigate and measure the degree to which project purposes are met. Results are not available.

19. GOAL/SUBGOAL

See Paragraph 18 above.

20. BENEFICIARIES

A. GBC

Not pertinent at this time. Study data are still in the development stage. Initial socio-economic study findings are expected next year.

B. RAR

Road user beneficiary data not available. The farmers constructing rural access roads during the normal nine-month construction period are hired from the immediate area of influence of the roads. These people realize direct non-farm income. For the duration of the project, unemployment and underemployment are reduced. Women are frequently seen on these projects.

21. UNPLANNED EFFECTS

A. GBC

Not pertinent at this time.

B. RAR

None noticeable so far.

22. LESSONS LEARNED

Not pertinent at this time.

23. ATTACHMENTS

A. Draft Annual Donor Review of Rural Access Roads Program, 1979.

B. Mission Project Review Paper for Quarter Ending 30 June 1979.

Mission Review/Issues
Project 615-0170/5165

PROJECT REVIEW FORMAT

Date: 6-30-79

PROJECT TITLE AND NUMBER: Rural Roads Systems (615-0168)

INITIAL YEAR OF OBLIGATION: FY 77

FINAL YEAR OF OBLIGATION: FY 80

PACD: 2-29-84 TDD: 2-29-84 TDRDA: 2-29-84 (whichever apply)

I. FUNDING ($000)

A. LOP - TOTAL: 14,748

LOAN: 13,000

GRANT: 1,748

B. GRANTS

	PLANNED			ACTUAL		
	OBG.	Expend.	Pipe.[2]	OBG.	Expend.	Pipe[2]
THRU PRIOR FY:[1]	900	56	844	900	56	844
Current FY:						
1st Qrt.	500	37	1,307	500	25	1,319
2nd Qrt.	-	88	1,219	-	53	1,266
3rd Qrt.	-	138	1,081	-	71	1,195
4th Qrt.	-	143	938	-	(143)*	(1,052)*
Current FY:	500	406	-	500	(292)*	-
THRU Current FY:	1,400	462	938	1,400	(348)*	(1,052)*

C. LOANS

	Planned Expenditures			Actual Expenditures		
	OBG.	Expend.	Pipe.	OBG.	Expend.	Pipe
THRU PRIOR FY:	13,000	35	12,965	13,000		12,965
Current FY:						
1st Qrt.	-	700	12,265	-	657	12,308
2nd Qrt.	-	2,550	9,715	-		
3rd Qrt.	-	735	8,980	-	1,208	11,100
4th Qrt.	-	485	8,495	-	(485)*	(10,615)*
Current FY:	-	4,470	-	-	(2,350)*	-
THRU Current FY:	13,000	4,505	8,495	13,000	(2,385)*	(10,615)*

1/ Planned = actual for prior FY * Planned

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B. PROJECT TITLE AND NUMBER: Rural Access Roads 615-0168

INITIAL YEAR OF OBLIGATION:

FINAL YEAR OF OBLIGATION:

Unit	Achieved Thru 31 May 1979	
	Earthwork Only	Gravelling Completed
Bungoma I	35.52 Km	1.78 Km
Bungoma II - not yet started	- 0 -	- 0 -
Busia	8.85 Km	- 0 -
Kakamega I	9.01 Km	- 0 -
Kakamega II - not yet started	- 0 -	- 0 -
Kisii I	33.56 Km	5.57 Km
Kisumu	29.72 Km	- 0 -
Siaya	- 0 -	- 0 -
Total	116.66 Km	7.35 Km

Planned: 190 Km by May 1979 (Gravelling completed)

LOP Target: 934 Km

PROJECT REVIEW FORMAT

Date: 6-30-79

PROJECT TITLE AND NUMBER: Roads Gravelling 615-0170

INITIAL YEAR OF OBLIGATION: FY 77

FINAL YEAR OF OBLIGATION: FY 77

PACD: 3-1-83 TDD: 3-1-83 TDRDA: 3-1-83 (whichever apply)

I. FUNDING ($000)

A. LOP - TOTAL: 9,300

LOAN: 7,700

GRANT: 1,400

B. GRANTS

	PLANNED			ACTUAL		
	OBG.	Expend.	Pipe. 2/	OBG.	Expend.	Pipe 2/
THRU PRIOR FY: 1/	1,400	53	1,347	1,400	53	1,347
Current FY:						
1st Qrt.	-	35	1,312	-	24	1,323
2nd Qrt.	-	55	1,257	-	34	1,289
3rd Qrt.	-	120	1,137	-	34	1,229
4th Qrt.	-	125	1,012	-	(125)*	(1,104)*
Current FY:	-	335	-	-	(243)*	-
THRU Current FY:	1,400	388	1,012	1,400	(296)*	(1,104)*

C. LOANS

	Planned Expenditures			Actual Expenditures		
	OBG.	Expend.	Pipe.	OBG.	Expend.	Pipe
THRU PRIOR FY:	7,700	39	7,661	7,700	39	7,661
Current FY:						
1st Qrt.	-	700	6,961	-	656	7,005
2nd Qrt.	-	2,550	4,411	-		
3rd Qrt.	-	533	3,878	-	1,407	5,598
4th Qrt.	-	233	3,645	-	(233)*	(5,365)*
Current FY:	-	4,016		-	(2,296)*	-
THRU Current FY:	7,700	4,055	3,645	7,700	(2,335)*	(5,365)*

1/ Planned = actual for prior FY * Planned

2/ Cummulative

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II. LOP STATUS

A. PROJECT TITLE AND NUMBER: Roads Gravelling 615-0170

INITIAL YEAR OF OBLIGATION:

FINAL YEAR OF OBLIGATION:

Output	Achieved as of June 30, 1979
1. RRSP 615-0168	
GBC Roads Improved	
Kisumu	
Kisii	
Siaya	
Nyanza	
Subtotal	- 0 -
LOP Target 2,000 Km	
By June 1980: 320 Km	
2. Roads Gravelling 615-0170	
GBC Roads Improved	
Bungoma	
Kakamega	
Busia	
Subtotal	- 0 -
LOP Target 1,300 Km	
By June 1980: 320 Km	

Construction start is scheduled for September 1979 in Bungoma District; September/October for South Nyanza District.

Detailed work plans will be shown along with the candidate roads lists, to be submitted by the MOW during next reporting period.

III. Implementation

This report gives the status of both the Roads Gravelling Project (615-0170) and the Rural Roads Sytems Project (615-0168). The report is divided into two major reporting components: Gravelling, Bridging and Culverting (GBC); and Rural Access Roads (RAR). The former consists of the Roads Gravelling Project (615-0170) and the GBC portion of the Rural Roads Systems Project (615-0168). The latter consists of the RAR portion of the Rural Roads Systems Project (615-0168). This format has been followed because each component is managed and executed by separate MOW branches.

A. Gravelling, Bridging, Culverting (GBC)

1. Status of Issues Addressed at Previous Meeting:

(a) Spare Parts: The Ministry of Works (MOW) has received from International Harvester a comprehensive list of two years' supply of spare parts. The lists have been reviewed, modified, and submitted to USAID/K for approval. Approval has been given and the ordering process is underway.

(b) Frederic R. Harris, Inc. Staffing

All F.R. Harris personnel are in-country.

Project Manager	Robert Weishaupt
Deputy Project Manager	Forrest Schultz
Roads Maintenance Engineer	Edmund Cummins
Mechancial Superintendents	David Chisnell Douglas Whinnery
Construction Superintendents	Thomas Hutchason John Grassel

(c) GBC Units/Work Plan: MOW has submitted the candidate roads list for Bungoma to the Bungoma District Development Committee (DDC). Discussions between MOW/DDC are now underway to resolve final details. The Bungoma District Candidate Roads List and Annual Work Plan are expected from MOW by August 15, 1979. Work is expected to start in Bungoma District by September 1979.

(d) Roads Maintenance: Mr. Cummins, Roads Maintenance Engineer, F.R. Harris, Inc., submitted "Annual Report - Highway Maintenance" on March 27, 1979. The document reports the failure of the previous year's maintenance program. (FYI. The following roads in Kisii were selected as the project area: D-207, 10.8 km; D-208, 18.1 km; C-16, 18.3 km; D-223, 4.7 km; T-1101, 9.5 km.) A

prerequisite to the establishment of a maintenance program was to bring these roads up to a maintainable standard. The project suffered from lack of equipment, spare parts and money. Only 21 kms of the pilot roads were ever brought up to standard before the program failed completely by 1 December 1978.

The report identifies the following reasons for pilot project failure:

(1) Practically all of the maintenance budget is being used on the primary system in an effort to keep it from deteriorating further.

(2) Maintenance funds are being used for betterment and possibly other non-maintenance activities.

(3) Selected roads were not up to maintainable standards.

Mr. Cummins proposed an earmarking procedure to assure that a reasonable pro-rata share of attention is given to the maintenance of minor roads.

Mr. Cummins, based on the first year experience, has developed a scope of work for a revised maintenance program. A specific funding commitment has been obtained from the MOW.

By 30 September 1979, Mr. Cummins will prepare an Inception Report which will contain specific test parameters, methodologies, data to be recorded, how data will be used, and purpose of each test. Four general aspects will be tested: Intensive machine maintenance; maintenance by casual laborers stationed at 2-3 km intervals; maintenance by casual laborer crews organized to work cyclically; and labor intensive but with some use of equipment.

Furthermore, the Inception Report should specify the work plan for each test, key milestones and their target dates, and target dates for presentation of both general recommendations and detailed recommendations.

Subsequent reporting should consist of Quarterly Progress Reports formatted after the Inception Report; reports on accomplishment of milestones; and occasional spot reports as desired by the Roads Maintenance Engineer and the MOW.

Project Manager's Comments:

Development and implementation of a viable maintenance activity for minor roads will be the cornerstone of a successful Rural Roads Systems Program. The Canadian aid program in Eastern Province has been a disappointment because newly re-gravelled roads

deteriorated to unsatisfactory condition because they had received no maintenance for eighteen months. Virtually all participants in the program realize the importance of adequate maintenance. The World Bank, as a condition of its $90 million loan, has stipulated a large increase in the maintenance effort. This fiscal year's MOW budget for maintenance has been increased by one-third from last year's amount. It remains to be seen if the MOW will successfully channel a reasonable amount into the maintenance of minor roads.

Mr. Cummins has worked an arrangement to obtain the use of road maintenance equipment at the end of each fiscal quarter for use on roads in the new pilot area. The new pilot area is in Western Province near Kakamega, on the following roads: D-298 (10.7 km); E-295 and D-267 from Kakamega to C-39 (27.5 km); and D-260 (55 km). These roads are presently at maintainable standards. With earmarked funds, a cost accounting system, and a set of maintainable roads, all of the obstacles to a successful initial program have been obviated. The success of the pilot project depends very much on the aggressiveness, imagination and resourcefulness of the personnel involved. It is suggested that USAID formally convey its concern for a successful program and urge that top level interest be given to this effort.

(e) Delays in Delivery of Trucks: Thirty of the sixty dump trucks have arrived in Mombasa. ~~Twenty-two more were scheduled for shipment 22 June. (Not yet confirmed.) Eight remain to be accounted for.~~ International Harvester, Inc. has been overdue in delivering these vehicles to dockside since 16 March 1979, and have accumulated very large liquidated damages.

2. New Issues:

(a) Bridging: The MOW is still developing its bridging strategy, so no work plan is yet available. There are eleven (11) bridges required for Bungoma District, and twenty-three (23) required in Homa Bay District. Not all of these are located on the candidate roads lists.

Project Manager's Comments: The MOW advises that some guidelines have been established. Spans greater than six (6) meters should be done by contract. However, the situation is not clear in the case of short (less than six meters) spans. Each GBC unit has a Construction Superintendent and Mechanical Superintendent, but no Bridge Technician. Furthermore, each is expected to complete approximately 400 kilometers per year, which when compared to the 2-3 month time required for bridge construction, will create logistical problems for the construction units. The emphasis for the construction units will therefore be on maximum utilization of of culverts and drifts.

It is not clear, however, that the MOW has identified required bridging on the roads in the candidate lists. This, of course, is a prerequisite for developing a strategy for getting the bridging ultimately completed; therefore, this item should not be left unresolved. In this regard, the MOW was reminded that AID assistance provides for bridging activities. Changes, if any, required in the form of assistance can most likely be addressed through P.I.L.'s.

(b) Construction Rate/Degree of Improvement: (This item is related to III.A.I.C., "GBC Units/Work Plan",and to Item III B.I.C., "Additional Assistance".)

The rate of construction, as extrapolated from the project agreements, are: For 615-0170, 1300 km by 1983; for 615-0168, 2000 km by 1984. This equates to 370 km per unit-year for the former, and 440 km per unit-year for the latter. Some of this work would be on a complete reconstruction basis, while other work would be done as "spot improvements". It is not feasible to separate roads into two such distinguishable categories, but based on comparative experience of Canadian aided units, the MOW has programmed to complete 120 km of candidate roads per year.

Project Manager's Comments:

The Canadian assisted units accomplished 10-15 km of complete reconstruction per month, or 120-180 km per unit-year. The MOW has improved the equipment mix used by the pilot (Canadian) effort, and should benefit from lessons learned. However, field performance during the coming year will establish the actual rates.

(c) Recruitment: The MOW began staff recruitment during this period. After cooperating with all Provincial Engineers, the MOW Direct Labor Office, National Youth Service, Settlement Road Project at Kabozi, Thika-Kangondi Road Project, and the Office of the Chief Mechanical and Transport Engineer, a total of 115 skilled personnel have been recruited. This is only 34% of the estimated manpower needs.

Project Manager's Comments: The shortage of trained personnel is a Government-wide problem, and its resolution is beyond the capability of the MOW alone to address. The MOW intends to begin the project with reduced manning levels. The MOW will recruit from the private sector during the next 6-8 weeks. There appears to be sufficient personnel to begin operation in September in Bungoma District. However, adequate staffing for Homa Bay operation cannot be assured at this time. It is suggested that the MOW keep USAID advised on the status of this issue.

(d) Financial Reporting: The MOW has experienced chronic problems with AAPC in keeping track of expenditures. Laxity and inconsistence on the part of AAPC has resulted in the MOW not having accurate records of its loan fund position.

Project Manager's Comments: This unfortunate situation is not expected to continue, because practically all equipment purchases by AAPC on behalf of the MOW have been completed. Furthermore, a protest letter has been sent by the MOW to AAPC on 21 June 1979, which should prompt AAPC to bring the MOW up-to-date.

3. Status of Implementation:

(a) The issue of roads maintenance has been reviewed with MOW, which has resulted in renewed emphasis on an aggressive program.

(b) The MOW has awarded a contract for prefabricated houses, purchase of radios, and is in the process of purchasing locally procured small equipment items.

(c) The MOW has not yet submitted the Roads Selection Report for either Province to USAID for approval.

(d) Due to late shipment of project vehicles, construction has been rescheduled for September start in Bungoma.

4. Implementation Schedule for Next Reporting Period (July 1979 - November 1979):

(a) Recruit skilled personnel from outside the MOW:

(1) 91 drivers by September 30, 1979.

(2) 20 inspectors/foremen/overseers by September 30, 1979.

(b) Submit final Candidate Lists and Work Plan for Bungoma District to USAID for approval by August 15, 1979.

(c) Submit final Candidate Lists and Work Plan for South Nyanza District to USAID for approval by September 30, 1979.

(d) Stage all project vehicles and equipment at base camps by September 15, 1979.

(e) Station recruited personnel in their assigned districts by September 15, 1979.

(f) Start Bungoma construction by September 30, 1979.

(g) Start Homa Bay construction by November 15, 1979.

B. Rural Access Roads (RAR)

1. Status of Issues Addressed at Previous Review:

(a) Construction Progress: As of May 31, 1979, earthwork on 116.66 km of roads has been completed which is approximately 60% of the 190 km which should have been completed by May 31, 1979 under the original target (266 km by September 1979). We expressed our concern over the short-fall in an April 17, 1979 letter to the MOW, stating that this could affect the construction completion date and the cost of the 934 km of roads financed by AID. In an April 30, 1979 reply, the MOW acknowledged that start-up delays have prevented them from meeting the original targets. Now that operational experience has been gained, they feel that this situation will improve.

Project Manager's Comments: The average rate of construction (excluding gravelling) for all units (including that financed by other donors) since project start has been 36 km per unit-year, well below the 42-45 km per unit-year estimated by the MOW and USAID respectively. At these rates, the 942 km should be completed (except for gravelling) by May 1981, which would be on target. However, there is some evidence that the USAID-funded units (based on informal progress reports) are operating at a lower rate at present (20 km per unit-year). Therefore, this issue should be followed closely during the next reporting period.

Gravelling operations have lagged behind earthwork operations. The MOW has studied this situation; they report the causes as poor on-site planning; improper quarry selections; and poor equipment utilization. The MOW has undertaken corrective action of these factors; but it will be several months before results could be observed. The donors, at the 1979 Annual Review, have requested the MOW to develop criteria under which gravelling would not be required.

(b) Compaction: The Transport and Road Research Laboratory (TRRL) has published an interim report (Appendix A to Section 3 of Volume I of the Annual Review Discussion Papers) which supports the preliminary findings that, generally, compaction using special equipment is not required. Their conclusions are:

(1) Heavy compaction plant is not necessary in the construction of rural access roads.

(2) Compaction is necessary at all levels of construction, but it can be achieved by indirect methods in conjunction with an appropriate construction schedule.

(3) In some circumstances, additional compaction with light plant or hand rammers is appropriate. For example:

a. Good shape is often difficult to control and supervise when working with loose layers of material and it may be worth considering the use of raking and light rolling techniques to improve this operation.

b. At times of heavy rain, immediate compaction with light plant or hand rammers may be effective in reducing erosion problems and preventing saturation of shaped formations.

c. In deep fills, it may be inconvenient to have to rely on indirect compaction and additional compaction may be necessary.

In light of the relative success of this technique, it is felt that this issue is now under control, subject only to review at the next annual review.

(c) Approval of Phase II Program: Phase II roads have been identified by District Development Committees (DDC's), but the evaluation reports on these roads have not as yet been completed by the MOW, nor have they been submitted to USAID for approval. Each DDC is in the process of selecting 200 km of additional roads.

Project Manager's Comments: Under Phase I of the program, AID has approved construction of 424 km of roads as follows:

(1)	Kisii District	60 km
(2)	Kisumu District	38 km
(3)	Siaya District	64 km
(4)	Kakamega District	58 km
(5)	Bungoma District	62 km
(6)	Busia District	142 km entire District
		424 km

The selection of 200 more km of roads per district would exceed the amount stated in the Project Agreement (1624 km vs 934 km).

These roads cannot all be built with the funds presently available under the project. Therefore, the Project Manager proposes that AID's approval of the Phase II roads should not exceed 155 kilometers (including roads already approved under the Phase I Program) for each district.

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(d) Additional Assistance/Selection of Roads: Present MOW levels of effort, supported by various donors, provide for completion of 7600 km by 1982. This is approximately 50% of the total goal of 14,000 km. The GOK has not yet officially requested additional specific donor assistance, but has announced its intention to do so.

The MOW is working on ways to identify the additional roads. The GOK had planned for 600 km of rural access roads in each district, but soon rejected this rough planning figure. At the 1979 Donors Review, the MOW presented another analysis showing (a USAID) requirement for additional 3040 km in all of Kisii, Kisumu, Siaya, Bungoma, Busia and Kakamega Districts. The donors felt that the methodology used was insufficient, and have requested further study of this issue for discussion at a Fall 1979 donors meeting.

The MOW has indicated that they would like to reorient the efforts of the construction units in some districts to include the betterment of minor classified roads. This intention was endorsed by the donors, in light of the overall successful utilization of labor intensive technology. However, the donors will require a more detailed discussion and assessment of the set up of the program, and how the transformation would occur. As a first step, an indication of the extent the RARP will be involved with betterment of classified roads in each district will be required.

Project Manager's Comments: The methodology selected was based on relationships between population density (person per km^2) and "road density" (the length of roads within a square km of land).

Each district was examined and the population and surface area data adjusted to take into account the exclusion of areas such as townships, urban centers, dense forests, National Parks and zones of exceedingly low population density. It was assumed that within the effective area major short-term development is most likely to take place.

The relationship between population density and road density which was used to estimate the additional length of road required in each district is as follows:

Population Density P/Km^2	Road Density Km/Km^2
0-50	0.25
50-100	0.4
100-150	0.5
150-250	0.6
250+	0.75

This relationship is completely arbitrary, but the MOW felt that it was reasonable to propose a minimum and a maximum desirable road density in rural areas. Identification of additional RAR should be based on specific development plans. For those districts and sub-districts in which few new roads are required, there is an opportunity to work on minor roads which actually are in the same unserviceable condition as the RAR tracks. The MOW has pointed out that the present road classification was not done precisely and is outdated. Some roads which were classified are the same in function and condition as RAR's.

The MOW has assumed USAID funding of eight construction units beyond the 1981 Project Agreement, through the first six months of 1982. At the present annual construction rate of 36 km per unit, completion of the entire 934 km covered by the existing Project Agreement will occur by May 1981 (ref paragraph III.B. 1.a.) At the annual rate of 20 km per unit (the rate for May 1979), the 934 km will not be completed until October 1982. It is most probable that the original 934 km will be completed by the end of 1981. Whether or not sufficient funds are presently allocated for RAR Fixed Amount Reimbursement for these 934 km is not certain at this time (reference paragraph III.B.2.c). Assuming that sufficient funds for the initial 1934 km are available ($4.45 million is committed), it now appears that funds could be available from the GBC portion of the program. Of $8.55 million available in the GBC portion of Project 615-0168, $3.65 million of the $5.89 million budgeted for equipment has been committed. The difference of $2.24 million may be available for redistribution to RAR. At approximately $5,000 per km, up to 450 km of additional rural access roads could be funded. Although the FAR figure could increase, and the entire $2.24 million may not be available for redistribution, there still appears to be considerable flexibility to continue the program beyond 934 km while remaining within the established cost ceilings.

2. New Issues:

(a) Change in Reimbursement Basis: There have been suggestions to change the reimbursement procedure. Presently, the Project Agreement provides for reimbursement to GOK based on the Fixed Amount Reimbursement (FAR) method. The proposed procedure (revised formula) would provide for forty percent (40%) reimbursement upon completion of earthwork, and the balance of sixty percent (60%) upon completion of gravelling.

Project Manager's Comments: This issue was raised by the Kisumu Rural Access Roads Engineer, and by the Kakamega and Bungoma RAR

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Engineer, during the Project Manager's (PM) June 4-8, 1979 field inspection. The RAR Engineers are being urged by the MOW to complete gravelling operations in order for the GOK to be reimbursed. However, the Kisumu RAR Engineer feels that more time is needed to permit natural compaction to occur. He feels that a full year of weather cycles is preferable to the 3-6 month time recommended by the MOW headquarters. PM feels that the flexibility to decide on the time for final gravelling should be available to the RAR District Engineer. Amending the Project Agreement/PIL's to permit payment of 40% FAR amount upon satisfactory completion of earth formation, and the balance of 60% FAR upon satisfactory compaction, reshaping and gravelling, would permit funds to circulate to the GOK and simultaneously allow Field Engineers the flexibility to determine the timing of final gravelling. This procedure would also provide a formal two-step inspection by AID to insure satisfaction with the quality of work. USAID legal counsel advises that the FAR formula can be changed with a Project Implementation Letter. The PM recommends that the MOW ask the MOF to formally request USAID to change the FAR formula.

(b) Selection Procedure/Impact Study: The donors recommended that the selection procedures for rural access roads be modified. They feel that the use of the economic evaluation resulting in an internal rate of return for a package of roads should be discontinued as soon as possible. It is intended that the donors will meet again in September/October 1979 to discuss this issue in the light of the USAID consultant's (Devres Inc., Impact Study Consultant) report. They will then make recommendations to the MOW.

Project Manager's Comments: On the socio-economic side, the main burden of justification for a package of roads rests on the economic cost-benefit analysis, with benefits based entirely on agricultural gross margins and costs based on average costs of construction for the whole program. (The social data collected is used only for giving the construction priority of the roads selected.) It is acknowledged that the economic analysis used in the evaluation is generalized for the group of roads, and it has always been the intention to replace or adjust it in the light of the findings of the Impact Study. The delays in initiating the Impact Study have resulted in much greater reliance being placed on the present method of evaluation than was originally expected, and reliable results on the economic and social impact of the rural roads cannot now be expected for at least five years. However, it is hoped that before further funds are committed to the program the Impact Study will be able to suggest - on a more informed basis than is possible at present - simple tests for distinguishing between good and bad proposals for new roads.

Unfortunately, the poor quality of the agricultural data used in the present analysis and the weaknesses in the analysis itself (the latter being largely due to inconsistent treatment of the data) have caused severe doubts among the donors as to the usefulness of the economic evaluation as a decision-making tool and, in its place and in spite of the lack of feedback from the Impact Study, the donors would prefer to use more realistic and necessarily simple tests until such time as something better emerges from the Impact Study. The donors have recommended that, as soon as possible, the present cost-benefit analysis be abandoned in favor of more simple tests and that some of the time thus saved be used to make more accurate estimates of, for example, individual road costs and labor availability. Donors would like to take advantage of the results of the USAID consultancy, which are due in August 1979, to agree among themselves and with the MOW on a set of simpler tests which could be applied to all roads subsequently evaluated. Donors would like the evaluation reports to draw attention to projects in the District Development Plan that would affect the use of each road proposed.

The PM notes that the USAID project authorization letter does not require a cost-benefit analysis. Rather, the requirement is for an economic report "which would have, as one of its objectives, the demonstration that road selection procedures and criteria have been complied with."

The PM recommends that the required study concentrate on the factors of population density, zone of influence, and agricultural potential of the specific areas where a road is proposed. Where specific quantification is not feasible, attention should be given to definition/determination of threshhold levels of selection criteria.

(c) FAR Unit Cost: The average "direct cost" per kilometer for all units to March 31, 1979 is K£ 1810. Providing for overhead (base camp headquarters, training, and engineering supervision) and gravelling operation (K£ 480 per km) yields a unit construction cost of K£ 2570 per km.

The USAID FAR provides for 75% of the total construction costs (including overhead and gravelling) not to exceed $4762 (K£ 1786). Seventy-five percent of the total unit cost as calculated above is K£ 1927.50.

Project Manager's Comments: Seventy-five percent of the total construction cost now exceeds the FAR amounts. (K£ 1927.50 vs K£ 1786) However, the total construction cost as developed above includes an estimate of final gravelling costs. At this time, the question of degree of gravelling required has been referred for restudy by the donors to the MOW. The PM therefore recommends that the FAR amount remain unchanged for the coming year.

Another factor which will affect total construction cost is the more rapid escalation of POL costs than planned for in the original Project Paper. Preliminary analysis indicates that 5% ($\pm$1%) increase in total construction cost (240\pm$/km) may occur as a result of the recent 35% increase in OPEC prices. However, PM feels that some time will pass before more precise impacts of this factor can be quantitatively established and that the FAR amount remains as is until the next review.

3. Status of Implementation Actions Scheduled for this Reporting Period:

(a) AID/W has evaluated proposals from six firms to perform the five-year socio-economic evaluation of Projects 615-0168 and 615-0170. The selection committee has selected the firm of Devres, Inc. USAID and the GOK concurred in the selection, and the contract was signed on April 30, 1979.

(b) The consultant team consists of Peter Moock (Development Economist); David Brokensha (Ethnographer); and Bernard Riley (Social Scientist). Mr. Moock arrived on June 5, 1979; Messrs. Brokensha and Riley on June 9, 1979.

(c) CBS and the MOW have completed gathering of the baseline data for the first evaluation; however, it is not as yet encoded.

4. Implementation Actions Required Through the Next Review Period:

(a) Submit Kisumu Second Phase Evaluation Report for USAID approval by July 31, 1979.

(b) Submit Kisii Second Phase Evaluation Report for USAID approval by July 31, 1979.

(c) Submit Bungoma Report by July 31, 1979.

(d) Submit Kakamega Report by September 30, 1979.

(e) Submit Siaya Report by September 30, 1979.

Review and Evaluation Report of the Kenyan Rural Access Roads Programme

Preface

Since the concept and implementation of a joint donors review and evaluation meeting was deemed to be a success, the Ministry of Works requested that the donors should meet again in June 1979 for their second meeting. They again requested that the ILO, through Dr. G.A. Edmonds, should coordinate the production of the report.

The meeting was held between the 12th and 21st June and followed the same format as the previous year. That is, two days of review of the progress since the last meeting, a series of site visits which provided an opportunity to see the work and to discuss the programme with the field staff, and finally a detailed evaluation of the programme.

The meeting was opened by the Minister of Works, Mr. N. Munoko; A copy of his opening address is appended as Appendix 1.

The donors wish to express their appreciation for the efficient way in which the Ministry of Works organised the meeting. The background documentation was comprehensive and well presented, the site units provided an excellent opportunity for donors to experience the programme at first hand and the Ministry of Works officials were extremely helpful in responding to requests for information.

The report represents the consensus view of all the donors. The summary and recommendations are presented at the beginning of the report. Part I is a review of the RARP, Part II is an evaluation. The background documentation is incorporated as appendices.

Summary and Recommendations

1. General

All the donors are satisfied that the Rural Access Roads Programme is developing effectively and efficiently. Since the last meeting there has been a rapid growth of the Programme and the donors are pleased to note that it has been possible to satisfactorily deal with this. They also note that the major problems of procurement and headquarters staffing, identified at the last meeting, have been overcome.

The specific recommendations that follow are the result of discussions held with the headquarters staff in Nairobi and with field engineers and other involved officials in the field. They represent the consensus view of all the donors.

Certain recommendations are marked with an asterisk. The donors wish to receive information on progress in relation to these particular recommendations in the quarterly progress reports.

2. Specific

Issues arising from the last Review and Evaluation Meeting

(a) The donors were concerned that the MOW had found difficulty in producing a progress report on a regular 3 monthly basis. They now understand that MOW will be capable of producing this report regularly, not more than 2 months after the end of each quarter.

(b) The donors requested that the progress report should include a section which detailed progress made in regard to the recommendations of the Review and Evaluation Meeting as well as an annex for each donor related to the units financed by the individual donors.

(c)* The donors understand that the irregularity of disbursement requests is not caused by MOW, they request that efforts be made to regularise this procedure with the Treasury.

Constraints to Progress

(a)* The donors noted that the supply of labour was a constraint to the growth of the programme in certain areas. They suggested that the potential labour supply should be clearly recognised as a criteria for the selection of roads.

(b) It was clear that the shortage of skilled supervisory staff was a constraint on the programme. The donors therefore endorsed the MOW's policy of decentralising the management of the programme and of intensifying the supervisory activities at the local level.

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Reorganisation and Future Policy

(a) The donors fully support the implementation of the new decentralised structure of the RARP as they believe it will improve the effective implementation of the Programme. They are concerned however that the Divisional Engineer's post should not be established in isolation but in conjunction with the necessary and prescribed administrative support staff.

(b) In view of the donors previous support for the more widespread use of labour-based construction methods in Kenya, they welcome the MOW suggestion that the RARP will eventually be transformed into a programme of minor road betterment and maintenance based on the decentralised structure.

(c) The donors would welcome a more detailed description and assessment by the MOW of the nature of the proposed betterment and maintenance programme and how it is to be implemented.

(d) The donors noted that the MOW have suggested that the RARP could be used to improve minor classified roads in particular where they lead to rural access roads or where they are clearly a major bottleneck to rural development. The donors did not feel the need, at this stage, to reach a consensus on this issue and expect MOW to approach them individually.

(e) The donors understand that the target output of the Programme is still 14,000kms. By 1982 7,600kms of rural access roads are expected to have been completed. This means that the Programme will need to be in operation past 1982 and that MOW will be requesting donor assistance for the period after 1982. The donors would welcome outline proposals for the period after 1982 at the next Review and Evaluation Meeting.

Selection Procedure

(a) The donors recommend that the selection procedures for rural access roads be modified. They feel that the use of the economic evaluation resulting in an internal rate of return for a package of roads should be discontinued as soon as possible. It is intended that the donors will meet again in September/October to discuss this issue in the light of the USAID consultants' report. They will then make recommendations to the MOW. The World Bank representatives noted that the deletion of rates of return from the evaluation would mean a change in their credit agreement. They will be discussing this in the near future with their HQ.

(b)* The donors endorsed the MOW suggestion that more realistic construction cost estimates be developed for the purpose of road selection.

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(c) The donors supported the development of a project identification technique which would more equitably distribute the number of roads to be constructed in each district. It is intended that this issue will be discussed further at the September/October meeting referred to above.

The Impact Study

(a) Since the study has not yet started the donors recommend that when it does so it should be particularly concerned in the initial stages with the derivation of effective selection criteria for the RARP. To this end the Development Economist should focus immediate attention on this issue. Assuming that he is in post in the near future it would be useful for him to discuss this aspect of his work with the donors at the meeting scheduled for September/October.

Staffing

(a)* The donors understand that the problems encountered in obtaining the necessary administrative staff for the Programme may now have been solved. They would wish to be informed however, of whether there are continuing problems in this area. Moreover they wish to be informed whether a training course for executive officers is a feasible proposition.

(b)* The donors noted that the promotion of staff in Job Group A to F will be authorised by the Permanent Secretary rather than the Public Service Commission. Thus it is hoped that the difficulties experienced in promoting suitable candidates to OiC will now be overcome. However, the donors wish to be informed of the situation in this respect.

(c) Whilst there are understandable frustrations caused by the lack of administrative support, the donors were concerned that there seemed to be a lack of commitment and, in some cases, responsibility on the part of some expatriate engineers in the Programme. The donors undertook to advise their recruitment organisations of the importance of recruiting well motivated engineers for a Programme of this nature and of providing adequate briefing on all aspects of the Programme.

(d) In regard to the above, the donors noted the MOW's intention to draw up a memorandum which would clearly specify the duties and responsibilities of RAR engineers. This will also enable donors to brief their engineers, with the intention of avoiding a division of loyalties which is detrimental to the Programme.

(e) The donors also noted the MOW's suggestion of seconding Kenyan engineers working with the Programme either to similar programmes elsewhere or for short construction management courses. The ILO expressed its willingness to support such fellowships.

Road Maintenance

(a) The donors urged the MOW to ensure a uniformity of standards regarding the maintenance of the rural access roads.

(b) The donors supported the MOW's efforts to assess the viability of pedestrian rollers and drags and wished to be informed of the results of these trials.

Design Standards and Gravelling

(a) The donors endorsed the design standards developed for the Programme. They would however encourage MOW to make the field engineers aware that the standards and the construction methods to achieve them do permit flexibility and should be regarded as guidelines.

(b)* The donors reiterated their recommendation that the roads should only be gravelled where it is necessary to do so to achieve an all weather standard (including safety considerations). It is recommended that criteria be drawn up to determine those cases where gravelling is not required.

The donors understand that the next Review and Evaluation Meeting will take place in October 1980.

PART I

A Review of the Rural Access Roads Programme

1. Introduction

This review is based upon the background documents presented by the Ministry of Works and the additional material provided during the first day of the Review and Evaluation Meeting.

2. External Financial Aid and Technical Assistance

It has been decided to limit the total number of units of the RARP to 42. This implies that the programme will have to continue to at least 1985 if it is to achieve its target of 14,000 kms.

Finance is presently secured for the 42 units until June 1982. It is intended to negotiate further assistance for 1982-1985 at a later stage.

Whilst there are still difficulties of recruitment of expatriate engineers, the existing commitments are sufficient to meet the requirements. It is now clear that it is unlikely that a sufficient number of Kenyan engineers will be available to replace technical assistance personnel in the foreseeable future.

In all there are five Kenyan engineers working on the programme of whom three are graduate engineers undertaking part of their training with the RARP acting as assistant engineers. It is envisaged therefore that for the foreseeable future the number of expatriate engineers in the programme will remain at the present level.

3. Progress

With the rapid increase in the number of units since 31 December 1977 until March 1979 it is, perhaps, inevitable that the output has decreased. The trend, therefore, since the last meeting has been for output to fall and costs to remain stable. Thus, the average output in 1977/78 was 39 kms per unit per annum whilst in the nine months from July 1978 to March 1979 it fell to 34, moreover the average number of man-days per kilometre increased from 1600 in 1977/78 to close to 1700. As the number of units have increased the overhead costs per unit have reduced, thus offsetting the cost increase due to reduced productivity. Costs are presently about 20% higher than originally estimated.

MOW have estimated that by 1982, 7,600 kms of road will have been completed. This is based on the assumption that all 42 units will be in operation from the 1st July 1979 and that they will all be producing at a rate of 45 kms per annum. Both assumptions seem somewhat optimistic and an output closer to 7,000 kms seems more realistic.

The target output of the programme is still 14,000 kms and this implies, assuming an output of 45 kms/unit year, that the programme will continue until at least 1986.

Whilst progress is, in general, satisfactory, gravelling still lags behind. The situation has in fact deteriorated since the last meeting in that only 17% of the roads constructed have been gravelled (as against 23% at the time of the last meeting). This is partly a reflection of the concentration on setting up new units. For example, in the first four units the ratio of gravelled roads is 34%.

The arrival during the last year of a mechanical engineer has greatly improved the capacity of the MOW to deal with the maintenance of equipment for the RARP and to keep a firm control on the utilisation of equipment.

MOW noted the wide variation in both man-days per kilometre and cost throughout the programme. Thus the Kwale II unit boasts an average of 961 man-days/kilometre and K£ 1,090 per km whilst the figures for Nyeri I are 2251 and 2550 respectively. MOW have suggested that this wide variation requires attention and is one aspect upon which the management will focus in the coming year.

4. Road Maintenance[1]

The MOW have now adopted a policy of using the labour-based maintenance system developed for the RARP for minor classified roads. This would allow the Ministry of Works to concentrate its equipment-intensive maintenance techniques and resources on the major trunk and primary roads.

The proposed re-organisation of the RARP is intended to provide a system for the implementation of this policy. Thus, the Divisional Engineer will eventually be required to set up a maintenance organisation independent of the field engineers, who would be solely responsible for RARP construction activities. This system would also reduce the difficulties of handing over the responsibility for maintenance of minor roads to the local authorities in the long term, thus reverting to the system that pertained prior to 1970.

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[1] See Appendix 3.

5. Training[1]

Again the STD has been successful in meeting the demands laid upon it. The problem of producing sufficient OICs has been one of supply of suitable candidates and the whole question of career development.

It is envisaged that next year STD will start refresher courses for overseers.

6. Planning and Reporting

The simplified system named Alternative II in last year's Review and Evaluation Report has now been implemented throughout the programme. It is basically that prepared by the Technology Unit with necessary modifications resulting from discussions in the field.

7. Number of Roads per District

It was originally envisaged that the RARP would build approximately 600 kms in each of the (then) 23 districts in the Programme. It has now become clear the the indiscriminate building of a fixed kilometrage of roads in each district would result in saturation in certain districts and under-provision in others. An initial attempt has been made to allocate access roads to district on the basis of need.[2] It is recognised that this first attempt is rather crude and it is intended to improve on it in the coming year.

8. Selection of Roads

It is first worth noting the discrepancy between Table 1 of Appendix 12 and Table 5.1 of Appendix 13 which is due to the fact that Table 5.1 has been adjusted to reflect only those projects which are technically feasible.

The selection procedure involves a great deal of time and effort for the Planning Unit of the MOW. It is intended to take on another four engineers for the unit bringing its total strength to eight.

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[1] See Appendix 4.

[2] See Appendix 6.

PART II

Evaluation of the Rural Access Roads Programme

1. Issues arising from the Joint Donor and Evaluation Meeting held in March 1978

The issues discussed under this heading cover only these subjects which will not be dealt with in the following more specific sections of this evaluation.

This section discusses: (i) Reports to donors; (ii) Disbursement procedures; (iii) Tools - procurement and use.

Reports to Donors

During the last Review and Evaluation Meeting it was agreed that a detailed Progress Report of a specified format would be prepared by the MOW on a quarterly basis. This report was to describe the progress of the Programme as a whole and would contain an annex for each individual donor, describing the status of the units financed by the donor. The donors noted that, hitherto, these reports had not been prepared regularly and sent on a quarterly basis and that the annexes for individual donors had not been included. It was felt that a regular flow of information would not only improve the communications between MOW and the donors but would also enable the donors to play a more active role to rectify specific problems encountered by the RARP management. The MOW stated that the irregularity of the preparation of the reports had been due mainly to the fact that the staffing situation at RARP Headquarters had been difficult in the period under discussion. The backlog had now been cleared however and progress reports up to 31 March 1979 are now available. Progress reports will now be sent to the Donors not more than two months after the end of the reporting period to which the report refers. These reports will include an appendix, discussing the progress made in respect of certain recommendations and requests identified in the Summary and Recommendations. The progress reports will also contain an annex specially directed at the individual donors containing information on the Units financed by these donors.

Disbursement Procedures

The MOW stated that the RARP accounts are up to date and that the requests for disbursement are forwarded to Treasury regularly, on a monthly basis. However, most of the donors receive requests for disbursement irregularly. It is suggested that this matter be taken up with the Treasury in order to avoid undue delays and to streamline the disbursement procedures.

Tools Procurement and Use

Whilst not all type of tools presently purchased for the Programme meet the specifications laid down, enormous progress has been made in this area since the last Review and Evaluation Meeting. Sufficient quantities of all types of tools are available at the RARP HQ store in Nairobi. As regards the quality, it is now possible to purchase handtools and light equipment for the RARP according to specification and this principle is now being implemented. The MOW stated that further progress is being made in this regard and that no major problems are either experienced or expected.

2. Constraints to Progress

The donors stated that, in certain high agricultural potential areas, labour was either in short supply or was not forthcoming. This clearly hampers the progress of the Programme. The MOW have taken steps to overcome this problem by discussing it with the District Development Committee and enlisting their support to encourage the people to participate in the Programme. It was agreed that increasing the wage rate in certain areas where labour was in short supply was not a solution to the problem. Moreover, it was accepted that the shortage of labour could well be an indication of the lack of popular interest in the construction of particular roads. It was recommended therefore that the degree of community interest in the construction of a project should be identified at an early stage in project selection and should be one of the criteria governing the selection of a road for construction. This would refer to both the supply of labour and the willingness of the people to make the land available for the road.

The lack of skilled supervisory staff was felt to be another major constraint to the overall progress of the Programme. The decentralisation of the Programme would help to provide more effective supervision, whilst the recent developments regarding officers-in-charge (see Section 6) should provide more incentives for the supervisory staff.

3. Reorganisation and Future Policy

The two points were taken together because in relation to the MOW's present policy they are directly interlinked. Thus the re-organisation of the Programme is intended not only to provide more effective supervision in the field but also the basis for the implementation of a betterment and maintenance programme. This programme will come into existence as the RARP comes to an end.

Decentralisation of the Programme

The proposed new organisation structure of the RARP is shown as Appendix B of Appendix 3. There are presently 5 engineers posts at the headquarters. This will be reduced to 2 and four new posts will be set up in the Provincial Engineers Offices in Kisumu, Nakuru, Nyeri and Nairobi. Advertisements have already been placed for the recruitment of the necessary and prescribed administrative support staff.

It is the donors' view that the lack of supervision could prove to be a decisive factor in the overall success of the Programme. They therefore welcome this decentralisation of the Programme as they believe it will improve its efficiency and increase the level of supervision. Moreover they understand that the field supervisors in the new structure are not necessarily considered to be fully qualified engineers and could well be graduates of the polytechnic.

The donors felt, however, that one word of caution was necessary. Every effort should be made to synchronise the setting up of the posts in the new structure. Specifically the necessary administrative staff should be in post with the Divisional Engineer. If not, the D.E. will be completely involved in administrative duties.

Future Policy

In view of the donors previous expressed support for the continued and expanded use of efficient labour based construction methods, the donors naturally welcome the MOW decision to use labour-based maintenance methods both for rural access roads and for minor classified roads. It is the donors' understanding that finally the present RAR Programme would be transformed into a betterment and maintenance programme, again this is a decision which the donors support. Naturally the transformation would require detailed planning and discussions both within MOW and with the donors presently involved in the RARP.

In the light of the above decisions the donors would like to receive from the MOW a more detailed discussion and assessment of how the betterment and maintenance programme would be set up and how the transformation from the RARP would take place.

As a first step, they would like some indication of to what extent the RARP will be involved in the betterment of classified roads in those areas where they are a bottleneck to development.

The donors understand that the MOW still intends to construct 14,000 kms of access roads and that this implies that they will be requesting further financing for the Programme after 1982. The donors would welcome outline proposals for the period after 1982 at the next Review and Evaluation Meeting.

4. Selection and Evaluation Criteria

The selection and justification of roads to be constructed under the programme now falls into two distinct parts. First, the selection and evaluation of roads within a district, which has been the subject of earlier discussions between MOW and the donors; and second, the estimate for each district of the additional road length which merits construction.

Selection within the District

The selection of roads within a district requires the involvement of the District Development Committee. The donors understood that these committees met much less frequently than is suggested in Appendix 12. They were assured that the infrequency of District Development Committee Meetings was not a constraint on the selection and evaluation of roads. In MOW's view the most significant constraint was in the collection of the data which was the responsibility of the District Agricultural Officer. The forms returned by these officers were often incomplete or incorrectly filled in, with the result that the collection of data had to be repeated with the assistance of engineers.

The donors felt that the existing engineering criteria were generally being applied effectively. A major objective of these criteria is to keep construction costs within reasonable levels. The donors felt that in some cases the rigid application of these criteria might be eliminating roads whose overall cost was reasonable even though sections of them were relatively expensive. Thus, while it is clear that there is flexibility with regard to road length and gradients, the MOW confirmed that the criterion relating to bridges was strictly applied. Works ruled out by this criterion are regarded as the responsibility of the Provincial Engineer and are suitable for funding from the Rural Works Programme. The MOW is in the process of developing specialised bridge building units, which should give each Provincial Engineer the capacity to build two bridges per year per district, and which would be the appropriate units for construction of bridges eliminated from the Rural Access Roads Programme. The donors, although conscious of the need to avoid excessive bridge construction to the detriment of road building, urged that a more flexible approach to bridge construction be taken in cases where the total cost of the road concerned is within reasonable limits.

On the socio-economic side the main burden of justification for a package of roads rests on the economic cost-benefit analysis with benefits based entirely on agricultural gross margins and costs based on average costs of construction for the whole programme. The social data collected is used only for giving the construction priority of the roads selected. It is acknowledged that the economic analysis in the evaluation is of a hypothetical nature, and it has always been the intention to replace or adjust it in the light of the findings of the impact study. The delays in initiating the impact study have resulted in much greater reliance being placed on the present method of evaluation than was originally expected, and reliable results on the economic and social impact of the rural roads cannot now be expected for at least five years. However, as noted elsewhere in this report, it is hoped that before the majority of donors is asked to commit further funds to the programme the impact study will be able to suggest - on a more informed basis than is possible at present-- simple tests for distinguishing between good and bad proposals for new roads.

Unfortunately the poor quality of the agricultural data used in the present analysis and the weaknesses in the analysis itself have caused severe doubts among the donors as to the usefulness of the economic evaluation as a decision-making tool, and, in its place and in spite of the lack of feedback from the impact study, the donors would prefer to use more realistic and necessarily simple tests until such time as something better emerges from the impact study. The possibility of improving the present method of evaluation has been considered. Its major advantage would be the avoidance of disrupting changes in MOW's selection and evaluation procedures, but donors felt that while the analysis of data might be improved without much difficulty, the estimation and collection of the basic agricultural data could not be improved without both District Agricultural Officers and engineers putting into this an amount of time which is not commensurate with the value of the data collected. The donors therefore recommend that, as soon as possible, the present cost-benefit analysis be abandoned in favour of more simple tests and that some of the time thus saved be used to make more accurate estimates of, for example, individual road costs and labour availability.

The donors feel it important that the MOW should not have to use more than one method of evaluation at a time. At present the IBRD is not able to relax its requirement of an economic cost benefit analysis without changes to its credit agreement which necessitate further consultations within the Bank. In consequence donors would like to take advantage of the results of the USAID consultancy, which are due in August 1979, to agree amongst themselves and with MOW a set of simpler tests, which could be applied to all roads subsequently evaluated. To this end, a meeting will be convened in Nairobi as soon after August 1979 as possible. This meeting will discuss and present simplified criteria. Until the formal implementation of the new evaluation criteria the MOW should continue to use the present methodology and to take particular care to ensure the accuracy of the data used. Donors would like the evaluation reports to draw attention to projects in the District Development Plans that would affect the use of each road proposed. It is hoped that the effectiveness of the simpler tests mentioned above could be tested as a first priority of the impact study.

Assessment of Rural Roads Requirements for Each District

MOW's preliminary analysis of this subject was of considerable interest to donors, who recommend that before the next round of commitment of assistance to the programme the analysis is further developed and in particular related to the District Development Plans. The kind of further refinement required will also be considered at the meeting of donors in September/October. The present analysis - in conjunction with MOW's intention not to have more than 42 units - suggests that a significant redistribution of units among districts would be desirable. MOW does in fact expect to effect a certain amount of redistribution of units before the next phase of the

programme (i.e. before 1983) but the extent of this will depend on donors' attitudes to the use of units for betterment of minor classified roads in districts which are relatively well endowed with roads. Some donors, while appreciating MOW's concern for an apparently equitable distribution of units, question the necessity for ensuring that each district has at least one unit. The donors did not feel the need at this stage to reach a consensus on the question of using units for betterment of classified roads before 1983, and expect MOW to approach them individually on this matter as and when the question arises for a unit financed by the donor.

5. The Impact Study

The donors note that base line data have been collected for seven rural access roads in Western and Nyanza Provinces. The Central Bureau of Statistics is in the process of coding the data. Donors also note that financing for the Development Economist to head the Monitoring and Evaluation Unit of the MOW's Planning Division has been arranged with DANIDA, and that DANIDA is in the process of contacting a candidate presently working in Bangladesh. He has been interviewed and it is understood he will take up his duties later this year but probably not before October. The donors feel that this critical position should be filled as soon as possible.

The terms of reference for the study, drafted some five years ago, may be somewhat out of date. They were originally drafted with the objective of providing more effective selection criteria for the RARP. Clearly, as the bulk of the study will not be completed before 1985, the major output of the study will not be specifically related to the RARP.

The donors still feel that the impact study is a useful exercise, however they recommend that, in addition, detailed work is carried out at the earliest opportunity to strengthen the selection criteria. This is of particular importance in the light of the donors' recommendation that the economic analysis contained in the selection procedure should be abandoned in favour of more effective selection criteria at the local level.

It is recommended therefore that one of the first tasks of the Development Economist should be to develop, test and evaluate various selection criteria so that an effective system can be implemented. As far as the complementary rural development activities are concerned, it is realised that the development impact of the roads will be dependent on other development activities initiated in the area of influence of the road. The District Development Committees will play the most important role in this respect. It is hoped that the District Development Plans now under preparation will take the present and future rural access roads into consideration when development activities are proposed.

6. Staffing

The staffing situation at the levels of overseers and engineers can now be considered to be satisfactory. Problems are still being encountered in the administrative and levels. The RARP has been able to cope with the build up from the 8 units which were operational at the time of the last meeting to the present number of 33 units.

The Progress Report No. 3, up to March 1979, shows the detailed figures as regards staffing.

Headquarters Staff

The situation at headquarters has dramatically improved over this last year. All establishment posts are now filled. This has greatly facilitated the process of rapid expansion of the programme.

The programme coordinator responsible for the RARP, Mr. J.A. Simpson, will hand over to a Kenyan Engineer, Mr. G.H. Mwangi, with effect from 1st July 1979. Mr. Mwangi has now been with the programme for some months and will in the beginning be assisted by his predecessor who will remain in the RARP for some time and be available in an advisory capacity.

All other posts on engineering or senior technician level are presently filled and no serious problem is envisaged in the near future.

The reorganisation aiming at a decentralisation of the management structure which will now be implemented, will evidently mostly affect the headquarters staff. This aspect is discussed in detail in Section 3, Reorganisation and Future Policy.

Field Engineers

Five donors are committed to providing three engineers each to the Programme. Of these five, DANIDA and HELVETAS are presently meeting that commitment whilst the Netherlands, NORAD and the U.K. are providing two. The remaining three field posts are filled by two volunteers, one from the Netherlands, one from the U.K., and a Kenyan Engineer. In addition there is one dutch volunteer and one U.K. volunteer acting as assistant engineers. Thus, whilst all donors have not met their commitments, there are presently sufficient engineers in the field.

Doubts have been expressed about the commitment of some of the expatriate engineers in the Programme. The donors felt that this was a serious problem. It was recognised that frustration did arise amongst field engineers when they had to deal with too much administrative matters as a result of a lack of supporting

staff. The donors feel that the present job description is not detailed enough, in that it gives no indication of the large amounts of administrative duties involved. This has led in some cases to frustrations and a possible loss of motivation on the engineers side. In this connection the donors appreciate the fact that the RARP is now making serious efforts to overcome this problem by recruiting a sufficient number of suitably qualified senior administrative staff for each engineer . It should be stressed, however, though that the problem with the bureaucratic procedures will not disappear. For expatriate engineers who have not worked in a similar system before, it is quite difficult to adapt to the attitude that is required to work efficiently with the prescribed procedures.

Nevertheless the donors felt that there was a strong case for ensuring that prospective candidates for field engineers' posts were comprehensively briefed by the respective donor agencies. To this end the donors noted that MOW intends to draw up a memorandum describing the duties and responsibilities of the field engineers. This could be used by donors for briefing purposes.

The donors agreed that as far as recruitment was concerned, they were recruiting engineers for the RARP. Whilst the question of divided loyalties should generally not arise, they recognised their role in ensuring that engineers recruited for the Programme had a commitment to it.

Kenyanisation

Limited progress has been made in this respect, but the donors appreciate the relevant efforts of the MOW. In particular, the fact that as of the 1st July a Kenyan, Mr. G. Mwangi , will take over as Programme Coordinator. This is recognised as a major step forward. The MOW will in the next years recruit a larger number of graduates from the University than before . The graduates will then undergo professional training in the Ministry, whereby they are given the choice to spend part of it in the RARP.

Further kenyanisation of engineering posts can be expected from the reorganisation of the RARP and the change from field engineers to field supervisors with the responsibility for two units only. It should then be possible to assign people with a lower qualification than B.Sc. to these posts, eg. engineers with the Higher Diploma from the Kenya Polytechnic.

The donors note that first contacts have been established with the University of Nairobi as regards the introduction of courses or lectures on labour-intensive methods. It is felt that it is important to try to prevent the undergraduate engineers from developing any bias against working with a labour-intensive programme at an early stage.

Supervisory Staff (Overseers and OiC)

A sufficient number of Overseers have been and will be trained. No problem seems to exist at this level.

There is a shortage at the OiC level resulting in an increased workload for the Field Engineers. For the 33 units, only 11 trained OiC are available. The main problem seems to have arisen from getting suitable candidates with the necessary qualifications for promotion purposes.

Recently, however, the Permanent Secretary MOW has been given authority to recruit personnel up to Job Group F without recourse to the Public Service Commission. Whilst it was originally intended that OiC's would be Job Group G, it is accepted that it will, at least, be possible to provide potential OiC's with career development prospects. Consequently the problem of the lack of OiC's should now be, at least partially, overcome. The donors wished to receive further information on progress in this area through the quarterly progress reports.

7. Road Maintenance

Donor representatives inspected the performance of the road maintenance programme during field inspection to the several districts. During the construction phase maintenance is generally conducted by members of the construction labour force. Upon completion of the gravelling phase, maintenance is accomplished through the engagement of part-time "contractors", who are paid the equivalent of twelve days salary upon satisfactory evaluation by the OiC that the required maintenance tasks are accomplished (see appendix 3).

The donors feel that the present maintenance scheme is functioning reasonably well. Where results are less than satisfactory, it is felt that improvements can be made through more effective supervision. Alternate transportation for supervisors was considered. Because of the need to insure proper security and witnessing of payments, and the relatively small difference in operating costs, alternative transportation such as motorcycles was not considered appropriate at this time. As far as the actual evaluation of the maintenance work is concerned, there appears to be considerable variation in the condition of surface camber, drainage systems maintenance, and grass cutting. It was generally felt that excessive attention is given to grass cutting and ditch cleaning, to the detriment of proper camber maintenance and rut control. MOW is considering the use of rollers and drag screens prior to final gravelling, which should increase the ability of contractors to maintain the surface. MOW also pointed out that the use of supplemental maintenance crews were being considered, for intensive cyclical maintenance. However, the donors note that this programme is now only in the conceptual stage. Until such supplemental activities are actually established, more attention to road-way camber control is required.

The donors felt that more effective quality supervision can be realised by specifying task priorities, such as designating camber maintenance a higher priority than ditch cleaning. MOW feels that

rigid prioritizing would be cumbersome, but has agreed to work towards a uniform standard of quality control during the training process and through inspection.

Donors were concerned with the legality of the maintenance contractor concept, and with the fairness of the concept to individual contractors. Discussion of these items with MOW indicated that the legality of the concept has been confirmed by the Ministry of Labour. Based on field observation and discussion with MOW, the donor consensus was that the concept is fair to individual contractors.

The donors were assured by the Ministry of Works that the only requirement on the maintenance contractor was that he achieved the standard of maintenance laid down in his contract. There was no question of compelling the contractor to be working on the road on specific days of the months.

The donors suggested that, to improve the efficiency of the maintenance operation, the policy of leaving piles of gravel along the completed road for maintenance purposes should be made standard throughout the programme.

The donors noted that there seemed to be a lack of uniformity regarding the timing of the start of maintenance operations. In general the contractor was not hired until the road, or sections of it, had been gravelled (or completed to final earth standard, if it has been decided that gravel is not necessary). Between the final earth formation being finished and gravel being placed, often a period of 6-9 months, the maintenance was carried out by the construction labour force.

In general, the donors felt that the maintenance system was working well but that the MOW should take care to have uniform standards of maintenance and organisation throughout the programme.

8. Design and Construction Standards

The donors considered the road design standards developed for the programme and endorsed at the last Review and Evaluation Meeting to be adequate and reasonable. They also recognised that the six different cross-sections relating to different types of terrain allowed flexibility and that, in addition, it was accepted that field engineers were encouraged to use their discretion and judgement in the design and construction methods used.

The donors endorsed the MOW's approach as they felt that a rigorous adherence to inflexible design standards and construction methods could, at times, be detrimental. Thus, where the existing track was in good condition it may in fact only be necessary to improve the drainage ditches; in certain cases the material in the

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side ditches may be unsuitable for preparing the formation; if the existing road is well compacted and performs well even in the wet season then there is little point in destroying this strength merely to adhere to a specific construction technique. Moreover where it were possible to make spot improvements to an existing road this was clearly preferable to wholesale re-construction. The extra supervision required, however, to achieve this must, of course, be set against the extra cost of complete reconstruction. In general, the donors supported the MOW's view that there should be certain standards of design and construction methods laid down accepting that within these standards engineers could use their engineering judgement.

Compaction by light or heavy rollers is not carried out, but nevertheless the result is generally satisfactory. However, there are cases with heavy erosion or severe damage of formation by traffic immediately after construction. In order to limit these cases it is understood that it is envisaged that rollers would in future be used where circumstances specifically warrant it.

All donors are agreed that it is unlikely that all roads will require regravelling. As the gravelling programme is considerably behind the construction programme, MOW have been reluctant to waver from their policy that all roads should be gravelled for fear that the gravelling will slip even further behind. An alternative policy, strongly recommended by the donors, is that a set of criteria should be used to decide which roads should be gravelled and which not. It was expected that the TRRL would produce such criteria however this is apparently not the case. The donors strongly recommend therefore that criteria based on those laid down in last year's Review and Evaluation Meeting, with an additional criterion related to road safety, be used at the earliest opportunity to decide in each district which roads should be gravelled.

Rural Access Roads Programme

Review and Evaluation Meeting 1979

Opening Address

Mr. Chairman, distinguished guests, ladies and gentlemen.

On behalf of the Ministry of Works, the Roads Department and myself, I would like to welcome you all to this third Review and Evaluation Meeting of the Rural Access Roads Programme.

It is appropriate for me to say a few words about the scope and objectives of the Rural Access Roads Programme in relation to the overall national development strategy of the Government. The current five year development plan stresses the importance of rural development and in this context the need to improve the rural infrastructure and to create meaningful employment opportunities in the rural areas through the expansion of agricultural production.

Past efforts to improve the highway network have been focussed on the Trunk and Primary Roads. However, during the present plan period the emphasis has been shifted to the Secondary and Minor road network. The road gravelling, bridging and culverting programme is scheduled to upgrade some 5,000 kms of secondary and minor roads and the rural access roads programme will upgrade 14,000 kms of rural tracks so that transport of agricultural produce from farm to market may be carried out irrespective of weather conditions.

As you are aware, the rural roads programme is a major labour intensive public works programme. It is envisaged that when it is fully established it will provide daily employment for some 12,000 casual workers throughout 25 districts of Kenya. We are told that this is the largest programme of this type currently being implemented on this continent.

Among other things, the programme will stimulate agricultural production, bring more people into the market economy and provide easier access to social services and facilities for rural communities.

A special feature of the programme is the involvement of the rural communities at the grass-roots level in the identification, construction and maintenance of the roads. In line with the Government's policy of decentralising development planning, District Development Committees are required to identify and select construction projects in their respective districts in accordance with guidelines established by my Ministry.

The labour force for the construction and maintenance is recruited from the communities located in the immediate vicinity of the road. Thus we are able to avoid the problems of housing and

transporting workers and gain from the workers identification with the road because it is they themselves who will derive the benefits from its construction and continued maintenance.

I am pleased to note that significant progress has been made towards the achievement of the programme objectives. Since the last meeting a further 1000 km of road have been built making a total of 1400 kms since the inception of the programme. During the same period the number of operational construction units has increased from 8 to 32 and projects are on-going in all of the orignnally selected 23 districts.

A further 10 units will be established by the end of this calendar year and it is anticipated during the next 12 months a further 1800 km of road will be constructed.

It is not anticipated that the number of construction units will expand a great deal beyond the 42 for which finance has already been secured. Instead the programme management will concentrate on improving the productivity of the existing units and if possible surpass the productivity targets set in the Revised Loan Application.

Financial and technical assistance is being made available by not less than 11 bilateral and multilateral agencies. I understand that the majority of donors providing financial assistance including the World Bank have now agreed to continue their assistance through to June 1982. I hope that we shall have a favourable response from the donors who have yet to reach a decision on this issue.

With regard to technical assistance, you are all aware that for the implementation of the programme the government has had to rely on the goodwill of the various agencies to recruit and finance engineers to direct and control the programme. At the present time, there are a total of 19 technical assistance personnel out of a total of 22 engineers working on the programme. Every effort is being made to encourage experienced Kenyan engineers to participate in the programme but even with the best will in the world it is unlikely that a sufficient number of Kenyan engineers will be available to replace technical assistance personnel in the near future. It must be remembered that this is a developing country and in order to meet our development targets we need an increasing number of engineers.

Therefore I hope that the agencies presently providing technical assistance will be able to continue this support for some time to come. From the agenda, I see that you are going to be kept very busy with discussions and site visits. I hope that the planned visits will help you to relate the theory to the practice and that this meeting will result in concrete proposals for improving the effectiveness of the programme.

Finally, on behalf of the Government of Kenya I shall like to thank all the agencies who have agreed to assist the implementation of this exciting programme. We in the Ministry of Works attach a great deal of importance to the programme and we hope that the lessons we learn in the course of its implementation will benefit not only the rural communities of Kenya but also those in the rest of the developing world.

I take this opportunity to wish you every success in your deliberations.

Thank you.

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