

PD-ABC-936

7277

PROJECT ASSISTANCE COMPLETION REPORT

RURAL ROAD REHABILITATION COMPONENT

OF THE

AGRICULTURAL MARKETING PROJECT (532-0060)

PROJECT PURPOSE

The Rural Road Rehabilitation Component of the Agricultural Marketing Project (532-0060) herein after called the Rural Roads Rehabilitation Project (RRRP) started on June 26, 1986 and concluded as scheduled on December 10, 1991.

The purpose of the Project was to rehabilitate a priority network of roads essential to the increased production and marketing of agricultural commodities, thereby improving rural Jamaican's personal mobility and road access to social services, commercial centers and agricultural production centers. The broader goal was to increase income and economic productivity by integrating rural Jamaicans more fully into the economy.

The Project was designed to assist three broad areas listed below:

- (a) rehabilitation of parochial and tertiary main roads, bridges and culverts in poor condition
- (b) supply of hand tools for use by local maintenance teams, and
- (c) supply of spare parts needed to rehabilitate some of the existing equipment fleet to implement the Project.

FINANCIAL STATUS

The RRRP was designed with a Life of Project funding of \$14.847m by USAID, supported by a planned Government of Jamaica's (GOJ) contribution of \$3.238m (J\$17.690m). This level of overall funding was however not attained due to the lack of GOJ Budget support for the execution of the work within the period June 1986 to July 1989. This lack of adequate support resulted in considerable delays in fully utilizing programmed funds. The level of USAID funding achieved a ceiling of \$9.992m with a final disbursement amount of \$8,819,394.

The Project loan agreement was executed on June 26, 1986 providing \$3,000,000. Total obligation under the project was provided as follows:

	<u>Date</u>	<u>Loan</u>	<u>Grant</u>
Amendment No. 4	06/26/86	\$3,000,000	-
No. 5	09/26/86	\$3,000,000	-
No. 6	08/28/87	-	\$300,000
No. 7	08/31/88	-	\$2,400,000
Pil # 98	04/21/88	<u>\$1,292,342</u>	<u>-</u>
		\$7,292,342	\$2,700,000

The above shows a total USAID contribution of \$9,992,342. The total GOJ contribution to the project was J\$33,067,338.

The original Life of Project (LOP) was 3 years (June 26, 1986 - July 31, 1989). The project was extended (no fund extension) to December 10, 1990 so that the Ministry of Construction/Works (MOC/W) could complete its planned program of roads.

The project comprised of the following elements:

- (i) Road Rehabilitation
- (ii) Technical Assistance
- (iii) Computer Equipment
- (iv) Spare Parts
- (v) Hand Tools
- (vi) Vehicles
- (vii) Contingency & Inflation, Roads

These elements are discussed in detail in the following sections. Obligations and final disbursement for the above elements are shown in Appendix 1.

ROAD REHABILITATION

Selection of feasible roads for rehabilitation under the project required engineering, economic and socio-economic considerations to be made prior to the roads being included under the program. The methodology developed for selecting the roads to be rehabilitated originated from the lessons learned during the AID rural roads impact study.

The methodology included the assigning of a "figure of merit" for each road which is based on (i) the calculation of a benefit/cost ratio (roads having a B/C ratio of less than one were eliminated) which approximates the improvement in access and the contribution to economic growth resulting in project assistance to the respective road, (ii) the measurement of the average daily traffic in which roads having an average daily traffic of between 20 to 300 vehicles were considered eligible, (iii) the population density in the zone of influence of the road and the social rating of the social/commercial services of the towns served by the road.

In addition roads were to be screened to exclude those that are less than one mile long, that are too close to other roads serving the same area, that may have an adverse environmental impact, or where most of the benefits of the road program would serve the high income category of the population rather than the low-income classes in which the road program is focused.

The original target of 450 miles was developed based upon "windshield" estimates and 1986 prices. The reduced planned figure of 230 miles was based upon price and quantity escalation; the latter being due to the effect of flood rains and hurricane "Gilbert" of September 1988. Approximately 30% of the Project was slated for the restoration of flood damaged roads in which B/C and ADT measurements were not applicable due to the state of such roads.

Overall Status of Roads

Approximately 233 miles of roads were completed during the LOP. These roads are listed in Appendix 2. Rehabilitation of the 233 miles of project roads was effected over 4 years and was fairly well spread over the island (see Appendix 3). During this period approximately 20% of roads were rejected by USAID due to poor work and non-adherence to the construction plans. These rejected roads were reworked, at the expense of the Ministry until they met the required standards. Scopes of work required for most project roads were increased or modified in the field due to on site conditions such as rain or deficiencies in planned drainage facilities. These factors, the rejection of roads and the increased scopes substantially increased the GOJ's contribution to the project substantially as shown in Appendix 2 in which the GOJ spent approximately J\$10m more than planned on roads.

It should be pointed out that the greater percentage of rejected roads occurred in the first two years of the project. The close monitoring of roads by USAID (closer than the MOC/W is accustomed to) resulted in improved standards of road construction as the project proceeded.

Ongoing assessments of roads rehabilitated under the project reveal that approximately 12 miles of such roads have deteriorated appreciably over a two year period (see listing on Appendix 4). Analysis of these road failures indicates that such failure largely occurred in sections of the overall road being rehabilitated, which were considered good during the initial road assessments and, therefore, was not considered for rehabilitation. Failure also occurred in areas where only resealing work was carried out. Reasons for this are (1) heavy construction traffic on roadways during rehabilitation and (2) loads on roads are substantially greater than the roads were originally designed for.

Roads selected for rehabilitation were economically analysed on the basis of cost and traffic benefits. A limited amount of screening was done to include road length, location and environmental factors however, no alternative roads to those selected were evaluated neither were socio-economic parameters such as population, development, commodity movements, future plans in the area, production, etc were considered. This latter fact was due to the inability of the project to recruit a sociologist (see TECHNICAL ASSISTANCE).

Repairs to flood damaged roads were carried largely towards the end of the Project as indicated in their inclusion under the latter FARAs (see Appendix 2). This was due mainly to a preference by the US Highway consultant to include roads that met all the technical criteria for inclusion under the project first.

Road Maintenance

One of the main deficiencies observed within the MOC/W was the lack of attention or budgetary support given to road maintenance. Consequently, the project had in place a covenant requiring the MOC/W to establish a road maintenance committee. The purpose of this committee was to study ways improving funding for maintenance. It was composed of representatives from the MOC/W, the Ministry of Finance, the Planning Institute of Jamaica, USAID and other international donor agencies. This committee was formed but never became functional largely due to the MOC/W disputing the terms of reference for the committee which it considered to overlap with its regular ministry function of sourcing funds for its needs.

Through the efforts of the foreign Highway Engineer assigned to the program, a pilot road maintenance "lengthman system" was introduced and consisted essentially of local area personnel being assigned fixed lengths of roadway under contracts to carry out routine maintenance.

The Ministry of Construction/Works implemented the system using a task work method for payment. This system required the identification of tasks to be done by the lengthman and the payment to such a person for each completed task. This method went against the recommendation of the US Highway engineer who recommended that a flat rate system payable on a monthly basis be used. His recommendation was based upon his experience in other third world countries in which the flat rate system greatly reduced the administration of the individual contracts.

Approximately 250 miles of roads were included under the program throughout the island. The results of this "pilot" program were very positive resulting in a larger similar maintenance project being included under an upcoming GOJ and IADB roads project. This project will again use the task work system as it is currently favoured by the MOC/W.

The advantages/benefits of the lengthman system derived included:

- (i) it is relatively inexpensive for the gains derived
- (ii) no mechanized equipment is involved, hence no foreign exchange for spare parts or fuel is required, instead local currency is injected into the local economy
- (iii) each contractor is responsible for a specific section of roadway, therefore he/she can pride themselves in the work done, at the same time they can be held responsible for work not done

TECHNICAL ASSISTANCE

Because of the addition to MOC/W's workload as well as the shortage of staff within the Ministry's Road Planning Unit (RPU), the Project made provisions for technical assistance consisting of (1) a US Transport Economist (2) a US Highway Engineer (3) a Jamaican Highway Engineer (4) a Jamaican Transport Economist (5) a Jamaican Social Scientist (6) a Jamaican Equipment Specialist and (7) a US Transport Economist assigned to review the project every six months.

All positions were filled with the exception of the Jamaican Social Scientist. The position of the Jamaican Transport Economist was filled only for part of the time as the person resigned. The failure of the project to attract a social scientist was perhaps the greatest setback throughout its duration. This failure resulted in the lack of a socio-economic analysis being made in the selection of roads. The result is that proper measurement of the impact of rehabilitated roads in rural communities has not been done.

The work of the US Highway Engineer and Transport Economist was of tremendous benefit to the project as well as the Ministry on a whole. Their work strengthened the capabilities of the RPU and covered development of or refinements in the following areas:

- (1) Measurement of surface deterioration
- (2) Organize continuous road condition reporting
- (3) Traffic counts and surveys
- (4) Unit cost development
- (5) Assistance in the development of micro-computer programs
- (6) Selection and evaluation of roads for project financing
- (7) Economic and sensitivity analysis
- (8) Economic evaluation criteria & parameter
- (9) Data bank establishment
- (10) Vehicle operating cost

The local Equipment Specialist was hired on contract to the MOC/W. This person was charged with the responsibility of ensuring continuous availability of the required equipment and spares necessary for road rehabilitation. Responsibilities included procurement of the equipment and the rehabilitation of vehicles for use under the project.

COMPUTER EQUIPMENT

The Project assisted the RPU in its data storage and processing of information by providing an upgraded computer system. This consisted of (i) 1 IBM AT compatible (ii) 2 printers (iii) 2 IBM compatible work stations (iv) Novelle network and (v) related software. This system is expected to satisfy all the computational requirements of the RPU for the next five years.

SPARE PARTS

This element was designed to ensure the continuous availability of equipment necessary for road construction by providing needed spare parts, tyres and accessories as well as an assortment of hand tools and equipment (see Appendix 5).

Implementation of this aspect of the project was divided in three areas, namely:

- (i) Spare Part Procurement
- (ii) Equipment Rehabilitation
- (iii) Small Equipment Procurement

(i) Spare Part Procurement

This aspect began with the purchase of parts for Leyland, Caterpillar and Gallion units. Subsequent purchases included parts for most operating vehicles in the MOC/W's fleet. In addition, large quantities of tyres were purchased for the units. A substantial quantity of parts (non routine) were ordered for the rehabilitation of projects such as the repowering of units with new engines.

(ii) The Equipment Rehabilitation Program

The MOC/W carried out a rehabilitation program to repair and maintain out of service equipment including dump trucks, compactors and utility vehicles. This included the fitting of new drive trains to such vehicles. Twenty three engines were procured under this scheme.

(iii) The Small Equipment Program

This program included the procurement of measuring wheels, traffic counters, power saws, water pumps, ride-on and walk behind compactors.

The overall spare parts program increased the efficiency of the road construction projects by improving availability. The program provided over 30 pieces of additional equipment which would not have been otherwise available. The MOC/W gained also in the expertise to repower equipment and the conversion of flat bid trucks into water sprinklers.

HAND TOOLS

Various pieces of miscellaneous hand tools were procured to assist in rehabilitation and maintenance of roads (See Appendix 5).

VEHICLES

Two pick-ups were procured for use under the project. One vehicle is based with the RRRP Project Unit for use in daily construction activities while the other one is used by the Road Planning Unit in its regular activities of collecting engineering and economic data in the field. These vehicles were supplemented by other vehicles which were rehabilitated using spares procured under the program.

LESSONS LEARNED

1. Problem:

The project was plagued with budgetary problems on the GOJ's side resulting in a reduced USAID funding levels from the originally planned amount of US\$14.847m to US\$9.992m over the 3 1/2 project period. The uncertain or reduced budgetary allocation provided by the Ministry of Finance on a yearly basis resulted in work stoppages on some sites as well as the reprogramming of new work. This reprogramming was at a cost to the GOJ due to double work, as in the case of previously laid base course material, and price escalations.

Recommendation:

Once the Ministry of Construction/Works submits its program of works and the Ministry of Finance (MOF) has approved its allocation it is imperative for the MOF to keep abreast of progress of works. This would assist in reducing losses to the GOJ by more informed or streamlined actions on the part of the MOF when making adjustments to the budget.

2. Problem:

Stoppages occurred on roads being rehabilitated for various reasons throughout the 3 1/2 years. Such stoppages were caused by budgetary reasons, national events such as the general election in 1989 or localised problems such as dust nuisance cases. Stoppages resulted in rapid deterioration of partially completed roads leading to significant loss of investment. The deterioration meant repeat of activities and therefore increased project costs and a shortfall in the miles of roads rehabilitated.

Recommendation:

The Ministry ought to consider rehabilitating roads in sections and completing such sections prior to starting adjacent areas. The practise of doing base course works on say a 5 mile length of road prior to the start of asphaltting should be discontinued.

3. Problem:

Appendix - shows a list of roads which were rehabilitated with sections which were considered to be sound and therefore did not require rehabilitation. These unimproved sections have now rapidly deteriorated due to increased traffic flows.

Recommendation:

The survey of roads must include bore hole lists on sections considered to be good and not in need of rehabilitation.

4. Problem:

Prior to rehabilitation, some roads were surveyed/assessed during the dry months. This resulted in an under estimation of drainage works required. Variations to approved works occurred frequently as a result. This problem impacted in the budget as well as project completion times. In addition the Ministry's budget oftentimes did not have sufficient funds to complete such variations.

Recommendation:

The Ministry should assess the requirements of roads during the rainy months in order to monitor run off characteristics.

5. Problem:

The project suffered from the lack of (i) a social scientist and (ii) a construction engineer solely dedicated to the project with primary responsibility for quality control.

The absence of a social scientist prevented the collection of socio-economic data necessary to analyse the long term benefits to adjacent communities due to the rehabilitation of the road.

The absence of a full time construction engineer monitoring quality contributed greatly to the 20% of rejected roads and therefore project cost overruns.

Recommendation:

If a local social scientist cannot be contracted with then an expatriate person should be considered. Also, future projects should include a construction engineer as part of the technical assistance team.

6. Problem:

There are no GOJ funds available for minor repairs, maintenance or alterations immediately after completion of the project road. Minor works sometimes deteriorate into major works.

Recommendation:

The GOJ should apportion funds to take care of such requirements. It could use the lengthman system on all its project roads to take care of minor maintenance problems.

7. Problem:

Lack of routine maintenance on roadways have been the major cause of road damage.

Recommendation:

The success of the pilot "lengthman system" under the project underscores the need for the GOJ to address the problem of maintenance. Future projects should be conditioned by the GOJ's promise to implement a lengthman system on project roads for at least three years upon completion of the project.

8. Problem:

There is always a shortage of funds to cover all forms of road maintenance. If rehabilitated projects do not receive adequate maintenance, the user benefits will rapidly disappear.

Recommendation:

The GOJ with its lack of funding, should look at ways of increasing its collection of revenue from the existing road user charges.

Appendix 1

			<u>Obligated</u>	<u>Disbursed</u>	<u>Unexpended</u>
Element 21	Road Rehabilitation	(Loan)	6,013,380	5,341,911	671,469
		Grant	1,754,824	1,740,966	13,858
Element 22	Technical Assistance	Loan	409,711	398,887	10,824
8		Grant	141,779	141,779	0
Element 23	Computer Equipment	Loan	32,000	24,504	7,496
Element 24	Spare Parts	Loan	788,588	761,409	27,179
		Grant	378,406	378,406	0
Element 25	Hand Tools	Loan	10,623	-	10,623
Element 26	Vehicles	Loan	24,494	21,742	2,752
Element 27	Contingency & Infl.	Loan	13,546	9,785	3,761
			<hr/>	<hr/>	<hr/>
TOTAL LOAN			7,292,342	6,533,734	758,608
TOTAL GRANT			<u>2,275,009</u>	<u>2,261,151</u>	<u>13,858</u>
			9,567,351*	8,794,885	772,466

*Amount was reduced from the original amount of \$9,992,342 by the de-ob process as of the 6/28/91

5/30/91
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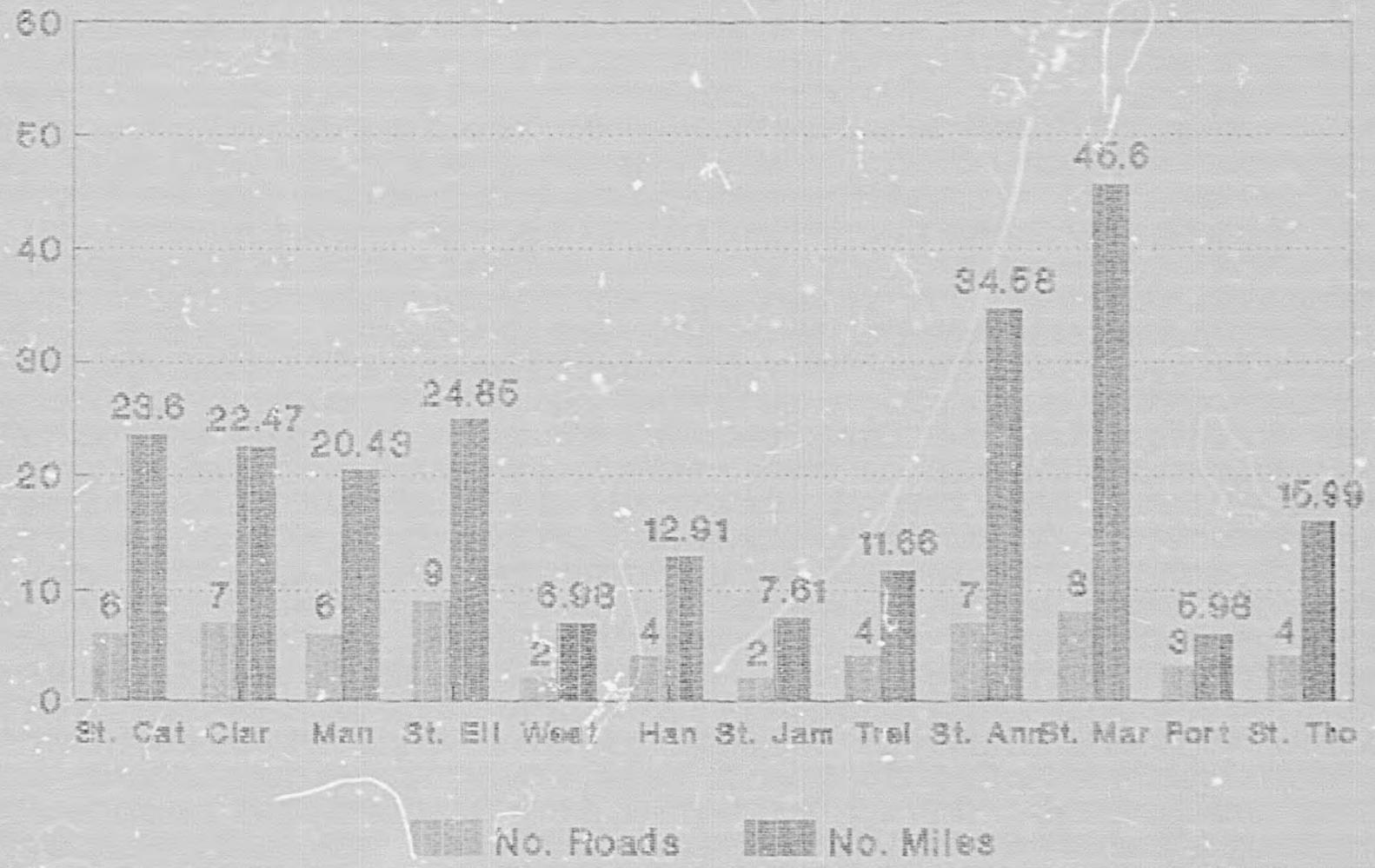
ROADS REHABILITATED UNDER THE RRRP

Appendix 2

HRA No.	ROAD PROJECT	PARISH	No. MILES	USAID	BOJ	TOTAL	ACTUAL	COST DIFF	COST/Mile	ADT
				COST J\$	COST J\$	COST J\$	COST J\$	J\$	J\$	PRE-REHAB POST
1	BANKS-FISHING VILLAGE	CLAR.	2.39	584700	158500	743200	691761	51439	289440	64
	JAMES HILL-BRAE HEAD	CLAR.	3.20	942600	244600	1187200	1141473	45727	356710	50
	C/NER SHOP-TROUT HALL	CLAR.	5.65	3138700	809700	3948400	3900000	48400	690265	195
2	CEDAR VALLEY-W/FOREST	ST. THO.	5.90	1173100	315900	1489000	1368037	120963	231871	103
	EASINGTON-LLANDEWEY	ST. THO.	3.20	367400	102400	469800	381259	88541	119143	93
	NEW YARMOUTH-R/INGTON	CLAR.	2.61	515400	154300	669700	590976	78724	226428	181
3	COLGATE-HARRISON TOWN	ST. ANN	2.70	431808	112132	543940	540000	3940	200000	204
	RICHMOND-KONISBERG	ST. MAR.	3.40	537762	132132	669894	650190	19704	191232	163
	SAVANNAH-RAYMOND	CLAR.	3.90	814855	205166	1020021	1037198	-17177	265948	190
4	DROMILLY-DEESIDE	TREL/Y	2.50	294550	75152	369702	370000	-298	148000	69
	JOHN'S HALL-STAFLETON	ST. JAMES	5.10	1206564	255494	1462058	1460000	2058	286275	126
	CHICHESTER-CHIGWELL	HAN.	6.40	1096952	274240	1371192	1360000	11192	212500	91
	BRINKLEY-MYERSVILLE	ST. ELI.	3.40	341058	85368	426426	430000	-3574	126471	55
5	NEEDHAM-PEN-LYSSONS	ST. THO	2.53	451221	113881	565102	567000	-1898	224111	80
	WINDSOR ROAD	ST. CAT.	0.85	311286	77625	388911	379000	9911	445882	253
	PAROTTEE B.-PONDSIDE	ST. ELI.	3.94	321264	79387	400651	397000	3651	100761	186
	SHER. CONTENT-PERU	TRELAWNY	3.75	683626	170845	854471	855000	-529	228000	40
6	MANGO WALK BRIDGE-APP.	CLAR.	0.40	827961	733244	1561205	1550000	11205	3875000	-
7	BOSWALK-BARRY	ST. CAT.	7.10	1310145	230843	1540988	1530000	10988	215493	81
	ELEVEN MILES-BARRY	ST. CAT.	2.00	389325	96487	485812	401962	83850	200981	48
	LORRIMERS-LAUGHTON TN.	ST. ANN	6.90	929651	233688	1163339	1360000	-196661	197101	110
	SPRING GARDEN-SKIBO	PORT.	2.95	412073	94304	506377	500000	6377	169492	171
8	PERU-DROMILLY	TRE.	3.75	546316	111214	657530	582852	74678	155427	263
	SPRING MTN.-PROSPECT	HAN.	2.51	275378	80859	356237	432564	-76327	172336	138
9	PISGAH-GINGER HILL	ST. ELIZ.	3.60	484955	106354	591309	584000	7309	162222	132
	OXFORD-EVERGREEN	HAN.	2.62	358451	82777	441228	450000	-8772	171756	51
10	WITHBY-BALLYNURE	HAN.	2.24	195377	48187	243564	239000	4564	106696	83
	SANTOY-ORANGE BAY	HAN.	1.45	213423	51754	265177	262704	2473	181175	83
	BORDER-CUFFY GULLY	ST. MAR.	8.40	1753751	357173	2110924	2100000	10924	250000	24
11	SWIFT RIVER-HOPE BAY	PORT.	3.03	490491	126285	616776	620000	-3224	204620	206
	GREAT BAY-TREASURE B.	ST. ELIZ.	1.69	316763	83714	400477	466961	-66484	276308	152
	MOUNT AIRY-NEGRIL	WEST.	2.47	439466	117810	557276	560000	-2724	226721	119
	GULISBRO-AMITY HALL	ST. JAMES	2.51	511558	128811	640369	1321300	-680931	526414	56
12	TREASURE B.-BILLY BAY	ST. ELIZ.	3.92	426737	94364	521101	483126	37975	123246	233
	NAIN-LITITZ	ST. ELIZ.	0.93	160854	45438	206292	218000	-11708	234409	48
	ORANGE H.-GINGER HILL	ST. ELIZ.	2.40	419783	107041	526824	1270790	-743966	529496	27
	LLANDEWEY-WINDSOR F.	ST. THO.	4.36	355325	105723	461048	525210	-64162	120461	175
	MURAVIA-DUMP	HAN.	3.66	741726	189953	931679	1436822	-505143	392574	59
13	CHRISTIANA-MURAVIA	HAN.	3.18	792719	195856	988575	1531905	-543330	481731	99
	SALT GUT-MANGO V.	ST. MAR.	2.88	575170	143856	719026	700000	19026	243056	193
	MT. ZION-LLANDOVERY	ST. ANN	2.32	571272	141960	713232	716000	-2768	308621	-
	LUCEA-ST. SIMON	HAN.	2.55	386134	97257	483391	390835	92556	153269	55
	TROY-OXFORD	HAN.	6.03	457696	116910	574606	1344924	-770318	223039	110
14	BAILEY'S V.FONTABELLE	ST. MAR	2.65	471522	114709	586231	757707	-171476	285927	196
	CRAWLE-SAMUEL'S FRO.	TRELAWNY	1.66	179989	42359	222348	333035	-110687	200623	139
	SUMMERFIELD BECKFORD	CLAR.	4.32	676859	141393	818252	1947601	-1129349	450834	114
15	BENBOW-BONNETT	ST. CAT.	2.03	580336	96670	677006	941256	-264250	463673	44
16	NEGRIL SPOT-MT AIRY	WEST.	4.51	1158056	175649	1333705	1759891	-426186	390220	77
	MANGO V - UNION HILL	WEST.	1.69	460467	62378	522845	536962	-14117	317729	124
	LAWRENCE T -GLENCOF	ST. CAT.	3.94	930788	173947	1104735	2136181	-1031446	542178	265
17	WINDSOR C-ROACHDALE	ST. MARY	9.00	2615403	413380	3028783	3860506	-831723	428945	N/A
	GAYLE-LABYR-PROSPECT	ST. MARY	8.20	3007748	492833	3500581	3800000	-299419	463415	N/A
	MYERSVILLE-ST.MARY	ST. ELIZ.	4.70	644549	112220	756769	1608255	-851486	342182	N/A
	GREAT B.-TREASURE B.	ST. ELIZ.	0.27	191551	35062	226613	220000	6613	814815	N/A
18	LINCOLN-HATFIELD	HAN.	2.70	509359	104856	614215	986907	-372692	365521	N/A
	TULLOCH-ZION HILL	ST. CAT.	7.94	2022208	371962	2394170	3180041	-785871	400509	N/A
19	SWIFT R.-HOPE B II	PORT.	0.00	281016	78713	359729	345000	14729	N/A	N/A
	CASCADE-PROSPECT	ST. ANN	3.30	833118	342493	1175611	1311351	-135740	397379	N/A
20	TAVERN H.-LABYRINTH	ST. MAR	9.38	3141158	909563	4050721	4304454	-253733	458897	N/A
	GRIERFIELD-LINCOLN	ST. ANN	5.26	1018763	226714	1245477	1393300	-147823	264886	N/A
	CROSS RDS.-NEW HALL	ST. ANN	4.70	1284852	284053	1568905	1767234	-198329	376007	N/A
	ALDERTON-BENSONTON	ST. ANN	7.20	1188829	374450	1563279	1952717	-389438	271211	N/A
	DOWN LODGE-GORDON P.	ST. ANN	2.20	665786	133597	799383	896000	-96617	407273	N/A
TOTAL			232.92	49417703	11975685	61393388	71736247	-10342859	301850	

12

RRRP ROAD LOCATION



APPENDIX 3

US-AID LOAN CONTRACT No. 532-T-013

RURAL ROAD REHABILITATION PROGRAM

SECTIONS OF REHABILITATED ROADS REQUIRING FURTHER WORK

PROJECT LOCATIONS	FARA NO	TOTAL PROJ. LENGTH (MLS.)	LENGTH UN-IMPRV SECTION (MLS.)	EST. COST TO REHAB. J\$	REMARKS
CORNER SHOP - TROUT HALL	1	5.40	0.080	63,000	Breakaway requiring R/Wall unimproved areas need rehab.
JAMES HILL - BRAE HEAD	1	3.20	0.020	12,000	Unimproved sections need rehab.
BANKS FISHING VILLAGE	1	2.40	0.075	30,000	Broken water mains causing base failure
NEW YARMOTH - ROWINGTON	2	2.61	0.001	600	Repair damaged section
RAYMOND - SAVANNAH	3	3.57	0.020	15,000	Unimproved sections need rehab.
COLGATE - HARRISON TOWN	3	2.67	0.770	135,000	'Do'
JOHNS HALL - STAPLETON	4	5.10	1.590	711,000	Unimproved areas fail under traffic flow
BRIMBLEY - MYERSVILLE	4	3.40	2.570	371,000	Unimproved sections need regul- lating and sealing
CHICHESTER - CHICWELL	4	6.40	0.700	286,000	Unimproved areas fail under traffic flow
PAROTTEE - BEACH - PONDSIDE	5	3.95	1.610	805,000	'Do'
WINSOR ROAD	5	0.85	0.120	56,000	Unimproved areas need rehab.
SPRING MOUNT - PROSPECT	8	2.51	0.380	100,000	'Do'
GINGER HILL - PIZGAH	8	3.60	1.140	421,000	Unimproved sections needs rehab. No lateral support to embankment resulting in breakaway.
OXFORD - EVERGREEN	9	2.62	0.750	353,000	Unimproved areas fail under traffic flow
WHITBY - BALLYNURE	9	2.24	0.250	78,000	Unimproved sections need rehab.
ORANGE BAY - SANTOY	9	1.45	0.500	152,000	'Do'
TREASURE BEACH - BILLY BAY	11	3.92	0.120	36,000	'Do'
MORAVIA - DUMP	12	3.66	0.290	83,000	Breakaway needing retaining wall
CHRISTIANA - MORAVIA	12	3.18	0.160	62,000	'Do'
TROY - OXFORD	12	6.03	0.220	42,000	Unimproved areas need rehab.
TOTALS		68.76	11.366	3,811,600	
		=====	=====	=====	

US-AID LOAN NO. 532-T-013
 RURAL ROAD REHABILITATION PROJECT (RRRP)
 PROCUREMENT STATUS REPORT

ACTIVITIES	UNIT	TOTAL PLANNED PROGRAMME	ACHIEVEMENT TO 7/11/90
15 Dyna Pack V/Rollers)			
3 Gallion Rollers)			
6 Pnuematic Tyred Rollers)			
15 Suzuki Jeeps)			
15 Toyota Trooper)	Spare Parts	108 units	131
10 Caterpillar Units)			
17 Leyland Trucks)			
12 Dodge Trucks)			
33 Mercedes Benz Trucks)			
Tyres	No.	1,500	1,500
Tyres & Tubes	No.	1,000	1,000
<u>Engines for:</u>			
6 Land Rovers	No.	6	3
4 Leyland Trucks	No.	4	4
3 Dodge Trucks	No.	3	3
1 Toyota Trooper	No.	1	1

US-AID LOAN NO. 532-T-013
RURAL ROAD REHABILITATION PROJECT (RRRP)
HAND TOOLS AND SPARE PARTS STATUS REPORT

ACTIVITIES	UNIT	TOTAL PLANNED PROGRAMME	ACHIEVEMENT TO 7/11/90
<u>Procure Hand Tools</u>			
Hand & Ride on V/Rollers	No.	30	30
Measuring Wheels	No.	26	26
Portable Water Pumps	No.	14	14
Fax Machine	No.	1	1
Power Saws	No.	4	4
Inclinometers	No.	12	12
Emulsion Sprayers	No.	15	15
VHF Portable Radios	No.	20	20
VHF Mobile Radios	No.	10	10

Procure Equipment Spares

For:

15 Mitsubishi Pick-ups

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16

US-AID LOAN NO. 532-T-013
RURAL ROAD REHABILITATION PROJECT (RRRP)
PHYSICAL STATUS REPORT

ACTIVITIES	UNIT	TOTAL PLANNED PROGRAMME	ACHIEVEMENT TO 7/11/90
Mitsubishi Pick Up	No.	2	2
Dyna Pack Roller	No.	1	1
Assorted Leyland & Dodge Spare Parts for 26 units		100%	100%
Rehabilitate Equipment	No.	30	36
Procure Computer		100%	100%

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