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EVALUATION

of

THE RURAL ROADS PROJECT

USAID LOAN NO.: 504-T-013

USAID PROJECT NO.: 504-0068

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## RURAL ROADS PROJECT

### Summary:

The Rural Roads Project has encountered almost continuous implementation difficulties resulting in slow disbursements and limited progress. Over 50 percent of Project time has elapsed. A major part of these difficulties is reflected in the following findings:

- Earlier than anticipated restructuring of the implementing agency (MWT), resulting in unclear and ineffective Project management responsibilities within the GOG;
- Failure to initiate construction of Feeder Roads;
- Lack of progress in construction of the Highway Laboratory;
- Continuous delay in equipment repair and overhaul, and in improving GOG repair and maintenance capacity;
- The consultant's performance has been seriously hampered by the above factors and its own shortcomings and staffing problems;
- The training element carried out by the consultant has been seriously deficient;
- Decisions have not been made as to repair shop improvements and it is doubtful if these could be accomplished by the PACD.

The foregoing matters were discussed with the appropriate Ministers of the GOG on December 4, 1980, as the initial step toward deciding how best to use the remaining Project resources in view of the existing constraints, including the Project Assistance Completion Date, December 1982.

Minister Naraine of the implementing agency (MWT) wanted to study these matters more and send his views concerning the roads, the laboratory, and other issues by letter to USAID by December 31, 1980. In addition, Minister Nascimento (Minister, Office of the President) has promised to complete plans and lists for shop improvements by January 31. USAID has stressed to the GOG our intentions for completing redesign of the Project by January 15, 1981.

## RURAL ROADS EVALUATION

### 1. Introduction:

The Rural Roads Project was designed to increase the capability of the Ministry of Works and Transport (MWT) to maintain its equipment; to improve the road system of Guyana; and to enable the Government to continue a modest feeder road construction program. The Project Paper was completed in September 1977. Funds provided for the Project include an A.I.D. loan for US\$6.2 million with a counterpart contribution of US\$2.06 million equivalent, and an A.I.D. grant of US\$1.7 million with a counterpart contribution of US\$568,000 equivalent for a total of US\$10,528,000. The Grant finances the institution building part of the Project, and the Loan finances the infrastructure building part. More specifically, the Grant finances a consultant to provide technical assistance and training; and the Loan finances the means of repairing equipment and construction of feeder roads. (Feeder roads are roads in rural areas which "feed" traffic into main roads.)

The Grant was signed in September of 1978 and the Loan was signed in December of 1978. In February of 1979, a U.S. consultant (Frederic R. Harris) team completed a four-month effort to assist the MWT in meeting the conditions precedent for the Loan and Grant and in the preparation of an implementation plan for the Project. The Harris Report provided a list of parts needed for the rapid repair of equipment by the local representative of the Caterpillar Company; assisted in the selection of a site for the construction of a soils and materials testing laboratory; provided a feasibility analysis of five feeder roads; and prepared design criteria for road construction.

In September 1979, the MWT signed a contract with TAMS, a U.S. consultant, to provide technical assistance for the implementation of the Project. In general, the contract provides for training, advisory services and technical inspection of construction (Highway Laboratory and Feeder Roads). The first members of the consultant's team arrived in Guyana in October 1979.

2. Background:

Major tasks to be accomplished in implementing the Project are as follows:

- i. Train 1,493 MWT employees
- ii. Construct feeder roads
- iii. Construct a Soils/Materials Testing Laboratory
- iv. Expand and improve workshops
- v. Repair construction equipment
- vi. Buy tools and equipment for training, shops, the laboratory, etc.

To date, approximately 300\* employees have been trained. The design and construction contract documents for the two feeder roads have been completed. The PACD\*\* for the Loan/Grant is December 1982. At this point, the roads cannot be built in the time remaining. The highway laboratory is under construction but work is five months behind schedule. The procurement of training aids, tools and laboratory equipment, etc. is moving slowly. Much of this procurement is being done through the Afro-American Procurement Center (AAPC). The improvement/expansion of repair

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\* Levels in this evaluation are as of October, 1980

\*\* Project Assistance Completion Date

facilities is also moving slowly. A "quick fix" program was set up to repair equipment at an accelerated rate in order to have equipment necessary for road maintenance. Thirteen pieces of equipment were repaired by GUYTRAC, the local Caterpillar representative, by January 1980. The five pieces of U.S. equipment to be repaired under the "quick fix" program by MWT have not been repaired to date. A British truck repair program has been completed. However, funds for the repair of equipment not manufactured in the U.S. are not available. Five U.S. front-end loaders will be repaired by a local company (AINLIM) which stocks GM parts. This leaves a balance of approximately US\$720,000 for repair of U.S. equipment by MWT.

British

In March 1978, the/firm of P-E International Operations Limited published a report on the use and maintenance of Government-owned mobile mechanical equipment. The report supported the formation of a national maintenance organization to eventually meet the needs of the nation. Since then, a large equipment maintenance center has been built at Melanie Damishana.

In September 1979, USAID acknowledged the Plant Maintenance and Hire Division (PM&HD) being set up to replace the Mechanical Division of the MWT. TAMS is working with the Plant Maintenance and Hire Division on the development of the organization and the repair of equipment. There have been delays in getting this repair program underway.

The equipment repair work is related to the improvements to be provided at the two principal shops and a district shop (Ruimveldt

Rebuild, Central and Timehri). Tools, equipment and a training program have been funded to improve production at these shops. TAMS' advisors are to assist in developing a management information and control system. However, with the advent of the PM&HD, some basic changes have taken place which impact on what is to be accomplished in this area.

The TAMS contract provides for 269 work months of technical assistance. To date, approximately 108 work months (40%) have been used. Twelve positions are provided for, from 12 to 36 months. They are:

	<u>Work Months</u>
Project Manager	36
Equipment Management	24
Master Mechanic	18
Vehicle Electric Systems Specialist	18
Highway Engineer	31
Heavy Equipment Shop Administrator	24
Senior Soils and Materials Engineer	34
Technical Training Specialist	24
Senior Supply Administrator	18
On-The-Job Training Specialist	12
Heavy Equipment Operator Trainer	12
Senior Transport Planner	18
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There have been several changes in TAMS personnel. The Master Mechanic's position and the OJT Specialist's position have been vacant for several months. The MWT has undergone several organizational changes

in the past year. The resulting changes in personnel, operating procedures, objectives, etc., within MWT have delayed Project implementation.

In late October 1980, the local newspaper announced Government plans to restructure the MWT. Restructuring will affect every part of the Ministry. While we have not been formally advised of the restructuring plan, it appears that the MWT will be separated into the Ministry of Construction (MOC) and the Ministry of Transport (MOT), Engineering surveys will be under the Ministry of Agriculture. Road maintenance will be under the Ministry of Regional Development. In addition to the HRCCL (Hinterland Roads Division cum Hinterland Road Construction Company Limited) and GuyBridge, a Design Consultant Company (DCD) and a Common Services Company (CSC) will be formed. These four "companies" will be monitored by the MOC. The MOT will address Planning, Policy, and Administration.

Most of the above information was gathered from the local newspaper. Restructuring of MWT is scheduled for completion in January 1981. By then, we may find ourselves trying to work with three or more Ministries and four or more companies.

3. Project Evaluation Elements:

The evaluation has been divided into the following Project elements:

- i. Feeder Road Construction
- ii. Highway Laboratory Construction
- iii. Repair Shop Improvements
- iv. Construction Equipment Overhaul
- v. Training and Technical Assistance

The elements listed below have influenced Project implementation and are therefore discussed as they relate to the Project following the review of the Project elements:

- (a) Plant Maintenance and Hire transition;
- (b) Advance for Equipment Repair;
- (c) Restructuring of the Ministry.

4. Feeder Road Construction:

Satisfying the Loan Agreement conditions precedent for road construction funding was scheduled to be accomplished on or before December 31, 1979. However, because of the long delay in awarding the consultant contract with TAMS, the tender documents were not prepared until August 1980.

Contract documents for two roads were prepared by TAMS and the Ministry staff. This work was completed in August. USAID reviewed the contract documents for the first feeder road and provided comments in September 1980. USAID repeatedly requested the Ministry to arrange to issue the bid documents so as to award the feeder road contracts before the end of CY 80. Since then, it appears that MWT has stopped all activity leading to award of a contract.

TAMS recommended that the contract documents provide a clause whereby private contractors would obtain a FX credit for the purchase of spare parts needed to carry out construction of the road. The Minister of MWT has indicated this clause would not be approved. The private contractors have indicated that they would not bid on the feeder roads using their equipment unless the clause is included because without access to FX or spare parts, they cannot keep their equipment running.

On October 1, 1980, the Hinterland Roads Division of the MWT became the Hinterland Roads Construction Company Limited, according to a recent newspaper article. The Chairman of this Company is Minister Naraine who is also the Minister of MWT. It is our understanding that

the Company now controls the asphalt plant needed to produce hot mix for construction of the feeder roads. Thus, if HRCCL were "competing" with private companies, the private companies would be dependent on this competitor. Under the circumstances, we have two problems in approving a contract for the feeder roads. First, HRCCL control of the asphalt plant amounts to a monopoly. Secondly, without bids from private contractors, there is no competition. In fact, what we have in the HRCCL amounts to a variation of construction by force account.

USAID has made it clear that it does not wish to have these roads constructed by the Ministry of Works on a force account basis. We feel it has been amply demonstrated that this method is too costly, too time-consuming and results in poor quality construction.

The HRCCL is constructing the Upper Demerara Forestry Road (UDFR). A visit to the site indicated that the work which had been done, including clearing and grubbing, grading, etc. had apparently been done satisfactorily. However, the visit also indicated questionable procedures as to the route alignment, drainage work and the roadway surface design. It appears that a proper route survey was not made prior to the start of construction of the UDFR. Several changes have been made to the horizontal and vertical alignment in the course of construction after clearing and grubbing along the center line. A great deal of additional drainage work should be done to avoid erosion. And while soils tests would have to be made to determine the strength of the roadway, it does not appear that the laterite surface being put down will support lumber trucks in wet weather. We are not in a position to question where the responsibility lies. What is of concern to

USAID is that the work is not being done properly, for whatever reason.

If the situation developed so that HRCCL was our only choice, the only acceptable alternative to not building the roads would be Fixed Amount Reimbursement. By using the FAR method, we would only agree to reimbursing for the road or any part of it which was found to be satisfactorily constructed. If construction ran beyond the PACD, we could either pay for the portion completed or extend the PACD for the express purpose of completing the road. However, half a road would not serve the Project purpose.

An important factor in considering FAR is the cost estimate. Here USAID may become embroiled with PM&HD. TAMS estimates for the roads are based on present equipment rates. PM&HD has prepared a new set of rates recently which are far higher than TAMS can justify or USAID can agree to.

In light of the passage of time and daily cost escalation, construction of the roads is not likely to be cost effective. Moreover, given the probability that construction could not start before several months from now, we have no doubt that they could not be completed before the Project Completion Date. The US\$4,000,000 in joint funds was originally seen as adequate to build up to 25 miles of roads. By the time they are built, that sum may only be adequate for 5 or 6 miles of road, at best. Given these circumstances, USAID does not feel the roads are a sound investment.

5. Highway Laboratory:

Loan funds have been provided along with Grant funds and counterpart funds for the construction, furnishing and equipping of a materials and soils testing laboratory. Funds have also been provided for an advisor and a vehicle. The objective is to improve the design and quality control capability of MWT.

US\$609,450 have been provided from Loan funds for the construction and furnishing of the highway laboratory. The equivalent of US\$107,550 in counterpart funds has also been provided by the GOG for this purpose. The Ministry designed the laboratory and awarded a contract to a local firm in May 1980 in the amount of G\$1,470,477.13 (US\$578,928 approximately @ G\$2.54:US\$1).

Some of the plumbing and electrical hardware thought to be available as shelf items in Guyana are no longer available. The Ministry is therefore procuring these items for the contractor. This has not delayed the Project so far because the contractor is five months behind schedule and is not ready to install hardware. However, recently he was temporarily delayed because reinforcing steel was not available.

The laboratory contractor is behind schedule mainly because he has contracted for more work than he can carry out effectively. The Ministry has indicated it intends to have the contractor accelerate construction or cancel the contract. If the contract is cancelled, several months or more will be lost in re-bidding and the cost will increase. The construction period was scheduled for 14 months. However, only 3 percent of the work had been completed and over 50 percent of the time had elapsed.

The administration of the laboratory will probably be the responsibility of the Ministry of Construction. If the restructured system works, the laboratory would serve a useful function. This assumes the laboratory building is built on schedule which is questionable at this point. The present contractor could finish the laboratory in one year, providing materials are available. If it became necessary to replace the contractor, it could take up to two years to let a new contract and complete construction.

Loan funds amounting to US\$134,590 have been provided for equipping the laboratory. Equipment is being ordered through the Afro-American Purchasing Center (AAPC) in New York. These orders were placed several months ago and the equipment is expected to arrive during the next few months. MWT plans to store the equipment in the present laboratory until the new laboratory is completed. In the event USAID does not continue with funding construction of laboratory, the orders for equipment should be cancelled.

The Soils/Materials Engineering Advisor's position was scheduled for 34 work months of which approximately one year has elapsed. In addition to conducting a training program, the list of equipment for the laboratory has been prepared and work has been completed on the soils and pavement design of the feeder roads. A construction material research program was under way. A design manual and a procedures manual was being developed. This work was on schedule. However, the TAMS advisor resigned in mid-November.

Furthermore, there exists alternative facilities adequately equipped and staffed. The University of Guyana laboratory, headed by

an engineering expert in soils mechanics, assisted by five full-time technicians is capable of performing all tests on soil and materials for road construction work. Other facilities are also available; USAID and the GOG will have to decide whether existing facilities are sufficient for projected work and if the proposed laboratory should not be built.

6. Repair Shop Improvements:

The repair shop improvement program involves the expansion of the Ruimveldt Rebuild Workshop, improvements at the Central Workshop and the Timehri District Workshop. The Loan provides US\$106,666 for this plus US\$244,432 for shop equipment. A partial list of tools and equipment estimated to cost US\$162,237 has been approved for procurement.

To date, no decision has been made by MWT as to how best to utilize the US\$106,666 in loan funds for the improvement of workshops. Originally, the Ruimveldt shop was to be expanded and minor improvements were to be made on two smaller shops. The Ministry prepared a set of plans for expanding Ruimveldt which included offices and other facilities not originally anticipated. When the cost estimate exceeded the amount provided in the Loan, MWT decided not to fund the extra cost. There has been some speculation within PM&HD about repairing district workshops as required for the central maintenance scheme. Should the Government elect to do so, USAID would have to determine if this would serve the Project purpose.

At this point, the objectives of the shop improvement element can be met if a decision on physical improvements is made in the next six months. Otherwise, depending on what improvements MWT/PM&HD decides on, it may not be possible to complete the improvements prior to the PACD.

7. Equipment Overhaul:

The Loan Agreement provides US\$1,100,372 for spare parts for equipment overhaul. Thirteen pieces of equipment have been repaired by the local Caterpillar dealer, GUYTRAC. This is identified in the Project Paper as the GUYTRAC quick-fix. Five pieces of equipment will be repaired by MWT in Ruimveldt rebuild shop. This is known as the MWT quick-fix. Another 50 pieces of equipment are to be repaired during the life of the Project. The actual number will depend on the cost of the parts. This equipment was to be repaired in the Ministry shops or through contracts with local firms, depending on the circumstances.

The five pieces of equipment comprising the MWT quick-fix include one Pettibone crane and four Barber-Greene asphalt finishers. No one person in TAMS or MWT seems to have comprehensive knowledge of what parts have been ordered or received or are to be ordered for these five pieces of equipment. But it appears that all of the parts have not been received for any one particular piece of equipment. Therefore, none of the equipment has been repaired. USAID approved the procurement of engine(s) and parts totalling US\$58,863.43 in 1979. However, two of the four asphalt finishers had British engines and reportedly could not be modified to take U.S. engines. It seems that the engines have not been ordered from Britain due to a lack of foreign exchange, although the U.S. parts have been ordered. This means that the U.S. parts may have to be stored until the British engines arrive. Apparently, all parts for the crane are available in the U.S. and it can be repaired when the parts arrive.

MWT/PM&HD signed a contract with AINLIM, a private company representing General Motors locally, to repair five Terex (GM) front-end loaders. Loan funds provide an amount not to exceed US\$121,000. However, one of the loaders was damaged in moving and this amount may have to be increased. The AINLIM contract was signed October 13, 1980. Time for completion will depend on when the equipment is moved to the AINLIM shops and time required for ordering parts, some of which are not in stock. An additional US\$20,000 was approved in November when PM&HD realized tires and rims had not been included in the original order.

Of the total US\$1,100,372 available for parts, there is a balance of approximately US\$720,000 remaining for the purchase of additional parts. PM&HD is preparing to let a second contract with GUYTRAC for the repair of eleven or more pieces of U.S. equipment. However, at the present rate of progress, it is unlikely the remaining US\$720,000 can be used prior to the PACD. Nearly 50 percent of the time has elapsed and only 35 percent of the money has been committed to the repair of 23 pieces of equipment of which only 13 have been repaired. It remains for the Ministry to identify the equipment to be repaired, move it to the shop, inspect it, develop a parts list, order the parts and repair the equipment. They can probably do this for the proposed second GUYTRAC contract, if they act promptly, prior to the PACD. On the basis of the average cost of repair per unit of equipment to date, it appears that there will be several hundred thousand dollars allocated for equipment repair unused at the end of the Project life.

Repair problems have been exacerbated by the fact that TAMS has not been able to recruit a Master Mechanic since last July. In the

absence of the Master Mechanic, the Shop Administrator from the TAMS team is assisting.

8. Training and Technical Assistance:

The TAMS contract with the Government calls for consulting engineering services in connection with institution building, design, construction and maintenance for rural feeder roads. As noted in the background, the staff includes a variety of skills ranging from engineers to master mechanics. All twelve members of the permanent team are responsible for carrying out a training function along with their other duties.

The training element of the Project is one of the most important parts of the overall effort. For this reason, a Training Consultant was brought in to prepare a separate report on that part of the evaluation. (See Annexed copy).

In summary, the evaluation concluded:

- i. Benefits of the training program will be short-term;
- ii. Training has had no measurable impact on management practices;
- iii. There is a question as to whether or not the right candidates are being selected for training; and whether or not the training is at the proper level and properly oriented;
- iv. Neither the facilities nor the training aids are adequate now or as planned.

As part of the Project redesign, the Ministry will have to better define their objectives insofar as the training program is concerned. The training consultant notes that a skills inventory is basic to the development and implementation of a plan to meet the trained personnel requirements of the Government. If the Government is willing and able to commit the necessary resources to this and the issues noted above, USAID should consider having the training consultant return to assist in implementing the activities necessary to improve the training program.

In redesigning the Project, this effort could be loan-funded.

TAMS' Project Manager has had to deal with a wide variety of problems including loss of staff through resignation and firing, difficulties in recruiting, contractual problems concerning mobilization costs, plus a number of issues within the Ministry as to the duties and assignments of team members. Problems in carrying out the training program are covered in the training consultant's evaluation.

Many of the individuals on the team have performed well. However, there have been problems in functioning as a team. This is no doubt due in part to a lack of continuity in staffing within the Ministry which tends to function more as a collection of entities. Many of the TAMS counterparts have been changed in the course of the past year. As a result, with each new counterpart, it becomes necessary to again develop a working relationship and establish a new approach to achieving Project goals.

Both TAMS and MWT have demonstrated an inability to coordinate activities leading to Project accomplishment. For example, problems have developed in connection with procurement of training aids, tools and shop equipment, spare parts, etc., simply because the section requiring commodities has not been coordinating with the supply section. While PM&HD has regular meetings to coordinate activities, neither the TAMS nor MWT managers hold such meetings on a regular basis with the entire TAMS team.

Both the Project Paper and the TAMS contract stress the technical assistance aspect of the consultant's task. All involved, either with the

Project or the Ministry or both are quick to admit the need for overall management improvements. However, the emphasis has been placed on the team providing management training rather than management.

In the absences of active Project coordination on the part of the MWT Project Manager, USAID has pressed the TAMS Project Manager to fill this void. In fact, the primary management responsibility of the TAMS manager is the coordination of the team's efforts. The TAMS representative can only be as active as his counterpart who does not appear to have been given the necessary authority to address the overall management/coordination activities within the Ministry vis-a-vis the Project objectives. The MWT Project Manager is the Deputy Chief Works Officer of MWT. He is overshadowed by the head of a division of the Ministry who is presently a Minister of the Office of the President of Guyana. In order to achieve the Project goals, the Ministry must improve Project coordination.

The key people on the TAMS team working with PM&HD are the equipment management specialist and the heavy equipment shop administrator. According to the contract they are to address problems involving shop administration, equipment policy and methods within the workshops. In addition to carrying out a training program, they are expected to establish systems, procedures and programs to establish some level of efficiency in the maintenance and repair of equipment. Yet they are continually being asked to take over crews to run the shops and repair the equipment. And they are being criticized privately and publicly for not doing so. An article in the October 29th edition of the newspaper reads, in part, "... the Minister said Guyana does not need consultants who would come to make proposals and write reams of paper, but who unfortunately are unprepared to get involved in doing the job".

This clearly demonstrates a lack of understanding of the consultant's duties and is typical of the demoralizing attitude that some of the team members have had to deal with.

This Project was designed with the intention of developing a capability within the Ministry to carry out its responsibilities. This is the institution building part of the Project. It is evident that the Ministry and PM&HD in particular need more capable people at every level. However, the Project was not designed to supply these people. It was designed on the premise that the Ministry's staff was adequate in number.

In order to compensate for the lack of personnel, it appears that the Ministry has had to elevate people to positions for which they lack the experience and/or training. Although it will be difficult to establish the relationship between these shortfalls in staffing and the level of Project accomplishment which can be achieved under the circumstances, the redesign of the Project must be based on what the Ministry can accomplish within the Project life, or during the next two years.

The TAMS contract provides for a Heavy Equipment Operator Advisor and an Electrical Vehicle Specialist. Their roles are largely training and are covered under the training element of the evaluation. There is also a Senior Transport Planner position. His task is to advise and assist the Central Transport Planning Unit in defining the role and responsibilities of the Unit. This program is on schedule.

The TAMS Supply Advisor is to advise and assist the Supply Division of MWT in the development of a system for providing the PM&HD and other Divisions with supply support. This effort has also been hampered by the

transition taking place within PM&HD. One Supply Advisor could address the problems of MWT in procurement. However, in order to establish supply and procurement and other necessary procedures for an organization such as PM&HD is proposing would involve several work years.

As of this time, it appears the Ministry lacks the means of safely and effectively storing parts and other commodities. Neither is there any indication of a systematic procedure for ordering and receiving parts. While the Supply Advisor might have been able to make some improvements in these areas under the MWT/Mechanical Division structure, given the transition taking place within PM&HD, and the complete restructuring of the Ministry, there is little or no hope of substantial institutional improvements as things stand now. In the meantime, the Supply Advisor is also making a contribution in that he is reviewing orders for Project commodities and attempting to impress the Ministry with the importance of improving the method of ordering, receiving, storing and issuing of materials.

USAID must insist on and assist with certain changes in the TAMS/MWT relationship. If the technical assistance effort is to be effective, the contractual problems, including proper TAMS staffing, must be resolved. Although TAMS reporting is improving, the monthly report or an alternate report by the Ministry must provide a better overview of the Project activities for effective monitoring. The lack of personnel within PM&HD and lack of supervision in the workshop will minimize the effectiveness of the technical assistance being provided, but there appears to be little that can be done that is not being attempted by the PM&HD staff at this time. However, USAID will have to clarify the

role of TAMS within PM&HD if the Ministry is to derive any long lasting benefits from TAMS presence. Given the fact that the Project was not intended to address the objectives of the PM&HD, however reasonable these objectives might be, there is a question as to whether or not this can be done.

9. Plant Maintenance and Hire Division (PM&HD):

As noted in the background, the P-E report, published in 1978 supported the idea of a national maintenance organization for Government-owned mechanical equipment. (The concept of central ownership of equipment apparently was conceived by the Government.) However, funds could not be found to cover the cost of the development of the Project (over G\$53 million) nor the expatriate staff (15) required to manage it. When the concept of a Plant Maintenance and Hire Company was discussed with USAID in the summer of '78, there was grave concern as to the affects this might have on the Project. With assurance from the Government that the plan would probably not be implemented during the life of the Project, USAID proceeded with the agreements in late 1978. In May 1979, the Government's Cabinet agreed to the concept of a PM&H company. In November of 1979, USAID accepted the idea of the Mechanical Division of the MWT becoming the Plant Maintenance and Hire Division. Whatever this simple name change might have implied in the beginning, it soon became apparent that there was little resemblance between the Mechanical Division of MWT and the PM&HD.

USAID's concern over the impact of this change stemmed from the differences in the purposes of the two organizations. Whereas the Mechanical Division provide for the repair of road maintenance equipment as a division of the MWT, the Plant Maintenance and Hire Unit was to become an independent company with a separate set of policies, objectives and needs. The only similarity between the two organizations was the need to repair construction equipment and train operators.

In April of 1980, the Government announced through a newspaper article that the Prime Minister would be in charge of overall policy of the PM&HD. The article went on to say that the "Division" would eventually have a staff of 844 people and a (separate) budget for developing the Division which would eventually become a corporation. While the PM&HD would remain, for the time being, under the MWT, Minister for State Nascimento would head a committee for the development of the division to take over some of the equipment and maintenance facilities of MWT and the Ministry of Agriculture and to develop a training school. The Melanie Damishana workshop, funded by the GDR, and costing G\$19 million, is a part of this effort and will repair German road and agricultural equipment according to the newspapers.

The result of this is that the PM&HD cum Mechanical Division of the MWT is going through a transition from an equipment maintenance division of the MWT to a much larger organization with far reaching objectives. The P-E report notes resistance to this concept of central ownership of equipment from several ministries which must eventually turn over their equipment to PM&HD. The plan calls for much of the country's mechanical equipment to be centrally owned and maintained and then to be rented to the line ministries as required. The rationale for this was the deplorable state of the operation and maintenance of equipment at present, and lack of resources found in maintenance facilities. USAID and the other ministries involved have a shared concern as to how effective this concept of central ownership will be.

The Project Paper (PP) anticipated problems in attempting to repair

equipment within the MWT based on the inadequacy of the facilities and lack of qualified staff within the Mechanical Division. For that reason, it provided for at least some if not all of the equipment to be repaired by other organizations such as GUYTRAC. Because of the lack of means of repairing equipment, the loan/grant agreements provided for training, shop improvements, tools, repair equipment, etc. However, the PP and agreements addressed the problems of the Mechanical Division and it is apparent that they are not designed to address the problems of the PM&HD. This is reasonably clear and could be anticipated by looking at the task of the Mechanical Division (MD) and comparing it with the task of developing the PM&HD.

In retrospect, the effects of the Government's decision to implement the PM&HD concept during the life of the Project are clear. On the positive side, Project equipment has been and is being repaired, albeit not by PM&HD. At the working level, TAMS advisors and PM&HD counterparts have managed to establish a fairly good working relationship. The training advisors for equipment operators and in vehicle electrical systems have provided a satisfactory program in their specialities. However, while the Supply Advisor, the Shop Administrator and the Equipment Manager have been reasonably successful in providing operational support for the Project, they have had little success in addressing the institutional needs of PM&HD. As an example, the Supply Advisor has noted that it would take approximately one year to develop the logistic system for the PM&HD. The same is true for the Shop Administrator and Equipment Manager. The staff time required to develop the long range institutional needs of this Division were not included in the agreements or the TAMS contract. So while the advisors are attempting to meet the operational needs, their efforts will have little long-lasting effects.

10. Advance for Equipment Repair:

In May of 1980, Minister Nascimento requested USAID provide an advance of US\$250,000 to repair non-U.S. equipment allegedly needed to build the Clonbrook Road. The advance was to be made against the US\$3,000,000 provided in the Loan for the construction of the road. Apparently, the theory was that the equipment would be rented to the construction contractor and the rental money would be used to repay the advance so the US\$250,000 equivalent in Guyanese currency would be available to make progress payments to the contractor in Guyanese currency.

The first of several problems USAID has with this sort of request is the time factor. Federal regulations provide for making an advance for a period of 30 to 90 days against a need directly related to the purpose for which the money is provided. To use an advance to import parts to repair equipment to be rented to repay the advance could take a year. In any case, it can't be done within 90 days.

Then there is the question of the relationship of the repair of equipment to the construction of the road. Road construction equipment in Guyana is in short supply. Equipment is available from the private sector, from the Ministry of Works, from the recently-formed Hinterland Roads Company (HRCCL) and from the PM&HD under Minister Nascimento. The question of precisely what equipment is needed to construct a road in any given case is questionable and the answer varies with the individuals involved although each response would be basically similar.

TAMS developed a list of required equipment for construction of the feeder roads and made a survey of sources. They found that private

contractors could gather enough equipment to do at least one road and possibly two; and that with Government equipment which could be placed at their disposal both roads could probably be constructed simultaneously.

USAID offered to advance US\$40,000 for the repair of equipment for 90 days. The specific equipment for which the advance was offered - pneumatic rollers - was the only equipment which we could determine was possibly needed for road construction and not available assuming private contractors were allowed to bid. The 90-day repayment time was based on regulations as mentioned above, but also on our desire to start road construction by January 1981 in order to complete construction before the PACD in December 1982. Minister Nascimento again stated that the amount of advance and the time for repayment are too little and too short respectively. In his November letter, he notes that FX will not be made available to the contractors, hence private contractors won't bid on the roads and therefore the Government must repair all of the equipment needed in order to let a construction contract.

The problem with this is that by the time MWT gets the equipment repaired and keeps it running long enough to put it to work constructing the road, several years could elapse. The problems which developed during construction of the East Coast Demerara road under Government auspices led to the conclusion that a generous time schedule should be used for roads constructed under these circumstances. Therefore, funds advanced against repayment through rental of equipment should be for repayment about one to two years after the advance.

A recent review of the status of repair of U.S. equipment indicated that PM&HD is using G\$600,000 budgeted as the Government's share of Project

road construction money to repair the "non-U.S." equipment for which Minister Nascimento had requested an advance. As it turned out, it appears that the first two pieces of equipment being repaired are, indeed, U.S. equipment. The parts are being purchased with local dollars at the same time loan funds, intended for the purchase of parts, are on hand waiting to be used. This serves as one example of the management/communication/coordination problems that the Ministry and the PM&HD are experiencing.

11. Restructuring of the Ministry:

The Government announced the restructuring of the Ministry of Works and Transport (MWT) in the newspapers. USAID has learned informally that this may mean we will be dealing with as many as three ministries and five Government companies where we had been dealing with one Ministry.

Given this situation:

(A) Project implementation will be difficult, and

(B) There is little chance of success in institution building as it was envisioned in the Project Paper.

It is generally agreed that in recent years the Ministry has not been able to fulfill its role in the design, construction and maintenance of public works - roads, buildings, airfields, etc. Apparently, about one year ago, a committee was formed to determine the best course of action to correct this situation. Briefly, the recommendations of the Committee as reflected in the newspapers were as follows:

The responsibilities of the MWT will be apportioned to a Ministry of Transport (MOT) and a Ministry of Construction (MOC). The MOT will deal with policy, planning and administration. The soils and materials research section will be under MOC. Four Government-owned companies will be under MOC. Guybridge is to become a Construction and Bridge Management Company. Road construction will be done by HRCCL. Design will be done by a Design Consultant Company. A Common Services Company will be responsible for administrative support services. Road maintenance will reportedly be carried out by the Ministry of Regional Development. So far, it appears that PM&HD remains completely independent. Surveying will be carried out under the Ministry of Agriculture. This is based largely on an article in the local newspapers dated October 28, 1980.

Restructuring is scheduled for completion in January 1981.

It appears that the Government is not prepared to accept the realities of its problems. Whereas the real problem is the shortage of qualified staff and management capability, the restructuring appears as merely an organizational change. In order to attract capable staff in adequate numbers, the Government will eventually have to offer adequate incentives. Until this is done, the level of productivity and the quality of performance will continue to deteriorate as it has in recent years.

Insofar as this Project is concerned, as has been stated previously, it was designed to address the problems of MWT. With this complete change in that organization, it is unlikely that the means provided for improving MWT can be of any long lasting benefit to the various organizations coming out of restructuring. But whether or not this is the case, the first problem of production will stem from the mild chaos which follows any massive change to an organization. What has been seen as poor management reflected in loose coordination and incomplete communication within the Ministry during the past year can no doubt be attributed in part to the fact that many people within the Ministry realized an overall organizational fragmentation was in the offing.

While several elements of the Project might only address one entity of the restructured organization, others effect more than one of the fragments of MWT. For example, training was seen as an input which would impact on all divisions of the Ministry. And whereas the Project might have addressed the management or supply problems of one organization, i.e., MWT, there will now be seven or eight entities with these problems.

The Government will probably argue, with some basis in fact that, that TAMS can continue to work with the new entities just as they have in the past. But obviously the multiplier effect is lost. And while the restructuring is taking place and until each new organization has had an opportunity to settle down and attempt to become productive, a certain amount of confusion will result, just as it has in PM&HD. This will lead to a reduction in output and must be considered in redesigning the Project.

12. Conclusions and Recommendations:

(i) Restructuring of the Ministry of Works and Transport is seen by the Government as a means of resolving the problems of the Ministry. It must be noted that the responsibilities of the Ministry involve buildings as well as roads, airfields, and port facilities, whereas the Project mainly addressed roads. The Ministry has experienced serious delays in implementing the Project to-date. Restructuring, at this the mid-point of the Project, will only add to the lack of progress. Moreover, it remains to be seen just how or indeed, if the Project inputs will contribute to the Government's objectives. These issues coupled with the mechanics of Project implementation lead to the conclusion that the Project must be redesigned.

The Government should clarify its intentions for this Project in the light of restructuring the Ministry. Assuming the Government desires to proceed with Project implementation, a collaborative effort will have to be made to determine what can be accomplished in the two years remaining before the PACD which is December 31, 1982.

However, the Project is in a critical stage, so it is important to act on a timely basis in order to avoid the ineffective use of Project funds. If, for any reason, the Government and USAID fail to agree on conditions for continuing the Project, USAID may have to consider invoking its rights under the loan agreement to terminate one or more components of the project.

(ii) The construction of feeder roads is far behind the schedule established in the Agreements. The various and sundry other problems besetting the Ministry have resulted in delays which make it extremely unlikely that the roads can be constructed prior to the PACD. Nor is there reason to believe that the Project inputs have resulted in the sort of improved capability necessary to construct the roads satisfactorily. Unfortunately, inflation has so reduced the buying power of the funds provided that only 10 miles or less of the 25 miles originally provided for can be constructed at this time. If construction is to proceed, such agreement would require support from updated cost/benefit findings.

In the face of repeated urging on the part of USAID to proceed with construction of the roads, the Ministry is seen as not proceeding on a timely basis. This leads to the conclusion that the Government does not place a high priority on the construction of these roads. It is, therefore, recommended that the time for meeting the CP not be extended and that the money be de-obligated.

(iii) The Highway Laboratory: Due to the delays in construction of the Highway Laboratory, the test equipment may arrive before the building is constructed. The time required for construction of the laboratory is not known. Given the general shortage of personnel, there is a question as to whether or not the new laboratory can be properly staffed. Inasmuch as there is a laboratory at the University which can be used to test soils and materials, there is a question as to whether or not the new laboratory is redundant.

Given the lack of action on the part of the Ministry in constructing the laboratory building and the changed conditions since the Project was

designed, it is recommended that the Ministry review the situation to determine if this is a wise investment. USAID should require a realistic plan for proceeding with this element of the Project and seriously consider not continuing with funding in the absence of an acceptable plan. The basis for not proceeding would be MWT's failure to proceed with Project implementation on a timely basis.

(iv) Equipment Overhaul: Due to the severe shortage of equipment in Guyana and the great need for construction equipment to build and maintain roads, it is recommended that USAID continue to approve loan funds for the repair of equipment through the local representatives of the U.S. manufacturer: MWT/PM&HD's ability to repair equipment has not been enhanced to-date by Project inputs. Therefore, it is recommended that future approval of expenditures for the repair of equipment be limited to Ministry contract procedures such as the GUYTRAC "quick fix" contract. This may limit the repairs which can be carried out, to the equipment manufacturers which are represented locally. However, until PM&HD has the staff to perform this work and adequate facilities, the parts will have to remain in storage. Until logistics systems and storage facilities are improved, accountability will be a problem. It is therefore recommended that the purchase of parts for repair by MWT/PM&HD such as the MWT "quick fix" not be approved until a demonstrative capability exists. Given the lack of progress to-date in carrying out the MWT quick-fix, it is not likely any other equipment could be repaired by PM&HD using Project funds, prior to the PACD. (Note: It has recently been learned that two pieces of equipment included in the MWT quick-fix were said to be manufactured in the U.S., but with Perkins engines which reportedly are composed of over 50 percent British parts. USAID

refused to waive the source/origin requirements for purchasing these engines with loan funds but approved other parts needed. The equipment is useless without the engines and the Government does not have the FX to purchase them. It is understood that the equipment (two Barber-Greene asphalt finishers) cannot be modified to take U.S. engines. USAID should investigate this situation and consider a special waiver in order to utilize the parts previously approved, if the above circumstances can be substantiated.

(v) Arising out of redesign of the Project and the likely curtailment of the level of inputs is the need to change the TAMS contract. One or more of the permanent team member positions will probably be excessive. By the nature of the contract (fixed fee), this will require a re-negotiation. The Ministry has been inflexible on other contractual problems which USAID sees as having contributed, in part, to the loss of TAMS personnel in the past and the difficulties in recruiting replacements. Additionally, the Government has not been entirely satisfied with TAMS performance. All of these matters should be addressed in the course of redesigning the Project.

(vi) USAID has found that the training program requires improvement in order to be effective. We have indicated a willingness to assist by providing a training consultant for four to six weeks from separate funds. However, this may not be adequate to improve the situation. In redesign of the Project, consideration should be given to alternative methods of improving the effectiveness of the training program.

(vii) No decisions have been made by MWT/PM&HD as to repair shop

improvements. Given the problems resulting from the shortage of construction materials in Guyana, the physical improvements probably cannot be accomplished by the PACD. It is recommended that any such improvements only be approved if it can be demonstrated they can be completed prior to the PACD and if the proposed improvements will meet the Project objectives. Given the many delays in ordering tools and it is recommended that USAID not approve additional shop equipment purchase from loan funds unless an effective plan of action is provided.

13. Action to-date:

On November 5, 1980, USAID advised the Minister of Works and Transport that we were suspending the approval of new commitments of U.S. funds until a meeting to clarify and resolve issues. On November 6, 1980, the Director wrote to the Minister of Economic Development and Cooperatives alerting him to USAID's concerns over this Project. On November 10, 1980, USAID wrote to the Minister of Works and Transport concerning the Project and requesting a meeting to resolve certain Project issues. In the absence of MWT agreeing to arrangements for a meeting to discuss these problems, USAID again wrote to Minister Hoyte (Ministry, Economic Development and Cooperatives) outlining specific problems and including tentative decisions to de-obligate part of the loan funds.

This resulted in a meeting with Ministers Naraine (MWT) and Nascimento on December 4, 1980. USAID reiterated a willingness to resolve issues collaboratively, if possible, but a determination to act independently according to the terms of the Loan Agreement if necessary. Minister Naraine promised to address the issues on or before December 31, 1980, in a letter to the Director. In a letter dated December 4, 1980, USAID repeated its intention to "work out the details of an overall plan for redesign of the Project by January 15, 1981."