PD-AAP-329

CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Control Symbol U-447

1. PROJECT TITLE: Manpower Planning, Training and Employment

2. PROJECT NUMBER: 532-0047

3. MISSION/AID/W OFFICE: Kingston

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or A.I.D/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY): 84-9

☐ REGULAR EVALUATION ☐ Post Project

5. KEY DATES OF IMPLEMENTATION
A. First PRO-AG or Equivalent FY 78
B. Final Obligation Expected FY 82
C. Final Input Delivery FY82

6. ESTIMATED PROJECT FUNDING
A. Total $1,625,000
B. U.S. $ 950,000

7. PERIOD COVERED BY EVALUATION
From (month/yr.) August, 1978
To (month/yr.) October, 1982
Date of Evaluation Review November 1, 1983

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
The PACD for this project was October 1982 and this Evaluation is a Post Project one.		
CONCLUSION:		
1. The Project fell substantially short of achieving its goals, objectives and purposes as stated in the Project Paper.		
2. The Project Paper and Implementation were overly ambitious, unrealistic and sophisticated. The outputs had minimal effect on decision making, trainee selection and program services. Inputs were seriously deficient and available resources were not effectively managed.		
3. The primary contribution of the project was to train some Jamaican personnel (which was not cost efficient) resulting in a small foundation body of technicians in Jamaica who are skilled in manpower analysis and vocational curriculum development.		
LESSONS LEARNED:		
See the attached narrative statement and the recommendations section of the main report (p.14) which are of significant importance to the effective implementation of the new Basic Skills Training Project & HEART Program.	USAID/J OHRD Staff	ASAP

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)
Robert Taggart - WU P'I Inc.
Franklin Johnston - Teape Johnston Ltd.
Joseph Carey/Audrey Comlin - U.S.A.I.D.
Arthur Patrick - U.S.A.I.D.
Pauline Knight - N.P.A.

12. Mission/AID/W Office Director Approval
Signature
Typed Name L. P. Reade, Director
Date 2 March 1984

AID 1330-15 (3-78)

PROJECT EVALUATION SUMMARY - PART II

NARRATIVE STATEMENT

DR. FRANKLIN JOHNSTON

DR. ROBERT TAGGART

13. SUMMARY

(1) The MPTEP was in conception, an innovative, state-of-the-art project. Its approval was seen as the beginning of the fulfillment of major expectations for developing and rationalizing a number of facets of the Jamaican manpower scene.

In its implementation the MPTEP proved overly ambitious and weak in detailed planning especially in the articulation of the project components to achieving, through proper sequencing and cumulative impact, the final project outputs. Inputs were deficient and available resources were not effectively managed.

Projected outputs were not achieved in most cases, were qualitatively deficient in others, and had minimal impacts on decision making, trainee selection, and program services. The primary contribution of MPTEP was to train some Jamaican personnel, yet training received was not cost effective.

Several project-initiated activities would be useful if completed. MPTEP has provided a foundation; a body of technicians and professionals exist in Jamaica who now know what has to be done. They have also learnt what not to do. Future AID activities in this area must build on this foundation.

14. EVALUATION METHODOLOGY

This ex-post-facto evaluation, completed a year after termination of the project, relied entirely on written products and files of MPTEP, and on the memories of those participating individuals who could be interviewed. It was conducted over three weeks by a two-person team, with a Jamaican and a U.S. representative.

The first priority was to determine the enduring impacts of MPTEP. What is different now as a result of having spent US$950,000 plus J$1.3 million? Is the quantity/quality of human resources planning and development increased/better? Are activities continuing that began under the project?

The second priority was to determine how unrealized objectives of MPTEP could be fulfilled by use of present or future AID or GOJ funding. At the request of AID, there was a special focus on the upcoming Basic Skills Project, since many of its aims are closely related to those of MPTEP.

The third priority was to retrospectively assess each of the MPTEP activities from a substantive and technical perspective, since the interim evaluation tended to emphasize logistical, fiscal, and management issues.

A fourth priority was to reconstruct why problems occurred so that they could be avoided or minimized under future initiatives.

15. EXTERNAL FACTORS

Delayed funding by AID because of U.S. political issues, economic and social turmoil in Jamaica in the 1978-1980 period, and the changeover of administrations adversely affected MPTEP performance. The new government is philosophically less attuned to the implicit aim of MPTEP to develop a more planned economy with sectoral guidelines. The training and placement system was significantly altered during the life of the project and currently is in a state of flux. The delay of the decadel Census from 1980 to 1982 had major consequences for the project, since the Census data would have been extremely useful in weighting survey findings and as a basis for manpower projections. World economic conditions affected exports, tourism, net immigration and the availability of foreign investment and loan funds; these disruptions undermined the validity of training needs surveys and manpower projections undertaken by MPTEP.

16. INPUTS

Over ten percent of allocated AID funds went unspent and the real inputs supplied by Jamaican contributions were substantially below initial projections. Only 70 of the planned 89 months of short-term technical assistance were provided, only 68 of the 87 planned months of participant training were received, and the Jamaican manning levels were far below plan and less than needed to complete many of the activities. Technical consultants ranged in quality and commitment, but too often their approach was to simply transmit U.S. methodologies and procedures without adequate adaptation. Project success depended on the timely delivery of disparate consultant inputs, and the schedule provided unrealistic. Purchased commodities were not appropriate in several cases, and there were serious delays in procurement. Early in the project it was realized that resources were grossly inadequate to achieve stated objectives.

17. OUTPUTS

Although there were significant outputs from the project, these fell far short of overly ambitious targets. Several of the outputs were of doubtful utility or dubious quality. See table I on p. 6 and ff. for an analysis of OUTPUT achievements.

18. PURPOSE

The purpose of the Manpower Planning Training and Employment Project was "to establish an integrated and improved manpower development and utilization system responsive to GOJ's planning goals and to labor market needs." One year after completion of the project, the manpower planning system is only marginally improved, while the manpower development system is significantly less effective than at the beginning of the project. (Table 2 on p. 14). The ITCs and JES offices have suffered significant retrenchments while the planned IPCs and HEART Academies have lagged and enrollments in many other Jamaican training programs have declined. Despite the interests and efforts of MPTEP, there are still no commonly accepted training standards and definitions, assessment instruments, tracer system, or improved procedures for analysis and application of Census and Labor Force Survey data.

Table 1

MPTE PROJECT OUTPUTS

COMPONENT A

Functional Category: Basic Information for Manpower Planning

Institutions: Department of Statistics
National Planning Agency

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
INFORMATION ON LABOR SUPPLY		
Household Survey Information being supplied to NPA by Department of Statistics.	Nothing new or different resulted from the project.	Much needed and useful analysis of Labor Force Survey data was never done. New survey instrument introduced by DOS on its own initiative could yield important information, but unlikely that will be utilized.
INFORMATION ON LABOR DEMAND		
Discrete surveys of employment requirements and training needs of public and private sector firms conducted and results made available to NPA's manpower information system.	Public and private sector survey completed. Small establishment not done. Agriculture done but results not available during project.	A number of assumptions in the numbers which raise doubts about the accuracy of the information collected.

COMPONENT B

Functional Category: Manpowr Planning and Coordination

Institutions: National Planning Agency

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
B.1 NPA Coordination Committee (Secretariat) to direct GOJ interagency manpower system established and functioning; NPA staff trained and effectively coordinating Ministry manpower system activities.	A Coordinating Committee was established and worked over the course of MPTEP; there is no more apparent coordination than at the beginning of the project.	Coordination limited during project reflecting inadequate top level leverage.
B.2 Manpower Planning System established and in operation (data being provided to and used by NPA staff).	No more data are being provided to or used by NPA staff than at the beginning of the Project.	There are possibilities for the census and Labor Market Survey results which have not been exploited. Very little creativity was shown in piecing together available data.
B.3 Manpower Planning capability of NPA, upgraded; sector guidelines and improved manpower forecasts being developed and distributed.	Staff received some training in sophisticated manpower planning techniques. One set of manpower forecasts were produced and distributed. Periodic revisions planned. No sector guidelines prepared.	Forecasting techniques used were too complicated given the data base. A more "rough and ready" projection approach could have yielded more useful projections.

COMPONENT C

Functional Category: Employment Information and Trainee Evaluation

Institutions: Ministry of Education
Ministry of Labor and Employment
Ministry of Youth and Sports

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
C.1 LABOR MARKET AND EMPLOYMENT INFORMATION		
- Staff of Jamaican Employment Service trained in and applying improved methods to regularly collect and report local labor market and employment information	JES staff trained to collect and collecting information on detailed occupations of applicants and vacancies.	Collection of detailed data is pointless because of small portion of labor market covered by JES. Training and reporting wasted precious staff time.
- Initial JES reports on local labor conditions are being incorporated into NPA's manpower information system.	Reports were not utilized during MPTEP and are not even requested by NPA.	Reports were not utilized during MPTEP and are not requested by NPA.
- Initial packages containing employment related information (e.g., training opportunities, small business assistance, day care, etc.) are developed and being distributed to JES center staffs.	No packages prepared.	No packages prepared.
C.2 DEVELOPMENT OF VOCATIONAL GUIDANCE MATERIALS AND JOB COUNSELING TECHNIQUES		
- Initial packages containing revised occupational guidance materials developed.	Booklets on three of twelve occupational areas prepared and two presented. Manual prepared and printed.	Booklets are good but of limited use unless complete array are completed plus booklet advising on how to choose among options. Manual uses U.S. terminology and concepts and is of almost no use in Jamaica.
- MOE and MYS staff trained in use of and beginning to use revised guidance materials in job counseling.	Training session held. Two booklets distributed; no indication whether widely used.	Without range of materials, and based largely on irrelevant manual, the training provided could not have been of much practical value.
- Capability established within MOE Vocational Guidance and Counseling Division to update contents of vocational guidance materials as needed.	No updates underway or completed although not a difficult task.	Format of booklets should accommodate insert of updated information.

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
C.3 TRAINEE INTERVIEWS AND EVALUATION		
- Occupation specific aptitude and interest tests adapted to Jamaican context.	GATB and SATB field tested with new secondary school and ITC students. USES Interest Inventory dismissed.	There was not adaptation to Jamaican context, simply an attempt to norm existing tests on Jamaican students. Tests proved inappropriate.
- MOE and MYS staff trained in and beginning to apply newly adapted tests to interview and evaluate trainees.	Staff trained in administering GATB; no further use of GATB beyond field test.	Training in GATB and SATB application of little lasting value since they are not being used and there are no plans to use them.
- Capability established within the MOE and MYS to develop/adapt additional occupation specific aptitude and interests tests as needed.	No effort under MPTEP to develop/adapt additional occupation specific aptitude tests beyond simply applying GATB and SATB.	Staff never exposed to full range of available aptitude and interest tests nor to techniques for modifying tests.
C.4 PROFICIENCY TEST DEVELOPMENT APPLICATION		
- Modular proficiency tests related to training curricula (see Component D) developed.	Work sample but not written proficiency tests developed for training curricula.	The work was very professional on the task analyses undertaken. It is easier to modify or select already developed proficiency tests than to develop them from scratch.
- MOE and MYS staff trained in and beginning to apply newly developed proficiency tests to select trainees for occupational skills training.	Staff were trained in applying SATB, but it cannot be and is not used to select trainees for occupational skills training.	Training in use of SATB was good, although analysis of results by consultants was incomplete. This simply proved to be a dead end.
- Capability established within MYS to develop additional proficiency tests as needed.	VTDI staff trained to develop proficiency tests as needed.	Training of high quality although technique of item bank too sophisticated and not being applied. Should stress adaptation rather than development.

COMPONENT D

Functional Category: Training

Institutions: Ministry of Education
Minsitry of Youth and Sports

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
D.1 TRAINING FOR THE UNEMPLOYED		
- Modular curricula and instructional programs developed for a minimum of five occupational skill areas.	Nine instructional modules were prepared in five occupational skill areas; complete curricula (typically requiring five to ten modules in any given skill area) were completed in none of the skill areas.	Curricula modules reviewed were reasonably good. Much greater productivity could have been achieved by identifying and adapting already developed modularized curricula. It really requires a full set of modules in a curricula area before they can be reasonably tested.
- Staff at Industrial Training Centers (MYS) trained in and beginning to apply new curricula in skill training courses.	The ITCs were closed and the modules prepared under MPTEP were not integrated into existing curricula.	
- Capability established with Technical Support Services Division (MYS) to develop modular curricula for additional occupational skill areas.	Staff have demonstrated expertise by developing additional modules since termination of MPTEP.	Curricula reviewed were reasonably good but should be screened and adapted rather than developed from scratch.
D.2 ON-THE-JOB TRAINING		
- MYS In-Plant and Apprenticeship Officers trained in and beginning to apply new methods of developing occupational skill training programs tailored to the needs of private sector employers.	A manual was developed and training session held during the project (plus an additional one subsequently). Apprenticeship procedures and methods were not altered.	Material was basic and already familiar to VTDI staff.
D.3 TRAINING FOR THE SELF-EMPLOYED		
- New production oriented curricula developed.	Manual prepared to guide curricula development; no curricula development.	Consultant advice quite superficial, time would have been better spent in identifying and adapting existing materials.
- Experimental ITC staff and staff in a minimum of three additional ITCs trained in and beginning to apply new curricular materials to train individuals for self-employment.	No implementation possible.	--

COMPONENT E

Functional Category: Placement

Institution: Ministry of Labor

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
E.1 PLACEMENT AND ORGANIZATION OF THE LABOR MARKET		
- Staff of local Jamaican Employment Service Exchanges trained in and beginning to apply information packages developed under Component D as part of expanded job counseling functions.	No information packages developed; staff trained only in data collection.	--
- Capability created within MOL to open new exchanges using employment counseling and referral methods developed under the project.	No new methods developed; exchanges closed rather than opened.	Consultant provided only most general guidance about ES reform; little advice was useful and none was accepted.

COMPONENT F

Functional Category: Labor Market Information

Institutions: Ministry of Education
Ministry of Youth and Sports
Ministry of Labor and Employment

PLANNED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
F.1 EVALUATION OF INTERNAL EFFICIENCY OF SYSTEM		
- MOE, MYS, and MOL staff trained in and applying new techniques to carry out tracer studies of graduates of formal and non-formal occupational skills training programs.	Staff attended two-session training on follow-up and sampling techniques.	Training by Jamaican experts was reasonable but did not produce action plans and detailed survey options.
- Results of initial set of tracer studies available for incorporation into NPA's manpower information system.	Completed only survey of 1979 New Secondary School graduates. Too limited to use in manpower information system.	Completed survey duplicated earlier work and was reasonable effort. Needed more in-program information.

COMPONENT G and H

MODIFIED PROJECT OUTPUTS	ACTUAL PROJECT OUTPUTS	SUMMARY ASSESSMENT OF OUTPUTS
G. NATIONAL STANDARDS OF CERTIFICATION		
MYS staff trained in task analysis and beginning to develop standards of certification for ITC trainees in accordance with the requirements of Industry.	VTDI staff trained as part of other activity. Standards of certificate development in carpentry but not adopted because of closing of ITCs.	If existing modularized occupational curricula were adapted, it is an easy task to divide the hierarchy of skills into three levels with proficiency certificates for each drawn from the subsumed modules. The challenge is to assure acceptance in all training institutes and by the employment community.
H. DICTIONARY OF OCCUPATION TITLES		
MOE, NPA, MLE staff trained and using new skills to create dictionary.	Professional and managerial occupations segment of other DOT's adapted for Jamaica.	The accomplishment represents only a part of the first task of identifying some framework definitions. The difficult part is to flesh out such definitions ~~with~~ with work site visits and task analysis. Greater coordination is needed between DOS and NPA.

Table 2

MPTE

END OF PROJECT STATUS

(EOPS)

PLANNED	ACTUAL
By the end of the project, the following conditions will exist:	
a. Increasing numbers of individuals with low skill levels and/or little prior work experience are being provided with relevant and up-to-date guidance, skill training and job placement services.	a. This condition does not exist. Only two guidance booklets were produced; skills training modules were not field tested or applied; ITC's and JES activity levels were reduced; no evidence that MPTEP work influenced decisions on HEART Academies.
b. The Department of Statistics (DOS), Jamaican Employment Service (JES) and Research & Evaluation Unit of the Ministry of Education are regularly supplying the National Planning Agency (NPA) with the Information and feedback needed for effective manpower planning.	b. Except for JES data which are not used by NPA, no information is available today on a continuing basis that was not available before the Labor Force Survey and the census is not being effectively utilized.
c. Manpower forecasts and sector guidelines, based on information and feedback from the system, are being developed by the NPA, disseminated to appropriate offices within the Ministries of Education (MOE), Youth & Sports (MYS), and Labour and Employment (MLE), and utilized by those Ministries.	c. One set of manpower forecasts prepared from inadequate data already proved inaccurate. Further forecasts would require comprehensive analysis of census data which has not been discussed as yet. Sector guidelines never provided.
d. The NPA is monitoring compliance of the Ministries of Education, Youth & Sports, and Labour and Employment with recommendations contained in the sector guidelines, replanning as indicated by feedback from these agencies and effectively coordinating the manpower system activities of each Ministry with the others.	d. This condition does not exist.

19. GOALS/SUBGOALS

The ultimate goal of MPTEP was "to increase the employment and productivity of the Jamaican labor force...by addressing one of the major constraints in the current Jamaican manpower system: the lack of a capacity to effectively select, train, and place in jobs individuals with low skill levels and little work experience."

Jamaican staff are more capable as a result of participation in MPTEP activities, but there is no evidence that the selection, training, and placement of individuals with low skill levels and little work experience is more efficient/widespread today than before the project. On the contrary, there is substantially less training and placement activity, and selection procedures have not been altered.

The subgoals or components of the project were not achieved because of a combination of factors, including inadequate resources, poor planning and initial specification, inappropriate methodologies, inadequate project management, and difficult conditions in Jamaica. Substantial continuing effort will be required to realize MPTEP's orginal goals. (See table 3, p. 16.)

Table 3

Recommendations to Complete MPTEP Activity Agenda

COMPONENT A - Project activities providing statistical information needed for manpower planning.	Industry/occupation data from census requires careful analysis. New Labor Force Survey Questionnaire data needs rethought analytical paradigm. Standard definitions of training occupations and levels must be adopted. The JDOT must be completed and applied (including assurances that the census is tabulated using these standard definitions). On-going training needs surveys should be analyzed immediately to determine whether data produced is really useful; if so, the supplement should be added to the Large Established Survey.
COMPONENT B - Project activities to enhance the quality and coordination of manpower planning activites.	NPA should try to develop simpler projection techniques and data presentation that can be incorporated into guidance and planning materials. It should analyze the census information and present in useable form to agencies along with the JDOT. A decentralized approach, processing and explaining data for different users, rather than a centralized approach collecting information into a single large plan, should be used.
COMPONENT C - Project activities providing job seekers and school leavers with better and more relevant information about jobs and training	All 12 originally scheduled occupational guides should be completed along with an interest inventory, a Jamaican occupation handbook, and a user's guide. This kit of guidance materials should be widely disseminated. It should accommodate annual inserts which update relevant information.
COMPONENT D - Project activities to expand and improve quality of institutional and on-the-job training.	Task specification for hierarchies should be established for each major vocation, and subdivided into three skill levels. These should be adopted by all training institutions. Existing modular curricula should then be screened and adopted to provide a core curricula for any institution providing training. First level pre-vocational skill modules (for instance, tool use, keyboard skills, etc.) should be developed and uniformly applied in New Secondary Schools and the first level in HEART academies.
COMPONENT E - Project activities to upgrade and expand the GOJ's placement services.	A complete overhaul of this system is necessary which would require major expenditures. A major step would be mandatory job listings. Another approach would be to use the JES or a substitute for intake into training programs and to have it use a self-guided search approach for those not admitted into training. This would leave it as an auxiliary service rather than a major labor market intermediary.
COMPONENT F - Project activities to expand and improve information on the labor market experiences of graduates of the training programs.	A uniform management information system should be implemented which tracks hours and types of training, benchmarks achieved, and notes employment status at exit. A stratified sample could be followed up three to six months and subsequently. This is preferable to repeating ad hoc surveys of single projects.

20. BENEFICIARIES

It does not appear that individuals with low skill levels and limited work experience have benefitted at all from MPTEP. GOJ staff have benefitted from 68 person-months of training and attended some useful workshops and seminars. Among the participating agencies, The National Planning Agency and Vocational Training Development Institute benefitted in terms of increased resources, trained personnel and consultant expertise. The Ministry of Education benefitted marginally in the work started on guidance materials. The Department of Statistics and the Ministry of Labour and Employment gained little and MPTEP may actually have detracted from their other important missions.

Defenders of MPTEP will argue that there will be longer-term payoffs as developed skills are applied, and as decisionmakers learn from previous mistakes. Though there are some positive trends, primarily VTDI's continuing efforts to improve vocational curricula, there are other legacies of MPTEP which are not necessarily positive. By emphasizing sophisticated planning techniques which are difficult to replicate, it is doubtful that the initiative under MPTEP provided a firm foundation for future manpower planning.

There is continuing interest in assessment in the Ministry of Education, but it is debatable whether implementation of aptitude tests nationwide would really be beneficial. Current planning for HEART programs appears to have very little, if any connection to what was accomplished under MPTEP. Any indirect benefits, then, will be modest.

21. UNPLANNED EFFECTS

No significant unplanned effects were observable.

22. LESSONS LEARNED

MPTEP tried to complete too many difficult long-term tasks with too limited resources in too short a time. Several commentators on the original AID Planning Paper noted this problem before the project was accepted; hopefully the lesson will be learned and applied next time, so that the focus of any efforts will be more selective, tangible and realistic.

Where infrastructure development is an aim, Jamaican personnel should receive more training at the front-end so they can make better choices and utilization of technical assistance.

More attention should be given at the outset to identifying and carefully assessing methodological options. For instance, the plethora of assessment instruments should have been reviewed before deciding on the GATB; feasibility studies might have been completed of different projection techniques using Jamaican data; an array of modularized training curricula might have been gathered for review at the beginning. If products are to be developed for widespread uses, such as guidance materials, the resources must be identified at the outset for publication and dissemination. Where projects involve many components, AID should use an independent management agent to keep track of expenditures and accomplishments on a continuing basis. Rather than using individual consultants, efforts should be made to develop continuing institutional linkages, as an example, finding and using a U.S. university that will work with NPA over several years on data analysis for manpower projections. Statistical analysis of formatted data tapes should be handled in the U.S. rather than Jamaica wherever possible, since Jamaican resources are limited. Projects should be arranged with checkpoints and scheduled evaluations, with termination of components if promised inputs do not materialize, if goals are not achieved, or if corrective actions are not taken.

23. SPECIAL COMMENTS

Findings are detailed in A Retrospective Assessment of the Manpower Planning, Training and Employment Project, which includes text and appendix tables.

LIST OF ACRONYMS

AID	-	Agency for International Development
DOS	-	Department of Statistics
GOJ	-	Government of Jamaica
ITC	-	Industrial Training Center
IPC	-	Industrial Production Center
JES	-	Jamaica Employment Service
MPTEP	-	Manpower Planning,Training and Employment Project
MOE	-	Ministry of Education
MLE	-	Ministry of Labour & Employment
MYCD	-	Ministry of Youth & Community Development
NPA	-	National Planning Agency
VTDI	-	Vocational Training Development Institute

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A RETROSPECTIVE ASSESSMENT OF THE MANPOWER PLANNING, TRAINING AND EMPLOYMENT PROJECT

Dr. Franklin Johnston

Dr. Robert Taggart

November 1, 1983

PART 1. OVERVIEW

Objectives

The purpose of the Manpower Planning, Training and Employment Project (MPTEP) was "to establish an integrated and improved manpower development and utilization system responsive to the GOJ's planning goals and to labor market needs. The project rationale is to meet the GOJ's serious need to upgrade manpower planning, training and employment services and to conduct these activities within the overall context of the national labor market."(1) The ultimate goal of MPTEP was "to increase the employment and productivity of the Jamaican labor force ... by addressing one of the major constraints in the current Jamaican manpower system: the lack of a capability to efficiently select, train and place in jobs individuals with low skill levels and little work experience."(1)

There were six major components:

Component A - Activities providing the basic statistical information needed for manpower planning.

Component B - Activities enhancing the quality and coordination of manpower planning activities.

Component C - Activities providing job seekers and school leavers with better and more relevant employment information and occupational training programs with more effective means to select candidates.

Component D - Activities expanding and improving the quality of institutional and on-the-job training (including training for self-employment).

Component E - Activities expanding and upgrading placement efforts of the Jamaican Employment Service.

Component F - Activities expanding and improving information on the post-program labor market experiences of vocational trainees in order to achieve the optimal training mix.

Accomplishment of the activities subsumed within these components was expected to yield the following outcomes by the end of the project:

1. "Increasing numbers of individuals with low skill levels and/or little prior work experience ... being provided with relevant and up-to-date guidance, skill training, and job placement services.

2. "The Department of Statistics, Jamaican Employment Service and Research and Evaluation Unit of the Ministry of Education regularly supplying the National Agency with information and feedback needed for effective manpower planning.

3. "Manpower forecasts and sector guidelines, based on information and feedback from the system ... being developed by the NPA, disseminated to appropriate offices within the Ministry of Education, Youth and Sports, and Labor and Employment, and utilized by these Ministries.

4. "The NPA ... monitoring compliance of the Ministries ... with recommendations contained in sector guidelines, replanning as indicated by feedback from these agencies, and effectively coordinating the manpower system activities of each Ministry with the others.(1)

Accomplishments

To determine, ex-post-facto, the quantity and quality of inputs and related outputs, the uses of these outputs including both the tangible and intangible benefits, the future activities needed to realize any unachieved objectives, as well as any transferrable lessons, this follow-up evaluation was undertaken over three weeks -- from September 18, 1983 though October 9, 1983 -- by a two-person team composed of a U.S. and a Jamaican

representative. The evaluation examined in detail all products and available records on the project. (Appendix 1.) Primary AID and Jamaican officials were interviewed; consultant reports and correspondence files were consulted. All previous internal and external evaluations were reviewed.

The detailed findings are presented in Part 2. Management, Financial, and Evaluation Issues and Part 3. Technical Review of Components. In summary of these findings, there were serious deficiences in inputs and their management, outputs and related impacts as judged relative to the project design.

1. Project inputs were deficient. The budgeted AID contribution was U.S.$950,000 for long- and short-term technical assistance, participant training and workshops, plus a small amount of data handling and other equipment. The GOJ's projected contribution was valued at U.S.$876,660 covering services, participant training, research and the staffing and equipping of the National Planning Agency's project coordinating functions. AID expenditures over the four-year life of the grant, including the one-year extension period, were 10.8 percent under projected levels. The GOJ's contribution cannot be calculated exactly. Estimates by the MPTEP Coordinating Committee suggest that the initial projected GOJ commitment was fulfilled, but there is conclusive evidence that staffing and other resources initially planned from the GOJ contribution were never provided.

In real terms, the personnel and materials provided by GOJ were below those originally projected.

There were qualitative deficiencies as well. While the Jamaicans assigned to the project were generally among the best available in participating agencies, the U.S. consultants varied significantly in their breadth of knowledge and ability to adapt and apply it to Jamaican conditions. In a number of cases, the consultants arrived with manuals used in the U.S. and simply changed the labels with little adaptation of procedures or approaches. Whether the average performance of consultants was better or worse than on other projects is impossible to determine, but deficiencies were highly visible because each consultant tended to work on a separable activity, which depended largely on his or her inputs, with no checks and balances by other experts. There were particularly serious shortcomings in the help provided in processing and analyzing the special surveys which were a central activity of MPTEP.

2. Available resources were not effectively managed. There were three different project directors at NPA, and while all were of high quality, the changeover upset continuity. According to previous evaluations, the continuing U.S. consultant at NPA focused primarily on administrative details rather than monitoring and directing the technical work of the consultant specialists; thus, there was no independent expert providing balance, leaving the consultants free to carry on as they determined appropriate and leaving the Jamaican counterparts little choice but to follow advice that was appropriate in some cases but dubious in others. According to consultant reports, they were working in relative

isolation with limited guidance or coordination. There was no pre-arranged orientation to Jamaican institutions, procedures and personnel, so the learning curve of each consultant was unnecessarily long. In several components, there was poor sequencing of activities and of consultant inputs. Consultant activities were apparently not reviewed until after the completion of their efforts. In addition, independent evaluations of the entire project were not conducted according to schedule, and the one interim evaluation belatedly conducted, was apparently dismissed although indicating substantial problems. As a result, problems which could and should have been identified and corrected, particularly at the point of project extension, were not. Because fiscal records were not updated regularly, tasks which could and should have been completed within the grant budget and time period were left undone even though substantial resources were unspent and even though the project was extended by a full year.

3. Planned project outputs were not achieved in most cases, were qualitatively deficient in others, were rarely followed through so as to impact on decisionmaking, trainee selection or program services. Available information from the Labor Force Survey was not effectively utilized, nor was the training needs supplement added to the Large Establishment Survey. Of the three ad hoc training needs surveys (public sector and large private sector establishments, small businesses, and agriculture establishments), only one was completed, and this with only the most cursory analysis of the data and with questionable validity due to sample weighting problems. While manpower projections

were prepared, they were necessarily gross estimates because of the lack of the above survey information and other key data elements such as immigration and emigration figures, because the methodology utilized was overly complex, and because the entire effort should have awaited completion of the Census. No sector guidelines were prepared nor enforced as a result of MPTEP. An information system was created and has been maintained to date by JES, but no use is made of the data for planning or program improvement because of the limited portion of the labor market covered by JES activities. Guidance packages were prepared and published for only two of the projected 12 occupational clusters, receiving only limited distribution. The occupational guides were prepared using Jamaican researchers, so the capability was created or demonstrated, but these researchers were paid by GOJ and funds were restricted so that the full array of materials was not finished. Training in the use of these guides was not fruitful because the guides were not completed, but also because the training manual was ill-designed for Jamaican needs. Occupational interest tests proved unadaptable to the Jamaican situation, and while a determined effort was made to utilize the U.S. General Aptitude Test Battery, it proved to be inappropriate. The bottom line is that neither the GATB nor any other aptitude nor interest test is now being used to interview and evaluate trainees (except in a few cases where this was done by training institutions prior to MPTEP). Good advice was given on the development of work sample proficiency tests, and test development continues, but the Industry Training Centers (ITCs) in which these were to be used were drastically retrenched, while

the training curricula with which they were to be used were only partially developed. The five modular curricula reported as completed in the interim evalution were, instead, task description frameworks with prototype modules covering specific tasks but not the ten or so needed to constitute a full curricula in an occupation area. Only nine prototype modules were finished under MPTEP within the five different vocations. The capacity was demonstrated to develop modules and work has continued, but the original aim of completing five curricula and implementing them was not achieved. No real progress was made in improving the written portion of proficiency tests or implementing a test item bank. The self-employment curricula was not developed, and there has been no training of individuals for self-employment. Apprenticeship procedures were not altered, although a small number of employers/supervisors attended a single series of training sessions for in-plant instructors under the project, and this was repeated once subsequently. The Jamaican Employment Service has been unable to implement any of the recommendations of its consultant, as the number of JES offices and its staff levels have been reduced. The JES management information system instituted under the project continues, consuming valuable staff time, collecting detailed data which is used by and reported to no one. A tracer study of 800 new school leavers was completed but no use was made of the findings; no other tracer studies were undertaken and none are now underway.

This negative assessment of planned vs. actual outputs does not deny the completion of prodigious amounts of work under MPTEP, nor does it deny the dedication and capacity of the Jamaicans involved in the project, as well as ~~of~~ most of the U.S. consultants. Much was learned by Jamaican personnel, including, in many cases, what not to do and how not to do it. No doubt, the capacity to implement the planned Basic Skills Project and other HEART programs was enhanced. But there is no evidence that more relevant and up-to-date guidance, skill training and job placement services are being provided as a result of MPTEP, that a functioning manpower information system has been created, or that manpower forecasts and sector guidelines are institutionalized and used to improve decisionmaking.

The Jamaican representatives of the five participating Ministries, Departments, and Agencies rated MPTEP accomplishments somewhat more favorably, concluding in their evaluation workshop at the end of the project that 75 percent of objectives were achieved. Of 25 originally identified activities, 11 were considered at least 90 percent successful, 7 as 50-90 percent successful, and 7 as less than 50 percent successful. An additional accomplishment was the preparation of portions of the Dictionary of Occupational Titles, considered to be 60 percent complete. The internal evaluation rated as failures the following four activity areas: tracer studies, the expansion and improvement of the JES, preparation of training for self-employment, and the inclusion of a supplementary questionnaire on training needs in the large establishment survey.

There is no disagreement about what was accomplished, only when compared with what was expected as well as over the quality and utility of some of the outputs. Perhaps the Jamaican participants had more realistic expectations about what they hoped to achieve than the authors and approvers of the AID Project Paper. Yet the conclusion is unavoidable that MPTEP fell substantially short of achieving its goals, objectives, and purposes as stated in the initiating Project Paper.

Constraints

The factors contributing to these shortfalls are several. Outputs cannot be expected where planned resources are not committed. GOJ policies also changed vis-a-vis the original assumptions during the four years of the grant. For instance, the JES improvement effort was rendered pointless by the implicit decision to retrench rather than reform JES. The importance of the training curricula packages was reduced by the closing of the ITCs in favor of HEART Academies, which offered the possibility of importing already developed modularized vocational curricula from the U.S. The delay in opening the IPCs removed the incentive to develop the self-employment curricula. NPA was not given authority to issue or enforce sectoral guidelines. Inevitably, GOJ participating agencies, particularly DOS and NPA, did not always collaborate effectively where resources were inadequate to handle both regularly assigned and additional project tasks, while Jamaican personnel were shifted from MPTEP assignments as needs changed.

While inadequate management, limited inputs and changing conditions were in part responsible for the shortfalls of MPTEP, the primary factor was the overly ambitious, fractionated, and occasionally misdirected initial plan for the project. There was only tenuous linkage between many of the planned activities. For instance, improvement of the Jamaican Employment Service, or aptitude testing in the schools, was hardly necessary for manpower projections or sectoral guidelines. Better training curricula may have been needed, but they bore little relation to any of the above.

The Project Paper exaggerated the linkage in order to justify the separate "ornaments" for the planned "Christmas tree"; indeed, it also confused the ornaments with the tree. There was an assumption, for example, that American approaches and methodologies were transferrable. In fact, however, the U.S. planning, training, and evaluation methodologies are highly interdependent, each building on an already existing statistical and institutional foundation, established through substantial investments over many years. For instance, the DOT would be relatively useless without worksite visits and testing which identify worker and job traits, without wide acceptance and long-standing training as to its definitions, without long-term use in the Censuses, Bureau of Labor Statistics surveys, and the administrative reporting systems of U.S. training and placement programs, and without integration into guidance materials. Take away any element, and the value declines more than proportionately. Similarly, the U.S. curricula development approaches using the task-

analysis technique are intended for and reasonable when the users have the expertise and resources to develop a single curricula, drawing from a range of already existing materials. The methods are unaffordable when building a whole range of curricula from the ground up. Assessment tests take years to develop, requiring norming, validation, and criterion referencing. If used to determine occupational aptitudes, they require referencing to assessed performance in defined occupations by workers or trainees of determined skill levels. Without pre-established proficiency measures, occupational definitions, a wealth of worksite assessments, and comprehensive norming efforts, tests are not transferrable.

Each of these methodologies or approaches imported under MPTEP depended on the existence of the back-up and related resources, as well as continuing commitments to the maintenance of the foundation system. Absent these foundations, the techniques and procedures offered by U.S. consultants were of limited applicability. For instance, the "expert" on placement services was knowledgeable about state-of-the-art computer systems for job/man matching given nationally mandated job listings, long-standing reporting procedures, standardized definitions, and well-validated assessment instruments. He was familiar with management procedures for a large state-wide bureaucracy within performance measures required by national legislation. What use any of this may have been to JES should have been, and ultimately proved, questionable. Similarly, the U.S. guidance "expert" had knowledge of standard and accepted definitions concerning jobs

and the "data, people, and things" involved, and knowledge of the tested general, verbal, numerical, spacial, clerical, form perception, color discrimination, motor coordination, finger dexterity, manual and eye-hand-foot coordination of workers in each occupation. The relevance of these concepts, absent any background information about jobs and the aptitudes of Jamaican workers, was really debatable; they could even be considered counterproductive to the degree the terms confused and deterred more pedestrian "foundation" work which would have provided more understandable and practical information about Jamaican careers.

Absent such foundations, the output expectations of MPTEP activities, given the limited level and duration of inputs, were optimistic to the extreme. To adequately develop, from the ground up, a set of modular training curricula covering the primary training occupations, or to develop, norm, and validate aptitude tests, or to prepare and publish a full array of guidance materials and to train staff in their use, or to modify data bases, fully analyzing available information and completing all the projected surveys, or to reform the Jamaican Employment Service, would have each required all of the grant resources.

Moreover, it is important to note that the U.S. does not have a national manpower plan and sectoral guidelines. Its secondary schools have very limited occupational guidance materials. The GATB is decreasingly used and increasingly out-of-date because of the costs of application and maintenance of the data base. There are a vast array of available aptitude tests,

but they are rarely used as a primary mechanism for trainee selection. No state in the U.S. has uniform vocational curricula nor has uniform proficiency tests. On-the-job training in the U.S. is haphazard; no data are collected on private- or public-sector training needs or activities. The "state-of-the-art" systems imported to Jamaica are ideals rather than realities even in the U.S.

What may be most useful to import from the U.S. are the "building blocks" which can be most easily adapted, which are relatively self-standing, which cost little, and which relate to tasks already underway in Jamaica, or which help to achieve already agreed-upon goals. As examples, securing an array of modularized training curricula and showing how they could be adapted would have been more useful than teaching the conceptual underpinnings and techniques of development of complete systems. Small and steady investments in the relatively good Jamaican Census and Labor Force Survey systems and in the analysis of their data could have yielded much more than ad hoc survey efforts. Preparation of readable and meaningful occupational guides would have been far more valuable than trying to import sophisticated and costly aptitude testing procedures. More useful, accurate and sustainable -- albeit more general -- occupational projections could have been developed by "rule-of-thumb" techniques from data already existing or to be provided by the Census and Labor Force Survey.

However, in most cases, MPTEP emphasized sophisticated methodologies and ad hoc activities. When Jamaicann staff were trained in "state-of-the-art" skills, rather than more pedestrian ways of adapting what already existed, their pursuit of ideal achievements such as three-digit occupational projections, national proficiency tests, or occupational aptitude tests deflected resources from more fundamental but also more crucial tasks. The lesson is to be less ambitious and sophisticated, and to instead be more incremental and basic in future funding actions.

Recommendations

Specific recommendations on management and on follow-through on MPTEP activities are contained in the following two parts, with a special emphasis on implications for the Basic Skills Project, which shares many of the goals of MPTEP. Summarizing these recommendations:

1. Jamaican expertise developed under MPTEP and other projects could be more effectively utilized by a carefully planned front-end exposure to available training and educational systems in the U.S. before the selection of U.S. technical assistance contractors and consultants (who tend to already have decided upon or to be identified with specific materials and approaches). There should be feasibility studies and careful review by Jamaicans of any proposed curricula materials or approaches as part of the bid or pre-implementation process. In other words, technical assistance should be "unbundled" to separate "technique" from "assistance." For instance, under the Basic Skills Project,

Jamaicans who were trained under MPTEP should be involved at the beginning through carefully structured site visits to U.S. training institutions such as Job Corps. Basic skills and vocational materials which are the basis of the technical assistance by U.S. bidders should be submitted for review by Jamaicans who have acquired skills in curricula assessment under MPTEP.

2. As an initial phase of the technical assistance efforts, Jamaican and U.S. teams should adapt U.S. materials to Jamaican needs before any large-scale importation. For instance, under the impending Basic Skills Project the individualized, self-paced academic programs in Job Corps (which are probably the best bet for HEART Academies) could be easily organized to prepare for CEE, GNAT, CXC or GCE exams. Furthermore, available West Indies materials which more affluent Jamaican students use to prepare for these exams could easily be integrated. This might be done as part of the competitive process among a short list of contractors. It is a task which should certainly be completed before much money is spent on technical assistance within the HEART Academies.

3. Some of the unrealized aims of MPTEP could be achieved through other vehicles, most immediately, again, the Basic Skills Project. The guidance materials could be completed in order to serve as a tool for directing applicants to HEART Academies. Such pre-vocational guidance is part of the Job Corps program. If desired, GATB or other aptitude tests could be tried out in the HEART Academies, since the U.S. technical assistance agent will be familiar with the tests. Another option would be to use

the tests for counseling in half of the HEART Academies, and to simply give the tests in the other half, subsequently comparing performance of trainees. The U.S. technical assistance agent would have the experience (and computers) necessary to conduct this evaluation. The Training Achievement Records used in Job Corps might be reviewed and revised for the HEART Academies in light of the proficiency standard expertise developed in Jamaica. These could provide in-program tracking of competency attainment. Finally, the individualized, self-paced academic and functional curricula which will likely be proposed as the basis of bids on the Basic Skills Project might also be tried out in four New Secondary Schools and four Vocational High Schools. These could serve as additional feeders for the advanced training in the HEART Academies, nurturing continued work with selection instruments, guidance materials, and curricula development in the Ministry of Education.

4. Once materials are identified or created under AID projects, it is critical to follow through to the publication and dissemination stage, since there is a clear propensity to underinvest in courseware (as noted by the recent UNESCO report and the earlier USAID report on schools, or as apparent in the incredibly low budgeted per pupil expenditures on materials). Before any large-scale purchasing, however, the courseware should not only be carefully reviewed by an interdisciplinary team of Jamaicans, but should also be tried out with Jamaican students and trainees so that errors such as those in developing New Secondary School curricula will not be repeated.

The immediate application of this lesson is, again, in the Basic Skills Project. In contrast to the MPTEP which left behind a number of reports but little that could be effectively used without additional significant expenditure and years of work, it makes sense to maximize the tangible legacy of hardware and courseware under the Basic Skills Project. Although it is doubtful whether there is time for a careful test of the instructional effectiveness of all materials, prototype implementation makes sense as a way of assessing the relative feasibility of all possible elements. If there is to be any investment in computers for instructional purposes, a range of options should be explored, if possible through implementation in diverse settings, since the machinery and courses may or may not be appropriate in the Jamaican environment. Microcomputers can now be used for a variety of other purposes including automated scoring and word processing. Such options should be explored since so much effort is devoted to testing in the Jamaican society, since word processors are scarce, since resources for analysis are so limited, and since the micros could be directed for these purposes even if they did not prove effective as instructional tools. If micros are to be used, technical assistance should be arranged independent of vendors and on a continuing basis in order to assure that the best use is made of any hardware which is purchased.

5. To the degree that consultants will be used in the future in the employment, training, and education projects funded by USAID, it would make sense to contract with a Jamaican firm or institu-

tion to develop and deliver an orientation package. This could shorten the long learning curve of U.S. consultants noted under MPTEP. For instance, a range of materials could be provided for study before arrival in Jamaica. These could include the Manpower Information Bulletin prepared under MPTEP, as well as publications such as Jamaican Social and Economic Indicators and the UNESCO report on Development of Secondary Education. A compressed schedule of visits could be arranged upon arrival to expose consultants to the various institutions, and briefing sessions could present up-to-date information on decisionmakers, operating procedures, and the like.

6. To foster infrastructure development in Jamaica, Jamaican consultants should be involved as much as possible in substantive areas of training, education, microcomputer use, analysis of employment data and evaluation. While expertise may not be immediately available in all cases, and while the "batting average" of Jamaican consultants might be lower than for U.S. consultants, a team approach could help to develop a coterie of resident experts. This is important because of the costs and inflexibilities in using U.S. consultants alone, and because the aim must be to reduce the need for continuing AID consultant support. Jamaican government personnel should also be included in these teams, but there is a tendancy, as under MPTEP, to assign the best staff to such projects, who then advance to other more challenging duties and are not not available for continuing

work. Both members of this evaluation team believe that the pairing of Jamaican and U.S. expertise and perspectives improved the quality of this evaluation.

7. The adequate and timely flow of resources proved to be a major obstacle to the completion of some activities (exacerbated by the failure to utilize all available AID funds). Likewise, the continuing GOJ commitments beyond the life of the project were quite vague in the Project Paper, yet most of the specified goals assumed or required substantial commitments for many years. Recognizing that "in-kind" contributions are frequently illusory, an attempt should be made at the outset of any project to identify the portion of staff commitments which are critical to each activity, with the remainder identified as unallocated support staff. Position descriptions should be required for critical jobs, and positions should be filled before any funds are released for specific activities. Either AID, or a selected monitoring agent, needs to periodically check on commitment levels to assure that critical staff are not undertaking other assignments or are transferred without refilling of vacancies. Unallocated support staff need not be monitored closely. Likewise, AID must not only assure that the equipment and materials designated for the project arrive in a timely fashion, but that they are used fordesignated functions at all times. For large projects, such as the Basic Skills Project, AID might consider using an independent Jamaican or U.S. monitor-

ing and managing agent to provide monthly assessments and inventories of staff and equipment inputs as well as outputs, thereby providing checks and balances for the contracted technical assistance agents.

PART 2. MANAGEMENT, FINANCIAL AND EVALUATION ISSUES

Finance and Accounting

The Manpower Planning, Training, and Employment Project originally had a three-year budget of U.S.$950,000 from AID and U.S.$876,660 from the Government of Jamaica, for a total of U.S.$1,827 thousand. During the 1975-1977 period, when the plan was being developed, the inflation rate in the U.S. averaged 7.8 percent. Had this rate continued over the planned three years of the project, real project expenditures in U.S. dollars would have been reduced to roughly U.S.$1,569 thousand in 1977 dollars (assuming equal expenditures over three years). Not only was the U.S. inflation rate far in excess of this projection, but MPTEP was later extended another year, so that available resources were diminished by four years of inflation. The real value was thereby reduced to $1,416 thousand (assuming equal expenditures over four years).

This was noted as a serious constraint in the first MPTEP Progress Report:

> "As the Project has unfolded, it has become increasingly clear that the *a priori* estimate of funds neeeded to implement the project is insufficient to fully carry out the project activities. The original funding level was developed several years before the project began and due to inflation, the actual expenses for most activities have outstripped the funds allocated for the activity."(4)

Paradoxically, the resources which were available were not fully utilized. Of the $950,000 in AID funds, $102,639, or 10.8%, were returned. The reasons given were that allowance had to be made for late billings, and there were AID/W delays in deobligating overfunded PIO/Ts, but similar procedures applied to all AID projects, which typically had little or no underspending. In 1981, there was a change in the brokering agent used to identify U.S. consultants, but this should not have affected budgeted levels since it required an earlier closeout of billings by the first agent. Furthermore, an exact accounting should have been possible and required at the point of the extension of the contract, as recommended by the interim evaluation.

Up to the last day of the project, agencies were submitting requests for materials, equipment, printing, and staffing, including items which had been originally projected for the project plus additional requests consistent with MPTEP goals. They were first told that no funds were available for these purposes, and later that the time was too short to deobligate and then reobligate.

The effects of underspending and inflation were most apparent in two key categories -- long-term training of Jamaican personnel, which experienced a 21 percent shortfall, and short-term technical assistance by U.S., for which the shortfall was 22 percent. Unaudited AID figures report overexpenditure in the equipment line item, although several major elements (the high-speed printer for DOS and a stencil machine and copier for VTDI) were not secured. Estimates for workshops and seminars are probably exaggerated because uniform person days of atten-

dance were assumed for all conferences even though the ones that could be tracked showed less than full-day scheduling and full seminar attendance by only a minority of participants.

MPTEP

SUMMARY OF INPUTS (AID)

COMPONENT	PLANNED	ACTUAL
Human Resources (Person Mos.)		
1. Short-term advisors	89	70
2. Long-term T.A.	48	50
3. Workshop and seminars	155	202
4. Participant training	87	68
Commodities ($000)		
5. Equipment	$50	$58

There were also several questionable spending decisions: The interim evaluation questioned the appropriateness of the two automobiles purchased, but their availability for MPTEP activities might also be questioned. For instance, one consultant had a running battle with AID and NPA in trying to secure transportation to conduct prescribed site visits. One must wonder why the secured vehicles were not used for this purpose. Another issue was the high-speed printer clearly specified for DOS in the Project Paper agreement. This was not required for MPTEP deliverables, but was a "carrot" to encourage cooperation. It was

never provided, with the result that it had the opposite effect of undermining cooperation. In several cases portable equipment and furnishings secured under the project were diverted for other purposes, according to individuals interviewed in this evaluation.

Unaudited statements indicate that the Government of Jamaica expended J$785,398 in direct expenses for personal emoluments, service and equipment.

Total	J$785,398
Personal emoluments	616,497
Travel and Subsistence	42,376
Supplies and materials	29,294
Public utilities	5,916
Other operating services	55,815
Equipment	25,500

It is claimed further that J$573,425 went for in-kind aid. With a Jamaican inflation rate of 49 percent in 1978, 20 percent in 1979, and 29 percent in 1981, and with the devaluation of the Jamaican dollar to J$2.86 (or J$1.75 official) to U.S.$1.00 at the time of this ex-post-facto evaluation, Jamiacan project inputs could not be provided with the originally planned Jamaican dollar outlay.

Yet even with a year's extension it is doubtful whether GOJ contributions matched original Jamaican commitments. It is impossibl to reconstruct GOJ inputs without an audit (which is not recommended) but evidence suggests that poorly timed/inadequate GOJ support hampered implementation of the project. For instance, the MPTEP Progress Report for 1979-1980 stated:

"The Project is suffering from an acute shortage of staff in all participating Ministries and these shortages are seriously affecting the timing and rate of implementation of Project Activities. The two most serious problems resulting from the shortages are felt in 1) the coordination and guidance of technical assistance and 2) the inability of some components to follow through with the implementation of plans and strategies developed in cooperation with Technical Assistance. The situation has been further exacerbated by staff members attending training courses to upgrade their skills.

"As a result of the above obstacles, much of the coordination strategies in the last year have concentrated on rearranging time schedules, prioritizing project activities, and developing new avenues for accomplishing the Project's goals. Some of the objectives of the Project have not been realized due to these problems." (6)

The interim evaluation 31 months into the project found at NPA:

"... of the 14 positions (8 Executive/Professional; 6 Support) envisaged in the Project Paper, 11 (8 Professional 3 Support) were approved by MPS in September 1978 on a temporary basis. Currently, there are reportedly five professional and six support staff members incumbent at NPA... Only one of the professional staff of the NPA secretariat is currently full-time on the Project. The Coordinator has recently been 80%; others 40% on the project. (Other duties, such as preparation of the yearly Social and Economic Survey section on Labor Force and Employment must, at times be carried out.)" (2)

In the interviews conducted as part of this follow-up evaluation, participating agencies all indicated that their originally scheduled MPTEP staffing levels were not achieved and that this severely constrained attainment of objectives: DOS did secure temporary enumerators for the special surveys. It had approval (according to MPTEP staff for two statistical officers, one statistician, one project manager, six clerical officers, and one secretary. It filled one statistical officer position. (Table 1).

TABLE 1

MPTEP POSTS APPROVED AT ANY TIME DURING PROJECT

National Planning Agency

Project Co-ordinator (SMG I)

Assistant Co-ordinator (NPS IV)

2 Chief Planners (NPS III)*

2 Planners (NPS II)

2 Assistant Planners (NPS I)

1 Accountant (FAA III)

1 Statistical Officer (CR III)

1 Secetary/Stenographer (ST IV)

1 Stenographer Typist (ST II)

1 Driver (LMO II)

Survey Posts

11 Statistical Enumerators (CR III)

2 Statistical Supervisors (CR IV)

Vocational Training Development Institute

2 Draughtsmen (TSS/GT II)

3 Secretary Stenographers (ST III)*

2 Secretary Stenographers (ST II)

Ministry of Labor

1 Labor Analyst (NPS III)

1 Statistician (NPS II)*

4 Labor Officers (CR V)*

1 Labor Officer (CR IV)*

2 Statistical Officers (CR III)

Ministry of Labor cont'd.

1 Administrator (PMA III)*

1 Administrator (PMA II)*

1 Administrator (PMA I)*

2 Secretaries (ST II)*

Department of Statistics

1 Project Manager (NPS III)*

1 Senior Statistician/Programmer (EDP II)*

1 Secretary Stenographer (ST III)*

1 Statistical Officer (CR IV)*

1 Statistical Officer (CR III)*

6 Clerical Officers (CR II)*

Survey Posts

8 Supervisors (CR IV)

40 Enumerators (CR III)

Ministry of Education

1 Research Writer

1 Assistant Research Writer

1 Secretary/Stenographer

NOTE: The asterisked (*) posts were never filled by the respective Agency.

- VTDI claimed that it had expected to hire a curriculum specialist, two draftsmen, and two secretaries. It reported getting only the two secretaries.

- The Ministry of Labor was to get nine professional positions and two secretaries. Two personnel in JES got extra pay while working on MPTEP while retaining all previous assignments. MLE indicated there were no new hires, although MPTEP records indicated one labor analyst and two statistical officer positions filled.

- The Ministry of Education was to get one research writer, one assistant research writer, and one secretary/stenographer. It eventually hired two Jamaican consultants as researchers plus a secretary.

A more accurate calculation would be person-months of additional employment or of staff assigned full-time to MPTEP and freed of all other duties, plus person months of existing staff released for training. A best estimate is that the total would amount to no more than 25 professional person-years, with perhaps an equal number of clerical and secretarial person-years over the four years of the project. Whether this is accurate, it is revealing that the accounting is so inexact, and it is undeniable that needed staff were not available to complete planned tasks on schedule or at all. Staffing problems should certainly have been considered and corrected at the point of project extension, but this did not occur.

To assure the inputs adequate to achieve project outputs it would be necessary to specify mandatory positions and position descriptions, requiring new hires or temporary assignments with no other responsibilities for each of these positions before freeing AID monies. A generous and unspecified "in-kind" contribution might be authorized as a budget cushion, but it is necessary to hold much firmer where staff are really needed for completion of deliverables.

Management

Managing a conceptually-oriented developmental activity is inherently difficult. Managing an array of such activities, which are only tangentially related and which require diverse expertise, is even more challenging. Managing such activities during a period of organizational and political turmoil, without the clear authority needed to achieve coordination, and beginning with a fundamentally flawed gameplan, is nearly impossible.

It is not surprising, then, that MPTEP suffered from serious management deficiencies:

1. The success of every dimension of MPTEP depended on the appropriate and timely choice and use of U.S. expert consultants. Originally AACTE was used to recruit consultants, but it terminated this relationship in 1981 and another intermediary was selected. Recruiting appropriate personnel during the political turmoil of 1979 and 1980 proved very difficult. In the interim evaluation at the 31-month point, the evaluators found "to date, approximately only 45 of the projected 89 person months of tech-

nical assistance have materialized," and by the end of the four years only 70 of the 89 person months of assistance had been secured. The expenditures per person month of assistance exceeded budgeted levels.

The problems were quantitative as well as qualitative. Although the MPTEP management committee screened original resumes, preferred consultants failed to fulfill their commitments requiring the acceptance of secondary choices in some cases. Selecting from resumes proved to be a hit-or-miss process, particularly when the skills needed were conceptual and adaptive rather than technical and more measurable. For example, there are thousands of U.S. manpower planners, and hundreds of statisticians, but the number who really understand all phases of projections, from number gathering, to calculation, to application, are extremely limited; the portion of these who can creatively adapt to different circumstances and approaches are even smaller.

The best way to identify such individuals is either to maintain a continuing relationship with a single institution with expertise in the subject area, or else to have preliminary conferences or activities which offer an opportunity to preview candidates. The first approach is probably the more constructive. There are several U.S. colleges and universities that have departments covering all of the subject areas of MPTEP. If a continuing relationship were developed and maintained, experts at such an institution could better determine Jamaican needs and conditions. The institutions could choose from large numbers of

staff and graduate students to assure the best personnel would be available in a timely fashion. This is far better than using as a screening agent a group which may have no special expertise in the subject area or continuing contact with Jamaican project personnel and institutions or their needs.

2. Sequencing and continuity are key ingredients for the success of long-term, multi-faceted efforts such as MPTEP. In retrospect, it would have been sensible to have demarcated checkpoints for each deliverable. The outputs were not clearly specified, so interim progress could not be easily determined. For instance, earlier evaluations rated progress as "percent complete" on each activity, but these judgments were completely arbitrary and, in retrospect, overly sanguine. While there was a schedule for final outputs, the input schedule was not as clearly specified. Potential bottlenecks were known very early, for instance, in the preliminary systems analysis of DOS which suggested the impossibility of meeting key deliverables on schedule without extra staff, but no action was taken to change priorities and scheduling. A major sequencing problem was the timing of site visits and U.S. training of Jamaican staff. In many cases, key players were absent just when most needed. Their training should have occured at the beginning rather than the end of the project, so that the skills learned could be applied in working with U.S. consultants.

There were three MPTEP project directors serving at four different times. This clearly undermined continuity and accountability.

3. AID and GOJ management procedures complicated logistics. Simply finding consultants, arranging to meet their needs, and paying them, was an enormous task. Materials and equipment acquisition lagged in many cases. Expected equipment was not always provided. Jamaican staff positions were allocated only with much delay, and many were not filled because of low salary levels or simply the difficulty of cutting through the red tape. These logistical details consumed much of the time of staff in MPTEP and wasted much of the time of consultants. No attempt was apparently made to short-circuit these problems -- for instance, permitting excepted position hiring in GOJ or arranging a concentrated orientation for all selected consultants on Jamaican institutions and economic problems. If it is unrealistic to expect special arrangements for a project such as this, then the anticipated delays need to be realistically factored into the initial project planning.

4. "Qualitative" management of the varied activities was the real problem. The interim evaluation criticized what it perceived as undue emphasis on logistical rather than substantive matters by the long-term technical advisor on the project. There is certainly no evidence in any of the reports that this key individual played much of a role in influencing the different products or in assuring that the work by experts was of reasonable quality and contributed to the overall goals of MPTEP. There is no reason that the technical problems noted later in this evaluation should not have been observed and addressed by

the long-term technical advisor. If logistical issues were more pressing, then there should have been two or more technical advisors dividing administrative and substantive matters or else the management issues should have been assigned to a contract agent in Jamaica. Perhaps the range of subjects covered by MPTEP was too broad for one consultant, in which case a team approach would have made more sense.

5. Another management shortcoming was the lack of an adequate filing and reporting system. There should have been regular quarterly financial statements reporting on expenditures by AID and GOJ, including procurements of materials and equipment. There should have been uniform rating sheets for each consultant, to be filled out by personnel in the assigned agency as well as by the technical advisor. There should have been a standardized quarterly report on person-months of inputs and outputs for each of the activities of the participating agencies. There should have been standardized reporting and rating forms for conferences, including clear specification of person-days of attendance. All correspondence and reports should have been collected in a central file. There were ad hoc efforts to meet these needs, but no uniform system was employed. This evaluation was completed without the benefit of regularly scheduled expenditure, input, and output reports, comprehensive ratings of consultants or conferences, and only after tracking down most (but not all) MPTEP reports and products from disparate sources.

6. Another weakness was in the coordination efforts by the Project Management Committee and the more operationally-oriented Coordinating Committee. The Project Management Committee met only four times in the four years of the project. The interim evaluation criticized its failure to provide clear guidance and priorities. This was particularly critical at the point of MPTEP extension, when the interim evaluation had raised some serious questions which needed to be addressed. There was a response by the Coordinating Committee rebutting the findings but postponing corrective action pending guidance by the Management Committee -- guidance which was not forthcoming.

There is no evidence that AID helped achieve coordination or tried to reestablish priorities when it was clear that the original ones could not be achieved. A major reason was that AID lacked the in-house expertise in the wide range of subject areas. It should have either contracted for this expertise or had a resident consultant clearly answerable to AID rather than NPA or MPTEP.

The issue is not simply whether management was deficient, but whether it could have been substantially improved and whether management problems were primarily responsible for the shortcomings of MPTEP. There are many justifications for poor management. As the interim evaluation stated:

> "...It must be appreciated that the first two years or so of the MPTE Project occurred during a period of political turmoil and economic decline culminating in the elections of October 1980. All the normal prob-

lems inherent in development projects were exacerbated by the political-economic circumstances existing in Jamaica (particularly during 1980):

- Staff turnover increased;
- Project funding slowed;
- Private sector cooperation with the survey was less than total;
- Mid-level staff was more reluctant than ever to make decisions or take actions;
- U.S. technical advisors were harder to recruit.

"On the U.S. side, the background would be incomplete without mention of the reported effects of the Shweiker Report and Amendment, which is said to have delayed U.S. funding during a six-month period."(2)

Even under ideal conditions, however, the MPTEP would have been difficult to manage because of its poor initial design and extremely difficult mission. Inadequate management was <u>not</u> the major reason for the failure of MPTEP to realize its objectives; conversely, management problems were almost inevitable, given the ambitious and ambiguous initial design.

Evaluation

Internal evaluation is an important management tool, both for identifying and correcting problems during the period of a contract and for documenting mistakes so that they can be avoided in the future. Periodic progress reports were scheduled as an integral part of MPTEP. Additional evaluation components included assessments of consultants and of their final reports, assessments of conferences by participants, and summative assessments by trainees sent to the U.S.

In general, the progress reports accurately identified the quantitative progress on project components -- i.e., seminars and training held, consultants, expenditures, and the like. They raised -- but did not resolve -- some important issues. These were most clearly stated in the 1979-1980 MPTEP Progress Report:

"Delays in Funding

U.S. AID funding was delayed for the first six months of U.S. fiscal year 1980. The funding necessary to purchase overseas technical assistance and training was delayed until May 1980 and resulted in the postponement of project activities and the resequencing of the time-phased implementation plan. Since much of the project co-ordination and/or management decisions are based on the availability of these funds for the various components, the uncertainty in funding inhibited effective project planning, created considerable time lags in project implementation and, in some cases, necessitated developing new implementation plans.

"Level of Funding

...The original funding level was developed several years before the project began and due to inflation, the actual expenses for most activities have outstripped the funds allocated for the activity. Moreover, as project activities have been implemented, new spin-off activities necessary to supplement the major activity have been uncovered and staff shortages have necessitated contributing additional technical assistance to supplement the work of counterpart staff. All of these factors have driven up the cost of the Project and without additional funding it seems unlikely that all project activities will be carried out to their logical conclusion.

"Restructuring of Government Ministries

In early 1980, the Government merged several Ministries and the resultant reorganization of Departments led to unsettled conditions for some Project members. The process of co-ordinating the merger consumed much time and energy and helped to create delays in the implementation of project activities. The restructuring also led to some changes in the allocation of support staff and liaison personnel.

"Change of Central Government

In mid 1980, the upcoming general election and its associated violence created a general malaise and delayed project activities; technical asssistants refused or postponed assignments and project staff were unable to carry out some assignments. After the election, some project activities were slow restarting as staff awaited directives from the new Government. In short, the political and bureaucratic uncertainties militated against efficient and effective project planning.

"Project Leadership

In August 1980, the Project Co-ordinator, Miss Barbara Boland, was awarded a UNDP fellowship and left the island to pursue a Ph.D at the University of Pennsylvania. The new Project Co-ordinator, Mrs. Pauline Knight, was unable to take up the new post until early November. This Project was able to proceed under the direction of the Assistant Co-ordinator and the Project Advisor but some decisions which fall within the Co-ordinator's portfolio were postponed and may have delayed some project activities.

"Staff Shortages

The Project is suffering from an acute shortage of staff in all participating Ministries and these shortages are seriously affecting the timing and rate of implementation of Project activities. The two most serious problems resulting from the shortages are felt in i) the co-ordination and guidance of technical assistance and ii) the inability of some components to follow through with the implementation of plans and strategies developed in co-operation with Technical Assistance. The situation has been further exacerbated by staff members attending training courses to upgrade their skills.

"As a result of the above obstacles, much of the co-ordination strategies in the last year have concentrated on rearranging time schedules, prioritizing project activities and developing new avenues for accomplishing the Project's goals. Some of the objectives of the Project have not been realized due to these problems."(6)

The issue is not the validity of these observations, but rather the lack of corrective action and creative redirection. Once it was realized (as early as 1979) that original goals could

not be achieved on all fronts, priorities should have been established (using the consultants where necessary) to help determine which missions were most realizable and most useful.

Independent evaluation should be a tool for mid-course correction in projects. The usual procedure of AID is to evaluate projects at their mid-point or sooner. The Project was designed as a 36-month activity, yet the first independent evaluation was not conducted until 31 months after the date of the project agreement and not submitted in final form until July 1981, two months before originally scheduled termination. However, since MPTEP was subsequently extended for a fourth year, there was an opportunity to make changes in light of evaluation findings.

The evaluation reached the following conclusions, which all suggested the need for substantial corrective actions:

> "1. Three of the five participating institutions view the Project as being an integral part of their usual activities; one saw it as parallel activity to its basic responsibilities and the fifth considers it important but not a priority in its scheme of operations.
>
> "2. The design of the Project was deficient in our opinion. Specifically, the overall goal was overly ambitious, the specified outputs named are not logically sufficient to bring about the stated purpose (even granting the mediating assumptions), the purpose is not rigorously linked to the goal.

"3. The Manning Chart given in the PP was overly ambitious and could not have been implemented, nor was it. The 14 person very high-level staff envisaged in the Project Paper was reduced to 11 persons with the leadership at much lower levels.

"4. The Project has suffered from frequent staff changes. It is now on its third Coordinator.

"5. To date, 45 of the projected 89 person-months of technical assistance have materialized, involving 25 consultants.

"6. No systematic Project-wide method of evaluating the work of Consultants was used.

"7. The long-term Technical Advisor to the Project, though providing needed continuity and administrative support, has not yet carried out some significant technical activities required by his Scope of Work.

"8. There have been difficulties encountered in recruiting Technical Assistance Personnel.

"9. Evaluation of courses/workshops have been carried out on an ad hoc basis.

"10. The high-speed printer for the DOS, acquisition of which is specified in the PP, has not been procured. The reasons for this are convoluted.

"11. The two vehicles acquired seem less than totally appropriate for the Project's needs.

"12. Fourteen Jamaicans have received professional training in the US, as part of the Project. Thirteen remain in Government service. The implicit objective of strengthening US-Jamaican ties was undoubtedly well-served by this Project element.

"13. The Management Committee has not been active, meeting only twice in the first 30 months of the Project's life.

"14. Two of the five scheduled surveys have been carried out but no data are yet available for analysis. Another survey (not originally planned) has been done and a first draft report is available.

"15. There have been problems related to the NPA's inability to provide some of the resources required by a participating institution to carry out its work plan.

"16. As far as we can determine, no work has been carried out internally on the training of NPA staff in manpower forecasting methodologies or in the development of sector guidelines for client ministries.

"17. The MYSCD has exceeded its base target in the production of modular curricula and instructional programs.

"18. In terms of tasks carried out and of enthusiasm displayed for the Project, the performance of staff members for the MYSCD activities was the most impressive of those involved in the Project.

"19. There has been no tangible progress toward the goal of upgrading current placement activities of the Local Employment Service centers.

"20. To summarize the inputs, the following major elements have been furnished:

- 21 months of service by Resident Technical Advisor @ US$7,100/mo.
- 26 short-term TA visits @ US$15,400/visit
- 20 Workshop/Seminars @ US$1,700/event
- 14 Participant Trainees to the US @ US$5,555/person

"21. With 78% of the Project life elapsed and two thirds of the funds spent, we rate the achievement of the output and purpose (as stated in the PP) to be 25-30% to date."(2)

This ex-post-facto evaluation confirms interim evaluation Findings 1-15 and 18-19. NPA staff subsequently completed manpower projections (Finding 16). In our interpretation, MYSCD had not completed training curricula and instructional programs as ultimately intended, but had only completed prototype modules, so that its goals were not exceeded, although reasonable progress was made (Finding 17). The rating of "the achievement of the outputs and purpose to be 25-30% to date" was necessarily arbitrary, but was, if anything, generous in light of final outputs adjudged to be to be at approximately this same level (Finding 21).

Based on its findings, the interim evaluation made the following recommendations:

"1. That ... the Project term be extended to 31 March 1982.

"2. That the GOJ and USAID specify immediately the level of funding available for the Project and the cash flow for the period until 31 March 1982.

"3. That the commitment of the Political Directorate of the GOJ to the Project be given by the Prime Minister, himself. This commitment can be made manifest by:

(a) having the MPS establish a special "window" to give immediate consideration to matters related to staffing and payments to consultants, and

(b) ensuring consistency in the priorities of participating institutions, as they relate to the Project.

"4. That the CTD of the NPA must display increased interest and provide greater leadership for the Project by:

(a) meeting individually with the heads of participating institutions to identify, and remove, bottle-necks to executing activities, and

(b) strengthening the NPA's ability to carry out its coordinating functions by obtaining needed support staff.

"5. That the members of Management Committee of the Project begin to carry out their responsibilities individually and as a body by:

(a) keeping abreast of the progress of activities for which their institutions are responsible; and

(b) ensuring that the Project, as whole, is on the road to attaining objectives;

(c) deciding formally: What should happen next in the Project? Which of G7's recommendations are to be implemented? Who is to do it?

"6. That AID avoid using the MPTE Project design or implementation approach in other projects.

"7. That the NPA takes immediate action to improve the performance of the Secretariat in its coordinating and administrative activities by:

(a) improving the quality of its accounting/administrative staff;

(b) implementing an official filing system for Project documents and keeping it up-to-date;

(c) developing, circulating, and requiring the use of uniform evaluation forms to be utilized by all participating institutions to assess the performance of consultants and the value of workshop/seminars.

"8. That the resident Technical Advisor (TA) become that in fact without further delay, i.e.,

(a) that he cut back his logistic, administrative liaison functions (from 60% to 30%).

(b) that he not wait any longer to apply/demonstrate/exercise his manpower projection expertise.

(c) that he work with one or two well-motivated NPA counterparts to produce a set of manpower projections for various industries and with various input assumptions using existing (or even artificial) data.

(d) that the counterparts become expert in the procedures so that they can apply them to the next available survey data (whether from the Project or another source).

(e) that in addition the TA offer a fortnightly seminar series (site to rotate among participating agencies) to teach syntheses and interpretation of numerical data and some simple (i.e. non-computer based) projection techniques (e.g., trend lines and the linear regression model) using existing Jamaican data e.g. from the latest Economic and Social Survey, Large Establishment Employment Survey, Education Statistics, Labor Force Survey (See Appendix).

(f) In summary, that the role of the Technical Advisor be clarified, that he become more mentor than facilitator, more statistical resource than supervisor of U.S. experts.

"9. That USAID assumes greater responsibility for some of the administrative activities being carried out be the Technical Advisor in order to facilitate implementation of Recommendation 8.

"10. That the MOE recommences activities on the Vocational Guidance and Counseling section of its responsibilites, exploring, along with NPA, the possibility of using USAID funding to hire local consultants, if necessary.

"11. That the DOS finds the means of reassigning on a full-time basis, at least one officer to ensure progress on processing of data from Surveys;

"12. That the High-Speed Printer not be ordered since we do not feel that it represents the bottle-neck to progress on the Surveys; and

"13. That since little institutionalization of the Project is evident to date, an effort be mounted to establish a permanent National Industrial Training Council to carry on 'ad hoc' and "on the ground" what the Project sought to do in the abstract and on the research level.

In retrospect, all of these recommendations appear sensible, yet only a few were followed. The project was extended a year, but the level of funding and cash flow was not clarified and greater political commitment was not made. Although some improvements were noted in the coordination of the project by NPA, uniform evaluations of workshops and services were not available at the time of the follow-up evaluation; neither was the final report of the NPA long-term technical advisors or of NPA itself. Simple methods of manpower projections were not taught and the role of the resident technical advisor remained ambiguous. The DOS never provided (or was provided) the resources needed to complete all surveys or analysis of collected data. No National Industrial Training Council was formed.

Though its judgments stand the test of time, the interim evaluation was clearly deficient in examining the products and approaches of MPTEP. While its recommendations were correct in

their general thrust, they did not provide clear guidance about what could be salvaged and how during the extension period. There was no attempt on the part of MPTEP or AID to determine the appropriate corrective actions to address the issues raised but not resolved by the interim evaluation. A 22-page, item-by-item rebuttal was prepared for and submitted to AID by the MPTEP Coordinating Committee. This identified some detail errors in the interim evaluation. However, the general tone was defensive to the point of being counterproductive. No problems were admitted, and no corrective actions were proposed or taken. Most significant was the attempt to disavow the original goals and purposes of the project:

> "Within the context of the Logical Framework (of the MPTEP Project Paper), within which this Project design is developed, a goal is a high order target to which the Project Purpose contributes and need not be achieved within its lifetime. Since the Manpower Project is designed to reduce the imbalance between labor demand and supply, in the long run, if it were successful, it would necessarily contribute to the reduction of unemployment due to frictional and/or structural factors. Secondarily, it seeks to improve the training capability of the government, if it were successful, it would contribute to increased productivity of the labor force."(3)

Essentially, then, the Coordinating Committee argued that outputs and, in some cases such as staff training, inputs were themselves proof that goals were achieved and purposes realized. If MPTEP did not expect to accomplish substantial changes in the mix and content of training programs, in the functioning of the JES, in the effectiveness of vocational guidance, in the way students were assigned to training, and in the programming decisions of independent agencies, and if it did not expect to

thereby alleviate frictional and structural problems in the labor market and to improve productivity of the labor force in demonstrable ways, it should <u>not</u> have been extended for another year or funded in the first place. Process is not product, and product does not prove that a goal or purpose has been accomplished. The extension should have been the juncture for realistically setting new goals and purposes within the overall framework, for redefining the deliverables, and choosing priorities. The opportunity was missed.

PART 3. TECHNICAL REVIEW OF COMPONENTS

Labor Force Survey

Since 1968, the Department of Statistics has conducted a semiannual Labor Force Survey covering approximately 1 percent of the population. DOS summarizes the data in an annual publication containing a series of cross-tabulations. The collected data has included information on industry and occupation of employment, previous training and work experience and educational achievement of the labor force -- information which is critical in projecting labor force supply and demand and in determining training needs.

The first specified activity of the MPTEP was for DOS "to provide household suvey data to the National Planning Agency." It was unclear in the background papers whether this meant simply providing published reports, transferring to NPA any unpublished tabulations, programming and running special tables on request, offering a data tape for analysis by NPA, or revising the questionnaire to collect different information and then analyzing the results. All these options had been discussed for several years prior to the project.

There were several critical factors. The Department of Statistics planned to conduct a census of the population in 1980 which would provide new weights for the household survey. A revision of the household survey questionnaire was planned to coincide with the use of these new weights in either the 1981 or 1982 semiannual surveys, since reprogramming was required anyway

to handle the weighting changes. Programming was the key bottleneck, because the Census information was coded on a new System 38, which was better than the old computer of the DOS but was not already programmed to produce the usual tables, and did not include either data base management or classification programs that would have permitted easy manipulation of the data or introduction of additional data elements. A census is a massive task and tends to take precedence over all assignments, so it is understandable why DOS was not always an enthusiastic participant in MPTEP.

Moreover, the Department shared little in the benefits of MPTEP. DOS was to get several temporary positions to handle the field work on the ad hoc surveys of training needs. But since it would have preferred to wait for the census of establishments in order to get a better sample frame for the special surveys, and because it wanted to avoid the extra workload until completing census-related tasks, the positions were merely for jobs that DOS did not want to undertake in the first place. DOS was allocated one statistician position for one year, but could not fill this temporary assignment and had to settle for a project manager. The U.S. consultants who were assigned for the formatting, programming and analysis of the Large Employer Survey were hired through NPA, and DOS claimed its role was simply to provide a clean data tape; however, continuing interaction with the consultants proved necessary. The projected "payoff" for DOS was a typewriter, three calculators, and a high-speed printer for the existing computer (valued at U.S.$25,000-30,000). The printer

was not vital for the household survey or other MPTEP work, but was justified as "freeing up staff time" which could then be reallocated to work on MPTEP assignments. The printer was never delivered, apparently because NPA and its technical consultant considered it unnecessary. Thus, the only "carrot" for extra effort by DOS was eliminated.

As it turned out, the Census was delayed for two years, because of political turmoil; hence, implementation of the revised Labor Force Questionnaire was postponed until the April 1983 survey. The revisions in the questionnaire included many of the elements desired by NPA and useful in manpower analysis, such as more refined measures of involuntary part-time employment, educational attainment and achievement, and occupation of employment and training. However, it had always been the policy of DOS to conduct users surveys before refining instruments, and most of the changes which were made had been under consideration for several years before the MPTEP. These revisions cannot be considered a direct or indirect product of the project.

NPA requested and received unpublished tabulations on employment by two-digit industry and occupation (plagued by small cell sizes). It requested some other special tabulations which were not completed, because (DOS claims) of the scarcity of programming capacity. NPA had access to the Central Processing Unit which had an SPSS data analysis package permitting relatively simple programming in contrast to the computer at DOS, and NPA was provided some statisticians and programmers as well as

consultants under the MPTEP. The cleaned and formatted data tape could have been transferred and analyzed by NPA. DOS claims that it was never requested. The fact remains that NPA products using the data from the Labor Force Survey were little more than simple manipulations and presentations of information already tabulated and published by DOS in its annual publication, The Labour Force.

The newly introduced questionnaire is an extraordinarily rich data source. It should be possible to track the success of recent shcool leavers controlling for educational achievement, training occupation and certification. While the potential information may not be specific about the type of school, inferences can be made. For instance, out-of-school trainees could be identified by restricting attention to 16- to 21-year-olds, restricting years of education completed, looking at the type of training and then the occupation. Likewise, the supply side of the skills equation could be tracked by adding the number of new entrants to the work force and their credentials, (i.e., subtracting out the aging 21-year-old cohort and adding in the entering 15-year-old cohort from year to year), or else using simple age-specific, absolute increases. The potential supply of labor can now be much better estimated becauseof the data on the occupation of work and training of all persons in the labor force and the ability to estimate underemployment by better estimates of involuntary part-time employment and underutilization of experience or training in current work assignments. All this would require creative and very flexible analysis on on the part of DOS or NPA. Since the System 38 which processes the survey does not

have flexibility, and since DOS does not have a wealth of analysts or programmers, it is inevitable that the potential of the new data will barely be tapped, i.e., that its presentation will be like The Labor Report in a bivarate cross-tab format with very limited subclassification.

Repeating the recommendation of the interim evaluation, primary emphasis should be placed on fully using continuing data sources rather than mounting ad hoc surveys. Many of the original planning goals of MPTEP could now be realized by creative analysis of the data yielded by the new Labor Force Survey questionnaire. Since evaluators, programmers, and computer systems are limited in Jamaica, the best course would be to provide the formatted tape of the last survey to a U.S. university familiar with processing the U.S. Bureau of Labor Statistics tapes and with conducting manpower analyses (for instance, the Center for Labor Market Studies at Northeastern University). Once mounted, a series of tables could easily be produced which would constitute a detailed fact book supplementing the more general survey findings. Interpretation could be provided and regression analyses could be conducted. In other words, both a tabulation and analysis framework would be established and the numbers and completed prototype analysis could be returned to Jamaica for review and then publication.

Once programmed, there is very little cost in mounting each additional tape, calculating specified elements, and sending back the results. Working within the prototype analytical framework, the experts at NPA could follow the examples and note changes and

trends. It would be possible to send Jamaicans to the selected manpower center for academic training in using their own data base. A continuing relationship would provide the flexibility to respond to special requests. This approach of having a partner institution in the U.S. which provides continuing assistance and training has worked well for DOS in its relationship with the U.S. Bureau of Census and could be fruitfully adapted for manpower analyses. But the cost of the required programming, analysis and presentation would be roughly $50,000, with $5,000 subsequently for the processing of each future survey. There would be costs for any staff trained at the selected institution. This is the type of thing which could have, and should have, been done under MPTEP. If funding could be secured, the payoff would be even greater now because of the changes in the survey instrument design as well as enhanced NPA staff capacity.

Training Needs Surveys

Four training needs surveys were initially proposed to determine employment and vacancy levels, training activities and training needs in the public sector, in large private sector establishments including large farms, in smaller farms, and in smaller private sector establishments. The public and large private sector surveys were consolidated early in the project; with the survey and analysis to be completed by January 1979, while the survey of smaller establishments was to be completed by July 1979, and of [illegible] agricultural establishments by January 1980. To provide on-going data, the Quarterly Survey on Employ-

ment, Earnings, and Hours in Large Establishments conducted by the Department of Statistics was to be modified by adding a one-page training needs survey to be applied in 1979 and presumably at least once a year thereafter.

The aim of these varied surveys was to determine (1) the number of employees in detailed occupational categories, (2) their previous training and work experience, (3) the number of long-term vacancies, (4) the type, duration, and scale of training offered on the job, and (5) the additional training needs perceived by employers. To determine occupation of employment, the large employer survey used the DOS occupational classifications, which were not defined in any exact way. The agricultural survey identified the primary agricultural occupations and gave a brief job description. In either case, even more detailed information would have been provided by the planned decadal census. The data bank could have been used for job development, placement, and apprenticeship development, but it was never the intent of the original survey to create an employer file. The aggregate findings themselves were of limited use. For instance, vacancy data were gathered for several years in the U.S. and then were dropped because they were considered too costly to gather and not necessarily reflective of real manpower needs, since many vacancies were in high turnover jobs in the secondary labor market while others were difficult to fill simply because the salaries offered were below market conditions. In the Jamaica context, MPTEP had several statistician positions which could not be filled which could be interpreted as proof of a shortage, but the

main reason the jobs could not be filled was that government salaries were not high enough to attract skilled statisticians from the private sector. In Jamaica, many vacancies may also be engineered. For instance, firms may be willing to wait until a skilled worker from overseas can be imported rather than taking a risk on hiring a locally trained worker. Alternatively, the skill requirements may be qualitatively higher than addressed by Jamaican training institutions, so that no matter how many are turned out from local schools in a given high vacancy occupation, the employers will still look elsewhere. Some explanation is needed for the exit of so many Jamaicans who have the same skills which are claimed to be in shortage. One of the foremost U.S. experts on manpower projections, in a paper presented to the MPTEP Seminar on Alternative Manpower Projection Methods, stated the following:

> "Vacancy data are potentially a useful additional measure of the current situation and may offer valuable information for immediate job choice decisions that do not involve long periods of training ... Vacancy data, however, are of limited help in decisionmaking about the future ... The difficulty in making decisions from vacancy information may be illustrated in the experience in the teaching profession in the United States in the 1960's. There were many vacancies in this field up to about 1968. Students taking their cue for a vocational choice solely from this information in 1968 would have come out onto a very poor labor market in 1972..."(26)

The utility of the training needs questions is even more dubious than of the vacancy data. Any employer with sense would want <u>all</u> employees to have more skills and productivity if this could be achieved at no cost to the business and would not require increased pay. Employers who pay better tend to attract

workers with greater skills, as do those who tend to train more, and so have fewer requirements for training; hence, there is frequently an inverse relationship between training provided and training needed. But the response of employers may be a completely different than real needs. Some may say no training is required because they recognize that more skilled workers are available, but at a higher wage rate, so that if their workers were trained, they would leave for better jobs. Other employers might consider training synonymous with formal apprenticeship and not want to be involved in the red tape. Still others might respond negatively because they cannot afford to pay for any training. Some occupations -- usually the more skilled ones -- require constant professional development, so that training needs or programs might not reflect shortages of workers. These varied problems in interpreting training needs questions are suggested by a careful reading of Small-Scale, Non-Farm Enterprises in Jamaica, which asked small business operators about their training needs. Most were reluctant to answer questions in the first place; respondents gave a wide array of answers but few mentioned needs like bookkeeping, even though most kept minimal, if any, records.

Again, probably the best use of training needs surveys is to identify employers who say they want to have more training, and then to approach them to develop apprenticeship or upgrading programs. But the NPA surveys were designed specifically to provide manpower planning information, not useful case file data on employers. The instruments were confidential and the whole

aim was to estimate aggregate employment and training levels and training needs. Yet because of the noted problems in collection and interpretation, such data have marginal payoffs.

Under MPTEP, however, these arguments are moot. The only survey completed and analyzed was the Large Establishment Survey. This was a disaster. The raw data gathered and prepared on the formatted tapes more or less on schedule by DOS, could have been turned over to a data analysis company in the U.S. or in Jamaica and completed in a few weeks. Instead, a series of U.S. consultants failed on the task, first with the wrong program for editing the data; second, recommending the wrong weighting system; and third, laboring far too long over a program which then required hand tabulation of the statistics. The editing problem apparently occurred because the consultant did not work very hard or thoroughly. The weighting error was because no source of comprehensive establishment data existed (with DOS proving its point about the need to await the census results by intervening only belatedly to "rescue" the survey by providing realistic weights). The programming problem was apparently due to the lack of experience of two consultants and the need to learn on the job. An earlier consultant on systems analysis had noted the shortage of programmers and analysts, predicting problems ahead and offering to carry the formatted data tape back to the states for processing and preparation of key tables; his inexpensive proposal was not accepted. This was a case where the choice and sequencing of consultants, complicated by some behind-the-scenes posturing by

DOS and NPA, made a relatively simple job complex. A consultant was finally called in to hand tabulate and analyze the data, publishing the findings of the 1979 survey late in 1982.

The primary purpose of the survey was to use vacancy data to identify manpower needs. Yet the survey found a total of only 1,040 vacancies in 13 identified high demand occupations (or one for every 1,000 labor force partipants). Of these, just 354 were openings in occupations where vacancies represented more than 5 percent of employment; i.e., above what might be considered a frictional level. The same occupations could generally be identified by examining employment and unemployment data available in the census. Most of these jobs were also highly skilled, requiring longer-term training. Current vacancies are a poor predictor of longer-term demand and supply, since vacancies rise and fall from year to year.

The training needs data which were produced were of questionable use. The survey identified total needs for training of only 5,256 workers out of 188,389 employees in the large public and private establishments. There were many anomalies. For instance, there were 5,150 primarily school teachers without degrees covered by the survey and the UNESCO and previous AID reports, as well as the Rural Education Project, indicated desperate needs for teacher training. Yet teaching was not even one of the top 50 occupations identified as needing in-service or institutional training. In contrast, among tire builders and molders, employers felt that almost <u>all</u> workers needed to be trained. The central fact, however, is that such data shed

little light on training policies affecting the less skilled and underemployed. The primary issue is not the number of professional, technical, and managerial workers needed or in need of training (for which vacancy data are inherently poor predictors of needs because of long lead time in altering supply); rather, the key issue is identifying mid-level skill occupations which can absorb or require skilled and semi-skilled workers who can be trained by public institutions. The grim reality is that there is a huge excess of such workers, as can already be judged from unemployment rates, and the quality of training, rather than aggregate numbers trained, will probably determine placement rates

Because of limited coverage of the survey, weighting problems, and inherent interpretation issues, no sectoral guidelines have been, or could be, made on the basis of these data. No training offerings have been changed. It can be argued that the data were too late or too limited, but unless they are used for administrative purposes in following up with job development and on-site training, it is questionable whether any use can be made of the information.

Field work was completed on the survey of agricultural establishments planned under MPTEP. There were problems both in the completeness of the questionnaires and the weights to be used in projecting from the sample. It was considered necessary to repeat this survey <u>after</u> collection and tabulation of the Census of Agriculture --- although given the wide fluctuations in crop production and employment in different types of farms from year

to year, weighting is always going to be a serious problem. If commodity sales and production are up in a given year, this may generate vacancies for more skilled jobs, as well as related training needs. The next year if sales and production are down, the exact opposite may be indicated for a specific type of farming. This merely illustrates the problems of using needs survey data, since agriculture -- particularly market-oriented agriculture for which skills and training needs are affected by supply and demand factors rather than simply absorbing the underemployed -- is one of the most widely fluctuating and least predictable industries.

With all these problems with the surveys, the small establishment effort was not undertaken. Here, the census was really necessary because the 1970 base was using "self-employed" as an occupational category rather than type of employment, so there was no real base (other than the special study Small-Scale Non-Farm Enterprises in Jamaica) for even guessing at detailed occupational and establishment employment distributions without a comprehensive Census. It must be noted that vacancy, training, and training needs questions are extremely difficult to interpret when applied to a sector of the economy which primarily absorbs the underemployed rather than generating demand. Many or most of the self-employed would take regular economy jobs if available and have worked in the regular economy at one time. They are simply trying to get by until better times. Any training that would increase productivity would reduce employment. For instance, many are employed producing brooms by hand and selling

them on the streets. There is a need to learn how to use machines to produce brooms more efficiently, and how to distribute brooms wholesale to street-corner vendors already selling other products, but that defeats the whole point of the system -- to find something for the unskilled to occupy their time. It is extremely difficult to distinguish between market driven small businesses and enterprises generated to absorb the unemployed.

The training questionnaire was never added to the Quarterly Employment, Earnings and Hours Survey of Large Establishments because DOS argued that the survey weights were out of date. There were some questions whether the supplement would undermine response rates on the rest of the questionnaire. The real constraint, however, was the difficulty of reprogramming the old computer to handle this new information. While the failure to implement the survey supplement under MPTEP may, then, be justified, the intransigence since is not. The Census of Business now provides up-to-date weights for the survey. A new computer is available (and, indeed, the supplement could have been coded and analyzed separated anyway). Whether the supplement would affect response rates can only be resolved by trying it out. But one must assume that a once-a-year application would not overly burden employers, particularly if this substituted for repetitions of an ad hoc survey.

The bottom line is that the MPTEP did not achieve its objectives in this area. In retrospect, the lack of baseline data for weighting samples, the bottleneck in programming and the changeover of computers should have been foreseen. For the ad hoc Large

Employer Survey, inadequate and mismanaged consultant inputs compounded the above problems. There is really no reason except DOS intransigence that the supplement to the Establishment Survey was not tried at least once.

There are three recommendations concerning the collection of data for manpower planning, which now continues under HEART sponsorship. First, and most critically, it is questionable whether anyone has really asked what they would have done with the MPTEP data even if it were collected and tabulated. Admittedly, the LES-collected occupational information was used in manpower projections, but only because the manpower projections effort did not await, as it should have, the gathering of full census data on occupations and industries. Admittedly also, the LES analysis was necessarily limited by inadequate programming which restricted cross-tabulations. But the basic issue is whether the data which were provided really informed decisions enough to justify collection, even for the large establishment sector where such information is likely to be most meaningful. New surveys were initiated by HEART before the results of the LES were carefully analyzed. Yet since vacancy surveys have been discontinued, and training needs surveys never mounted, in the U.S. because of debate about their utility, it might be useful to stand back and dispassionately address the fundamental question about the utility of the information. It is the view of the evaluators that for informational purposes alone (rather than for the creation of employer files) such surveys do not warrant the effort, particularly when the resources for programming and

analysis are so limited that continuing data sources such as the Labor Force Survey and the Census are not exploited or not brought up to potential.

2. Surveys would unquestionably be worthwhile if they focused on all market-oriented establishments (say 5-10 or more employees), farm as well as nonfarm, plus public agencies, in order to create an employer file to be used by VTDI, JES & the Ministry of Youth in placement, apprenticeship and school leaver programs, and for NPA work site visits in conjunction with the validation of the Dictionary of Occupational Titles. The file could be centralized at NPA or elsewhere, but would be updated any time the employer was contacted. Data would also be provided from the quarterly survey of large establishments. The aggregate information from the periodic surveys would, of course, also be tabulated, but the major payoff would be the employer file.

The obvious problem is confidentiality. Employers may refuse to cooperate with surveys, or may change their responses, if the information is to be used for follow-up purposes or monitoring (for instance, determining whether employment taxes have been paid or adequate numbers of school leavers hired to justify waiver of the training tax). This might not be a problem if enforcement of the school leavers tax and the national insurance plan collects information on employment levels and salaries, and the survey data are simply added to this other information.

3. A problem in all the surveys was the lack of a good establishment and employer counts. The census of establishments and of agriculture should permit updating of the national insurance, housing trust, and chamber of commerce records of firms. Even if survey information is not gathered for case file purposes, an effort should be made by NPA to monitor an up-to-date employer file and to assist the various administrative systems in fleshing out their employer lists. A consolidation of established files would make a great deal of sense, particularly if automated data entry (using scanners) were implemented.

JES Labor Market Information System

Administrative records can provide important information elements for manpower planning. For instance, employment agency records on the types and number of jobs listed, the skills of registrants, and placement rates may be used in determining supply and demand. Likewise, work permit data on foreigners presumably admitted to fill skills bottlenecks should suggest where demand and supply do not match in the domestic labor market. The potential of such information depends on its quality, comprehensiveness, and timeliness, as well as the manner in which the information is formulated for planners.

The Employment Service in the United States has responsibilities and resources for gathering labor market information separate from its administrative record-keeping of job listings, registrations, and placements, classified by occupation. Little use is made of the administrative information because such a

small portion of all U.S. jobs are listed with or filled by the Employment Service (despite the fact that all contractors and recipients of federal funds must list their vacancies with the Employment Service). In Jamaica, the Employment Service is even more marginal and the administrative records are of even less utility. Assuming that the number of jobs filled each year equals average employment (since many temporary jobs are refilled several times during the course of the year even though turnover is far less in most jobs), the Jamaican Employment Service listed and filled only one in 250 openings in 1982. The jobs listed and filled by the JES were predominately at the lower skill levels. Island-wide in 1980, JES listed only 18 vacancies for professional, technical and managerial workers, and only 585 for craftsmen and operatives (compared to 980 vacancies for maids, 584 for launderers, 1,983 for agriculture and construction laborers). Essentially, JES is a labor market intermediary for unskilled workers and low-skill jobs. Even if the scale of activities were greater, the information would not be very useable in identifying shortages of more skilled workers, since the JES does not, and will never, serve this end of the labor market.

The methodology recommended by the U.S. consultant, and adopted by JES, in no way overcomes such innate problems. The system records new registrations, new vacancies, and vacancies filled, classified by 4-digit Department of Statistics occupational codes (with registrants identified according to their last work experience). Supply and demand balances within these occupations are determined by analyzing the ratio of new registra-

tions to new listings, and of vacancies filled to new listings. This means that if employers with skilled jobs simply do not list them with the JES, but the unemployed with skills still register off and on, a bottleneck will be indicated; likewise, if the more skilled vacancies are not filled by JES because employers find other sources of referrals more effective. The proposed method is really pretty useless without an indication of the duration of placement -- since the same job may be listed and refilled dozens of times during the year. A stock figure would be better -- i.e., average listed vacancies each month compared to average active registrants -- but the point is really moot. Any methodology simply will not work because the coverage of the data is so limited. For example, occupations recommended as the best bets for employment included physical science technicians, teaching in primary school for degree holders, public accounting, welfare officers, directors and managers, office supervisors, and stock clerks. For these seven occupations, there were a total of 11 JES registrants, 18 vacancies, and seven placements in all of Jamaica in 1980. In the Large Establishment Survey, half of vacancies were in professional, technical, educational, managerial, and related occupations compared to only .3 percent of JES listings in 1980. This is hardly the basis for manpower planning and projections. As another example, the stenographer/typist occupation is identified as a skill shortage position because only 32 of 56 listed vacancies nationwide were filled; but this may be because other sources of referral worked better in filling the jobs, and not because of a shortage of applicants -- since there were 88 new JES registrants identified as having

stenographer/typist skills. Only five of the 26 occupations determined to have the most favorable employment opportunity according the JES data were determined to be bottleneck occupations in the LES survey. As the analyst of the LES data put it, "... when both the biases in the occupational distribution of vacancies notified and workers registered with the GES are taken into account, one may conclude that to assesss labor demand and supply conditions, GES data should be used only with great caution."(31)

If the collection and tabulation of such information were cost-free, then it might be worthwhile to continue the information system for management reasons. But the MPTEP-sponsored workshop trained JES staff in occupation classification and form completion, not in analysis; the data have not been used for administrative functions. The 1982 data were dutifully collected and hand tabulated, but have never been mimeographed nor requested by NPA. Thus, scarce time and energy were expended in processing unused information. It is to be noted that the Ministry of Labor was projected to receive one labor market analyst, one statistician, one labor officer, two statistical officers, and one secretary. The labor market analyst and labor officer positions were filled by temporary assignments (with the assigned officials retaining all prior duties). None of the other positions were filled. Hence, the capacity to process new data was extremely limited.

A related activity of the same consultant was to analyze data on work permits issued by the Ministry of Labor in order to identify occupations for which a shortage of skilled Jamaicans presumably justified the importation of foreign workers. The suggested technique was straightforward. The administrative records note the ISCO occupational code and title for each work permit, new or renewed, and these were simply tabulated, with disaggregation by duration of the permit. It is doubtful whether this simple tabulation work really required an expert consultant. Indeed, the expertise applied to this effort by the U.S. consultant is questionable. The real issue to be addressed should have been how many critical jobs were being filled by foreigners, and how many more this year than last? These questions were not answered by the tabulated data. For instance, most of the 132 new permits issued for less than three months in 1980 would have left the country in less than a year and unless renewed, each represented one fourth or less of a person-year of skilled employment. On the other hand, 258 permits for two years or more would not renew until the termination of the permit and would not be counted in either the new or renewal permits the next year even though filling critical jobs in the labor force. What should have been tabulated was the <u>annual average permits in force</u> in each occupation, and the <u>net</u> increase from year to year in these average permits.

The ISCO codes were not cross-walked to the DOS codes used to calculate Jamaican employment. This is easily done and should have been completed so that the number of foreigners working in

each occupation, with the year-to-year change in foreign workers compared to the year-to-year change in total employment in each occupation.

There are two straight-forward recommendations about this set of MPTEP activites. First, the labor market information system imposed on the JES is not worth its maintenance cost (much less the cost of designing and implementing the system) if judged by its application in estimating the supply and demand for trained workers. It could be of some utility for administrative purposes in comparing the performance of local offices, but the system needs to be streamlined. The occupational categories should be significantly compressed to say 10 or 20 occupational groupings (some four-digit, some three-digit, and some two-digit) in order to ease recordkeeping and analysis. For instance, categories might include nurse and health aides; other professional and technical workers, administrators and managers; clericals; cooks, waiters, and bartenders; maids; security; factory workers; construction workers; and unskilled manual workers. The duration of the job should be recorded because this is of critical importance. Likewise, <u>active</u> registrants and <u>active</u> vacancies at the end of each month should be tabulated (assuming a procedure for purging inactives from the files) rather than new registrants and new vacancies.

This effort is only worthwhile <u>if</u> the central JES administration sets goals for each local office and tries to share experiences between them. It is not clear that this is feasible given the geographic dispersion of the local offices and the lack

of administrative infrastructure. There are other higher priorities such as simply monitoring and comparing new registrations, vacancies and placements, and setting goals based on these numbers. It may be best to admit the MPTEP-sponsored information system was a mistake and to discontinue data collections.

The work permit data is a potentially vital source of information fo manpower planning. It could be, and should be, reanalyzed by the manpower planning staff at NPA. Although a little work is required, the needed analysis is not complicated. The permits in force at the beginning and end of the year by occupation can be calculated, and these figures used for estimating average foreign employment and changes in employment. (Monthly data could be averaged, but this is more complicated.) The ISCO codes can be cross-walked to the DOS codes, and the annual average and year-to-year changes data on work permits can be compared respectively to average employment and change in employment within the same groupings. The 1982 Census will yield detailed baseline estimates on employment, but if the labor force survey is used to update employment estimates, it may make sense to aggregatre occupations to the three-digit or even two-digit level in analysis. The aim should be some simple and understandable ratios. As a hypothetical example: "There were 10,000 teachers employed on average in 1982, of which 145 or 1.5 percent were foreigners. Of these 1,000 taught at the post-secondary level, of which 72 or 7.2 percent were foreigners. The number of teachers rose by 500 from 1981 to 1982, while the number of foreign teachers declined by 25." As another hypothetical exam-

ple: "There were 120 civil and mechanical engineers employed in Jamaica in 1982, of which 80 or 67 percent were foreigners. The number of foreign engineers increased by 20 from 1981 to 1982, compared to an increase of 25 in total employment. In other words, 80 percent of new vacancies were filled by foreigners."

Manpower Projections

The rationale for projecting manpower supply and demand is beguiling. As described by one of the foremost U.S. experts and a participant in the MPTEP-sponsored seminar on Alternative Manpower Projection Methods:

> "Manpower projections become important in a country that is trying to develop its economy. If a nation is content to let its economy develop slowly and in a purely evolutionary fashion, things will change so slowly that the future can be guessed pretty well from the past; no one will have difficulty in planning his decisions, because he has only to assume the continuation of past patterns of economic behavior.
>
> "But if a country is dedicated to taking control of its future, to hastening the pace of economic growth, or changing the patterns of its economy -- to developing new industries, to reducing unemployment and underemployment, to planning economic growth in such a way as to benefit its people -- then it is bound to change economic patterns. The past will no longer be a sure guide to the decisionmaking in which government, industry and individuals have to engage. Instead, they have to assess how economic development will change the factors on which their decisions are based."

But the same expert also cautioned that:

> "... too many unpredictable factors affect economic developments -- new scientific discoveries and technological innovations, natural disasters, political upheavals in an uncertain world. Even within their own field, economists have been shaken by their failures of understanding; the persistence of inflation

> coexisting with high unemployment and the success of OPEC in raising oil prices for the last six years and turning the world's economy upside down are notorious cases. With this experience, can we have faith in the accuracy of projections for use in making manpower decisions? How accurate must they be to be useful? The obvious response is that projections are worth making if better decisions can be made with than without them."(26)

The same expert also indicated certain prerequisites for reasonably accurate projection of demand and supply:

1. There must be relatively accurate measure of the number and characteristics of the economically active population and the occupations for which they have skills.

2. There must be a plan for those sectors of the economy affected by government decisions, as well as data to indicate the labor inputs needed to realize planned outputs.

3. Changes -- particularly in output per worker -- must be accurately estimable in both the planned and unplanned sector of the economy.

4. Accurate projections are needed for production levels and production functions in the unplanned sector; in other words, both the expected output and the types of workers needed to produce this output must be estimated with some accuracy.

5. Current and future outputs of skilled workers need to be known, including the likely degree of occupational mobility, inflows and outflows of workers into the country, as well as the flow of graduates from training programs.

The purpose of MPTEP was to help provide these needed pieces of information and to use the best available projection techniques so as to develop projections which would facilitate better manpower decisions in the future. The basic assumption was that the prerequisites could be provided so that projections would be accurate enough to warrant sector guidelines which would "hasten the pace of economic growth or change the patterns of the economy."

The MPTEP surveys of public service employment, large public and private firms, small businesses and agriculture were intended to provide detail on employment levels, vacancies and training needs by occupation. Analysis of the DOS Labor Market Survey information was to provide the framework for weighting MPTEP survey information and developing estimates of vacancies due to death and retirement. The Seminar of Alternative Manpower Projection Methods was to help decide on the most appropriate estimation and projection techniques, and expert consultants were then to help in putting all this information into meaningful terms as well as teaching how to repeat the exercise. In concept, this process all appeared quite logical and orderly. Likewise, the projections, as contained in the Manpower Information Bulletin yielded exact estimates to the three- and four-digit occupational level of supply and demand. For instance, there is a projected shortfall of 12 law and jurisprudence workers annually from 1980 to 1987, and 41 annually in telephone and telegraph operations. This all seems very precise and scientific. However, careful analysis raises serious questions about the

general approach, specific assumptions, intended level of sophistication, timing of manpower projection efforts, and, indeed, whether the entire effort merely diverted resources which could have been used for other more pressing and productive tasks.

To begin with, there is no question that this entire line of activity should have been postponed until the completion of the Census. The fact that the Census would be delayed from 1980 to 1982 was not known at the time of MPTEP approval, and even if known, the same recommendation would have pertained. The Census (including the establishment as well as population census) provides comprehensive detail on employment by occupation and industry, as well as education and training of the work force. The 1970 Census used occupational definitions ill-suited for projection purposes, most critically in treating self-employment as an occupation rather than type of employment. The new Census used a questionnaire which would provide more comprehensive data more useable for projections.

The accuracy of special surveys of individuals or establishments depends on the sample weights, and these, in turn, depend on the accuracy of baseline counts. Clearly, the 1970 base was out of date for the population (the counted population in 1982 was nearly a tenth below the estimate based on the 1970 Census) and particularly out of date for establishments (where turnover is so rapid). It should have been no surprise that weighting proved to be a serious obstacle in the large employer survey; it was an overwhelming impediment to completing the agriculture survey; and it precluded an accurate small employer survey. The

Department of Statistics planned to upgrade its semiannual Labor Force Survey and its Large Employer Survey after getting the new sample weights, and its planned revisions would have provided most of the data needed for the manpower projections. Rather than preparing for the use of this information for future manpower projections, the MPTEP tried, unsuccessfully, to proceed in the absence of needed data.

As an example, the manpower projections for the large establishment sector of the economy were based on detailed industry-occupation matrices developed from the Large Employer Survey. There was much difficulty in weighting the survey results because of enormous variance in the established lists and reported employment levels for large employers (as well as nonreporting problems). It is not clear that the industry-occupation matrix for this sector was accurate, and hence, that projections based on this matrix make any sense. But for the small business and agricultural sectors, there was a paucity of information. The industry-occupation matrices used as baselines were essentially assumptions from limited information such as the Labor Force Survey (which had exceedingly small sample sizes at the two-digit occupation level, much less detailed industry/occupation cells) and from previous surveys such as Small-Scale, Non-Farm Enterprises in Jamaica: Initial Survey Results (which, itself, had serious weighting problems). To put it bluntly, detailed occupation production functions for any given level of national output were based on not very good guesses about the detailed structure of two-thirds of the Jamaican economy.

Employment level projections were based on the NPA projections of output by industry in future years. These output projections, themselves, were based on numerous assumptions. For instance, how does one project manufacturing production when there had been a steady decline from 1977 to 1980? Do you use the 1980-1982 growth rate, or the 1972-1977 growth rate, or simply make up the numbers? Mining and quarrying levels depend largely on bauxite and aluminum prices. Export agriculture depends on sugar and banana prices. Constructon depends largely on the amount of foreign investment, which is almost impossible to predict. Services depend on tourism which fluctuates significantly based on world economic conditions, foreign currency values, and whims of tourists. Output projections by sector depend on stability of trends, but the fluctuations have been so significant in recent years that projections become almost arbitrary. Labor demand projections, at best, can only be as good as industry production projections.

But assuming industry <u>output</u> levels could be projected within a reasonable tolerance, the employment levels depend on assumptions about productivity. In most major industry groupings, output per employee had been declining for several years, but the rates of decline had varied from industry to industry. Those industries where self-employment predominated -- agriculture and distribution -- had dramatic declines because self-employment tended to absorb spillover of persons unable to find jobs in the regular economy. The MPTEP projections assumed that

production rates in the base year for all industries would remain constant. NPA argued that any projection of an upturn would have been arbitrary, since the trend-line was down, but the equally arbitrary assumption of stable productivity meant that different industries would have to deviate more than others from their previous trend lines in order to maintain constancy.

The basic factor in the Jamaican economy is not only enormous unemployment but enormous underemployment. One estimate of underemployment can be gleaned from calculating the differences between total production in 1981 and what it would have been if real output per employed person had equaled that of 1973. The estimated underemployment for 1981 was 227,000 person-year equivalents, or just below the estimated number of unemployed.(31) The supply of workers to fill any new openings includes all those with requisite skills, i.e., both the unemployed and those working short hours or in jobs below their experience and training levels. Any employment growth projections must count the underemployed on the supply side, or must assume that output per worker in each industry will increase as the underemployed are absorbed, implying less employment growth or net new jobs.

Any projections rest on government policies. In the MPTEP projections, it was assumed that the government sector would experience slow growth, and that self-employment would increase significantly due to training efforts. The wisdom and realism of this assumption must be questioned, since the self-employed appear to be predominantly those who cannot be absorbed in the regular economy. Training and loans to improve productivity in

this sector would tend to reduce, not increase, employment. This is the experience in every developing country as excess workers leave agriculture and as chain stores displace small "mom and pop" operations which, in turn, displace individual higglers. To project an increasing share of total employment in the self-employment sector, assuming constant productivity, is to adopt as a policy a stagnant and declining economy, since the GNP or income per worker in this sector is lower than in other sectors.

The supply side estimates developed under MPTEP are based on the current output of training institutions. These changed dramatically during the course of MPTEP as ITCs were closed and these new government policies were not reflected in the projections. This simply illustrates that there is as much uncertainty on the supply as on the demand side. There is no doubt that information on training activities and outputs is worth gathering and analyzing, but most of what is collected today was collected before MPTEP. There has been somewhat greater report of occupational detail, but different delivery systems still classify training in incompatible ways and it remains difficult to identify skill levels and quality. For instance, how does one compare a new secondary school graduate in automechanics with an ITC graduate or with a German automotive school or vocational high school graduate? What is needed is a common classification system which considers skill levels as well and which is incorporated in the employment counts as well as the training counts.

The real problem, however, is that supply from the schools and training institutions does not equate with supply to the labor force. Net emigration is the balancing factor. For instance, there were some 4,000 graduates of post-vocational training programs for professional, technical and managerial workers in 1978. According to DOS statistics, 46,770 Jamaicans with professional, technical and managerial skills left the country in 1978, while only 43,464 returned, or a net loss of 3,306, which represented more than three-fourths the output of post vocational training programs for professional, technical and managerial workers during that year.(22) The MPTEP projections considered U.S. and Canadian immigration -- i.e., official (but not unofficial) leavers -- ignoring returnees. The net flow statistics are what is needed, and the net entry and exit data are better than the U.S. and Canadian figures because it is likely that there is a good deal of illegal movement (which is the probable explanation for most of the 200,000-below-projection Census count in 1982). Likewise, the projections did not anticipate the dramatic decline in net emigration which recurred in 1982. The data on occupation of leavers and returners was interrupted in 1979, but this is critically important, as are the data on levels and net changes in foreign workers by occupation group.

Attrition of existing workers could only be crudely estimated without Census data. One U.S. consultant developed estimates on retirement and death rates by detailed occupation categories using age data and work patterns for broader categories. It is doubtful that workers in the skilled jobs in each industry

will show the same retirement or death patterns as the unskilled workers, and the estimates certainly need to be recalculated given the changed population base in the 1982 Census (which means the estimated death rates must also be changed). This would require comprehensive recalculating using the industry output matrix and age data.

Finally, the projection technique had no way of dealing with quality issues. If current and future programs produce trainees with more skills, they will displace other workers in their occupations. For instance, there may not be an excess of demand over supply for stenographers/typists, but if new graduates could do word processing, could type at 90 words a minute, and had passed verbal "O" levels, it is almost certain that they could be placed with relative ease and at high salaries. To determine which industries to train for depends critically on the relative quality of training, and the best judge of this is the success of recent graduates over their first years out of the program. To make training mix decisions, the supply/demand situation is best determined by reviewing comparative success rates of graduates (as could be done by institutionalizing a sample follow-up system in all vocational programs), rather than inferring from abstract supply and demand projections.

To summarize, the MPTEP projections of employment used crude guesses about industry output levels, extremely limited data about industry-occupation detail in the base period, questionable projections of output per worker, tenuous estimates about retire-

ment and death rates within detailed occupations and industries, inflated estimates of the total labor force, and an extremely questionable policy goal of expanding self-employment without increasing productivity. To estimate skill shortages, already outdated information on the output of education and training institutions were projected without consideration of the potential input of already skilled and experienced unemployed or underemployed, and without due consideration to net immigration and emigration by skill level. The whole effort would have been better delayed until the completion of the Census and the update of the quarterly Large Establishment Survey. Likewise, the effort should not have been planned and budgeted until all methodological alternatives had been carefully considered. For instance, if the decision had been to await Census and Labor Force Survey information, and if, after assessment of alternatives, a decision had been made to use a simpler methodology with less occupational detail, then the inputs required for the project would have been entirely different and drastically reduced.

There are three recommendations for continued manpower projection efforts:

1. Whatever the wisdom of MPTEP approaches, continuing projections should use the Census data base to update the semiannual Labor Force Survey in simple and understandable ways. Within each occupation for which there are large enough sample sizes to make predictions, the following data should be collated or presented in chart form:

- Annual employment.

- Change in annual employment over previous year.

- Percent change in annual employment over previous year.

- Average annual change in employment over last five years.

- Average percent change in average annual employment over previous five years.

- Number unemployed workers with occupational background.

- Number workers with the background employed part-time involuntarily or in other occupations.

- Unemployment rate for the occupation.

- Underemployment rate for the occupation.

- Unemployment rate for the occupation divided by average unemployment rate.

- Underemployment rate for the occupation divided by average underemployment rate.

- Year-to-year change in unemployment rate for the occupation.

- Year-to-year change in the underemployment rate for the occupation.

- Year-to-year change in unemployment rate for occupation divided by year-to-year change for overall unemployment rate.

- Year-to-year change in underemployment rate for occupation divided by year-to-year change for overall underemployment rate.

- Annual training graduates in occupation.

- Year-to-year change in number of training graduates.

- Annual training graduates in occupation divided by average for previous five years.

- Annual average foreign employment in occupation.

- Year-to-year change in average annual foreign employment in occupation.

- Foreign workers as percent total employment.

- Net immigrants with this educational background.

- Year-to-year change in net immigrant with this occupational background.

- Five-year average annual net immigrants with this occupational background.

Disaggregation of some of these numbers might also be possible by age (i.e., recent school leavers) and by degree of education and training.

This range of numbers can be calculated from the semiannual Labor Force Survey and from other sources only for broad occupational categories. The estimates to a finer range can be derived by using Census detail for industry/occupation/type of employment cells, multiplying by the aggregate measured changes for these cells as estimated from the Labor Force Survey. Exposition of trends or developments that might influence employment in the coming years -- such as a plant closing or opening -- could supplement these statistical indicators.

Based on these parameters, an occupation could be rated into categories (for instance, excellent prospects, good prospects, intermediate prospects, or poor prospects) according to its most likely supply and demand matchup in the years ahead. This would be a judgment call based on all the factors rather than based on a rigid model where the individual factors are hidden in the model. The same data would be usefullly provided each year to guidance counselors and to all vocational counselors.

2. If more detailed projections were considered desirable, an industry/occupation/skills-education matrix could be derived from the 1982 Census at the industry level from which NPA annually makes its output projections. There would simply be an update each year. The projected annual employment growth levels could then be compared to current actual growth figures estimated from the Labor Force Survey industry/occupation/type-of-employment cells using more refined Census data in order to determine accuracy of the projections. Census data could also be reworked to

develop retirement and death estimates for each industry/occupation/skills-education cell. These figures on net projected employment growth could then be added to the other calculated indicators in order to make judgments about the desirability of further training for the occupation. It is doubtful, however, whether this approach will add substantially to the more pedestrian method recommended above. It is also recommended that all the analyses be "farmed out" to a U.S. institution, with the deliverables being not only five-year projections, but the parameter framework to later update projections.

3. The Labor Force Survey has added questions on occupation of training, educational attainment and achievement, which can help in tracking new entrants into the labor force. While the sample sizes will not permit an enormous degree of disaggregation by occupation and age, it is worthwhile formatting a series of tables which track recent school/training leavers as estimated from already collected data elements. This will help to compare training occupations (although an option, as discussed elsewhere, is to follow-up a sample of all school/training graduates as part of a management information system). The model for this type of analysis is contained in the Bureau of Labor Statistics' publication, Employment of Graduates and Dropouts. (The questionnaire in use in Jamaica is even more informative than the one used in the U.S.) The suggested approach is to use a U.S. university to handle these tabulations.

Jamaican Dictionary of Occupational Titles (JDOT)

A precondition for effective manpower planning, occupational information collection and analysis, recordkeeping and reporting for training efforts, as well as for guidance, curricula development, and performance assessment, is the existence of an accepted set of occupational classifications and definitions, along with the needed background information. Their importance to the MPTEP activities were correctly identified by the U.S. consultant to NPA on occupational classification:

> "Curriculum Development. (JDOT) would provide a list of the duties a worker must perform successfully. If the descriptions could be organized by tasks, and activities listed under each, more detail would be available for preparaing training performance objectives ...
>
> "Candidate Selection Component. The JDOT could be used to assist in selecting candidates for various vocational/technical education programs by comparing the duties listed in the occupations clustered into each vocational/technical curricula group with similar tasks in a candidate's school experience, his/her leisure-time activities, expressions of interest in certain work activity, etc. If the data collection methodology could have been broadened to include additional data, the JDOT could have contributed more to this component. For example, adding trained job analyst estimates of general educational development level, specific job training time, aptitude levels, interest patterns, temperament patterns, physical demands, and environmental conditions for each occupation would allow far more sophisticated selection of candidates based not only on similar experience, but also personal capacities and characteristics ...
>
> "Proficiency skills testing. The building of proficiency skills tests begins with an analysis of the occupation for which candidates will be tested. The occupational definitions in the JDOT as well as job descriptions from individual establishments that are in the data base could provide the basis for a draft of the job analysis needed for test-building. The test-builders would therefore save some of their analysis time ...

"Vocational guidance and job counselling. Much vocational guidance materials in the USA is coded to the U.S. DOT. This enables users of the vocational guidance materials to relate it, by the code, to other kinds of material with the same occupational code. The JDOT, like the U.S. DOT, will provide a standard classification scheme based on relatedness of occupations, which developers and users of vocational guidance materials can use to organize the materials for filing in an occupational library in a school or a government employment service office, and for career exploration ...

"Tracer and follow-up studies. The studies should provide data on whether the client is working in the occupation or occupational areas in which she/he was trained. They can also provide data on occupational mobility. Both of these purposes will require an occupational classification scheme and occupational definitions which the JDOT can provide ...

"Government employment service. The JDOT, through its classification of related occupations, can suggest the other occupations the applicant may be able to do as well as the one for which he was coded at registration. That will broaden the applicant's employment possibilities and increase the likelihood that a job will be found that will satisfy the applicant's need and in which (s)he will be placed. When all job orders and applicant cards are coded to the standard JDOT scheme, it will be possible to tabulate the number of orders and openings, transitions, openings unfilled and openings unfilled 30 days or more, for each month of the fiscal year, by four-digit occupational code ...

"Labor market information. The databank can provide definitions of occupations and groupings which can form at least the structure of the occupational data in the LMI system. Present surveys either ask for information about occupations with no occupational titles or definitions provided, as in the Large Establishment Survey, or with titles of the most common occupations, with limited descriptions, as in the Agricultural Survey. No occupation codes are provided, either. With their growing knowledge of occupation classificaitons, they could be asked to code the responses to the JDOT coding. This would gradually control the coding, since one, trained group would do them."(34)

Added to this list, the use of the same set of definitions in the Census and in the coding of the Labor Force Survey could enormously enhance statistical information about jobs and workers in each occupation, as well as of labor market trends in each occupation.

Given all these applications in MPTEP, it would be logical to have completed at least the first part of this work (agreement on classifications and working definitions) prior to any of the other efforts under MPTEP. Yet the preparation of the JDOT was an afterthought, initiated only when MPTEP was extended for an extra year. While some work had been done by a staff person at NPA, the U.S. consultant did not arrive until the spring of 1982, and by the end of the grant period the only completed and distributed work was a set of preliminary definitions of occupational titles in professional, technical, administrative, executive and managerial occupations -- i.e., covering less than a tenth of employment in the economy. Some other proposed definitions had been developed but the response of establishments to validation requests was not good, so that a long delay can be expected before completing coverage of a substantial part of the labor market. Site visits had not been undertaken on any significant scale to go beyond the definitions pieced together from the Bermuda Dictionary of Occupational Titles, the U.S. DOT, the International Standard Classification of Occupations, the Department of Statistics system and work in task analysis by VTDI. The work on MPTEP did not benefit from any of this effort because it came too late. For instance, DOT refined its occupational classi-

fication for the 1982 Census, which it also uses in revised Labor Force Surveys. Guidance materials were developed using U.S. educational classification schemes and the site visits gathering information for these materials did not use a standard record form that could feed information into the JDOT. VTDI's work utilized the international education classification; it did not adopt a standard record form in its significant task analysis efforts. The JES work on vacancies and experience used the DOS system for occupational classification in administrative records, while the analysis of work permits used the international classification system.

There can be no quarrel with the hard work done by the limited numbers of staff (primarily one person) at NPA, or with the very practical advice given by the U.S. consultant. The only shortcoming, noted by the consultant in his report, was that the coordinating committee established under NPA to link the efforts of different occupational classfication users was not very effective. The real constraint, however, was that the task of agreeing upon classifications, drafting definitions, and then fine-tuning these through consultation with employers is a multi-year effort involving several staff. The job of refining these definitions through worksite visits, adding information on employment trends, work conditions, specific training and the like is a long-term effort, projected by the U.S. consultant to require a ten-person staff several years to complete the work on just the priority occupations.

In the U.S., there are several different occupational classification schemes evolved to meet different needs -- primarily the DOT, the SOC, the military occupational system and the educational classification system. They basically use the same building blocks, but arrange them in different ways, with cross-classification matrices to sort out the relationships between occupations in one system and those in another. It is a very confusing system, and it would be worthwhile if some of the confusion could be avoided in Jamaica. There is no reason why the DOS and JDOT classification schemes should be different in any way. Since the DOS has revised its system used in the 1982 Census and subsequently in the Labor Force Survey, and since this is very similar to JDOT, the differences should be resolved prior to the tabulation of the Census, i.e., the cross-walk should be handled in the program, compositing occupations where appropriate, in order that two different forms do not appear. Likewise, the needs of education can be accommodated by using classifications for training, such as those recommended by the consultant, which represent clear groupings of the JDOT,and these groupings can also be tabulated from Census data.

Assuming forced agreement between the DOS and JDOT classifications, the DOS should publish the complete array of occupation/industry/type of employment/worker training, education and age breakdowns which are possible from the 1982 Census for each JDOT classification. The wealth of data is enormous and if analyzed in the correct way, it could enormously add to the further refinement of the JDOT. For instance, it should be

possible to tell the training and educational distribution of welders, their work experience, industry of employment, age, earnings, and much more. A report such as this could be a useful supplement to the JDOT and could be used for guidance purposes as well as for focusing site visits for further refinement of JDOT in the future. In order to avoid delay, it might make sense to have this report prepared in the U.S., perhaps by the U.S. Bureau of Census or one of its contractors, with a formatted tape provided by DOS (after divergences in occupational classification have been resolved).

The consultant recommended a standard record for work site visits gather information on worker traits, work conditions, and the like. This makes a great deal of sense. VTDI regularly conducts worksite visits in its proficiency standards work. The guidance specialists in the Ministry of Education did much the same thing in preparing the three occupational guides. If NPA has any coordinating authority, it should try to see that core information is gathered and maintained. But this should not be a one-way street. As VTDI moves to define and measure skill levels in major occupations using task analysis (such as level 1-4 automechanics or carpenters), occupational definitions should be made consistent so that each task/skill set is recognized as a separate grouping.

Training

In order to "both expand and make more relevant the range of occupational skill training opportunities available to unemployed persons, to employed persons who want or need to upgrade their skills, and to persons interested in becoming self-employed," MPTEP was to provide technical assistance to VTDI "for carrying out occupational skills studies and job analyses and in developing competency-based instructional materials. ... It is anticipated over the life of the project the vocational instructors or the occupational studies/curriculum development teams will have developed and begin to apply in their respective ITCs competency-based instructional materials for a minimum of five occupational skills areas." Two "modular curricula and instructional programs" were to be developed in 1979 and three in 1980, with the means of verification being "completed training curricula." The ITC staff were to be "trained in and beginning to apply new curricula in skills training." The capability was to be established within VTDI "to develop modular curricula for additional occupational skill areas."

Task analysis is a technique for subdividing an occupation into component tasks, which can then be addressed in specific instructional modules with mastery of each module or task judged by questions on a proficiency test. An "occupational skill area" is usually defined as a composite of tasks, and a curricula addressing an occupational skill area would then consist of a series of modules addressing each subsumed task. Automechanics, for instance, would consist of tasks such as radiator repair,

engine tune-up, wheel alignment, brake repair, and the like. There is, presumably, a distinction between a "modular curricula" and the "curriculum modules" within this curricula, or between an "occupation skills area" and specific tasks within the area. It makes no sense to implement individual modules into an existing training program. Until a curricula consisting of all necessary modules is completed and substituted for the existing curricula, the quality and relevance of vocational training cannot be improved.

Thus, a reasonable interpretation of the MPTEP Project Paper is that five training curricula were to be completed and implemented, with the necessary training of staff. This was not the interpretation of the MPTEP principals at VTDI or elsewhere, or of the interim evaluation of the project. For instance, the 1979-1980 MPTEP Progress Report stated the following:

> "The primary object of this component is to initiate training in techniques of non-formal curriculum development leading to the establishment of a non-formal curriculum development unit within the Ministry of Youth and Community Development. Its secondary objective is to produce Curriculum Modules in specified occupations complete with training packages suitable for use in Vocational Skill Training Programs."(6)

Given this more limited interpretation of objectives, the MPTEP internal and the independent interim external evaluations considered outputs achieved (indeed, exceeded) for this particular activity.

There is no doubt that a lot of good work was done. Nine instructional modules in six vocational areas were completed within the life of the project (one in secretarial, one in cooking, two in automechanics, two in welding, one in assembly, and two in dressmaking). Since the expiration of the project, several of these modules were tried out under the Rural Education Project; and several modules were completed in carpentry (constituting an occupational skills curricula), while a few were completed in electrical installation. These achievements were realized even though no extra staff were provided to VTDI or the ITCs, despite the initial projections (as documented by VTDI) for three extra curricula specialists, one project manager, two stenographers, and one draftsman. AID was to purchase (also according to VTDI documentation) stencil reproduction and xerox machines, neither of which were provided (which VTDI claims is one reason the completed modules -- such as in the carpentry area where there is an almost complete curricula -- have not been widely distributed).

The consultants on curricula development and proficiency performance testing were considered excellent by VTDI, and the completed work demonstrated VTDI's resulting capacity to conduct task analyses within occupations, adapting U.S. task descriptions to Jamaican conditions, and then "modularizing" material already used in Jamaica plus rewriting some in order to prepare instructional modules.

If U.S. task descriptions are generally acceptable, it is likely that U.S. instructional curricula and component modules designed around those tasks could also be adapted. There are

scores of modularized curricula in the U.S. addressed to each of the occupational skill areas of concern to Jamaica. Almost all of these curricula include proficiency measures at the end of each task-oriented module, and may also include written tests. Most also divide into skill levels, with proficiency tests and sometimes written tests after a series of modules are completed.

There is no question that, given the skill and commitment demonstrated at VTDI, five complete curricula for occupations skill areas (including several different levels of skills in each area such as automechanics 1, 2, and 3) could have been completed during the period of MPTEP <u>if</u> the best of already developed U.S. modular curricula had been available at the outset to VTDI.

The Proficiency Performance testing effort was closely interrelated with curricula development, because performance tests usually measure what is taught in a curricula. There is no doubt that the advice on task analysis and work sample testing was excellent and well-received, and that the actual tests applied to measure proficiency have been revised in several areas, although the closing of most ITCs has certainly reduced the possibility for widespread application. One of the consultants' recommendations for the creation of a test item data bank for improvement of written components of the skills tests was heroic, since it would take at least five years to build such a data bank and a great deal of effort to analyze question responses. VTDI has not advanced at all in the creation of such a data bank.

Again, the best course is to adopt modularized curricula that already have work sample and written tests. Task analysis can indicate the order of modules and the elements which need supplementation or adaptation. But there is no reason to start the development from scratch.

It also should be recognized that unless continued work is funded to develop more comprehensive and accepted standards, the effort may be wasted, "Half a loaf" in this case is not better than none, because a competency system needs to be relatively comprehensive before it can be accepted by employers and institutionalized. As the consultant stated in his final report:

> "... If additional resources would not be made available for implementing and institutionalizing the Occupational Proficiency Performance Standards for Skill Certification, the efforts and resources already expended on this project will bear very little return ...."

The training component of MPTEP had two other elements: (1) providing technical assistance to improve on-the-job training and apprenticeship techniques including preparation of a manual and prototyping of a workshop for instructing in-plant training and apprenticeship officers; and (2) providing technical assistance in developing a curricula for training the self-employed in Industrial Production Centers, with staff training and implementation in at least 3 ITCs.

An OJT manual was prepared and a workshop held for in-plant personnel. The consultant reported that the workshop attendance was interrupted, and the Ministry of Youth noted that the consul-

tant was less than dynamic in his presentation. The manual and the agenda for the workshop presented extremely basic information on the "four-step methods" for training and for dealing with people in work settings and the technique of a job instruction timetable for regularizing on-the-job training. Jamaican personnel were already familiar with these approaches. While one additional seminar was held for in-plant trainers, it is certain that this could have been mounted without the manual prepared by the U.S. "expert." More valuable were the U.S. site visits by Jamaicans to states with effective apprenticeship systems. The level of apprenticeship has increased slightly from 379 to 469 since the MPTEP project, but apprenticeship procedures have not been changed and the MPTEP cannot claim anyof the credit.

The U.S. consultant on self-employment surveyed Jamaican institutions concerned with self-employment, and provided some gratuitous comments about how Jamaicans should search out materials on self-employment; but he did not, by any stretch of the imagination, identify content areas for the self-employment curriculum to be used at the Industrial Production Centers, identify currently available materials relating to self-employment, nor develop a guide for teaching self-employment concepts. He promised to send some U.S. curricula materials subsequently, but never did. Clearly, this activity was a failure. Small business instructional materials abound, in Jamaica as well as the U.S., and the aim of this activity was to select from these and forge them into a curricula. This was not done, and the failure is not excused by the delay in the opening of the Industrial Production

Centers, since the curriculum should have been developed before these opened. It appears that no progress has been made on this task subsequently to MPTEP.

Vocational Guidance

The goal of the vocational guidance materials component of the MPTEP was (1) to prepare short occupation guides providing realistic information to in-school and out-of-school youth on the work conditions, training needs, and the nature of work in twelve broad occupational areas; (2) to develop a manual and provide in-service training on guidance concepts including the use of the prepared guides, and (3) to develop Ministry of Education capacity to update and augment these manuals.

There are literally hundreds of such guides available in the U.S., published commercially as well as in the public domain. The U.S. consultant brought down samples available through the Department of Labor. These were reviewed and were considered to need substantial modification to reflect Jamaican conditions. Two Jamaican researchers were hired to undertake these modifications under the oversight of the Ministry of Education project coordinator and with some limited help from the consultant. Three guides were completed. These were considered by local reviewers to be quite good. Two guides were printed and one thousand copies of each distributed. At the end of the project, the Ministry of Education requested funding for printing ten thousand copies of each -- the numbers which it felt were re-

quired to meet the needs of primary, secondary, tertiary and out-of-school institutions. The Ministry also requested resources for completion of the remaining orginally projected manuals.

The guide reviewed, Occupations in Mechanics and Repairing, was relevant and informative, although of uneven quality. As an example, of the several segments, the automobile repair career vignette did the best job of explaining, in simple language, employment conditions and progressions, wage levels, career entry procedures and requirements, working conditions, and the appropriate aptitudes and interests. Other vignettes included some but not all of the information. Neither this nor the other guides included the detailed inventory of training courses, training institutions and enrollments in each occupational area, which should have been available as a result of MPTEP surveys of training institutions. Only general information was provided.

It is rather pointless, and perhaps even counterproductive, to publish and distribute just a subset of guides, since their aim is to help in-school and out-of-school youth decide between career options. Exposure to only two career areas could conceivably convince some to pursue one of these simply because of the lack of information on other choices. It is a shame that the projected array of guides were not completed, since those produced appear to be one of the most tangible and useful products of the MPTEP.

The purpose of the guidance manual prepared by the U.S. consultant was to explain to guidance personnel in the secondary schools of Jamaica how to use the twelve occupational guides to be produced as part of the Manpower Planning, Training and Employment Project, as well as to introduce guidance concepts and procedures. Since only two occupational guides were published, with limited distribution, and since the schools have limited and overburdened guidance personnel, the manual is of little use.

Whatever relevance it might have had was reduced by its complete lack of reference to Jamaican institutions and conditions, its extremely high reading level, and its use of concepts, terminology and procedures which had little relevance to Jamaica. It is a rare secondary school in the United States or any other developed country that meets the guidelines of the manual by providing a full-time vocational counselor, a guidance plan for the school, a steering committee consisting of a resource board, methods specialist and school/community/private sector leader, a needs assessment task force and an articulated evaluation plan. Yet the consultant simply transported this "ideal" of guidance specialists in the United States with no attempt to determine what could be done in the Jamaican environment. Valuable resources were wasted in typesetting and publishing this manual which could have been better applied in completing and publishing the more useful, relevant occupational guides. Likewise, training sessions using the manual and only a subset of the planned guides were relatively pointless. They should have been undertaken at the very end of the project, providing the exposure of

line personnel to the types of information such as job projections and the new Dictionary of Occupational Titles, generated by the MPTEP. In other words, there should have been an effort to put this information in the hands of staff "in the trenches" rather than focusing on agency heads and policymakers.

Near the completion of the project, three representatives from the Ministry of Education spent three weeks in the U.S. being trained in the GATB and attending the American Personnel Guidance Association meetings where they were exposed (albeit rather hurriedly) to a vast array of assessment and occupational guidance materials. Although many of the materials were considered of possible adaptability to Jamaica, it was too late in the project to followup on any any of these leads.

In summary, the appropriate sequence of activities was completely inverted. Completion of the Dictionary of Occupational Titles, and exposure of key Jamaican staff to the complete range of existing vocational materials, should have been first tasks. The Training Manual should not have been prepared until after the completion of the array of occupational guides. Staff training should have been at the end of the project after the rest of this component, and other efforts of the MPTEP, were completed.

There are six rather specific recommendations for follow-through in the MPTEP activity area:

1. Of all the outputs of the Manpower Planning, Training and Employment Project, the two occupational guides were among the most relevant and applicable, but their usefulness depended on

the availability of a full range that would provide choices to students, on the distribution of the guides to all potential user institutions, and on the periodic updating of these reports. If at all possible, the remaining ten manuals should be finished as rapidly as possible. The same procedure should be utilized, i.e., using Jamaican experts to provide the locally relevant anecdotes and information following the format of the first guides.

2. It is further recommended that the summary tables in the back of the guide focus on information which is largely unchanging from year to year, and that a space be left for an insert which can be updated periodically describing training and employment opportunties and requirements which tend to change from year to year. The preparation and distribution of these one- or two-page inserts would be a continuing function of the Ministry of Education, based on updates provided by NPA. Users could be brought together once a year or so to discuss the changes and what they mean.

3. A Career Planning Guide is needed in booklet form which a student could use to explore his or her aptitudes, interests and experiences in a step-by-step fashion to help choose between broad career areas such as those covered by the twelve guides. There are several prototypes which will be provided to the Ministry of Education that could be adapted by Jamaican consultants in the same way as the first two guides were developed. This career planning booklet would be written to be used along with the

twelve guides. Like the prototypes, it would be designed so it could be used in settings where there were no trained guidance counselors.

4. A Job Seeking Guide is needed in booklet form which tells a student where and how to apply for employment. Again, several prototypes will be provided which may be somewhat useful in discussing topics such as appearance, interview techniques, and other general job-seeking skills, but Jamaican information will have to be substituted completely concerning where jobs may be found. More detailed information might be provided for each of the twelve occupational areas. There should be an insert section which permits updating of facts every year or two.

5. If the Jamaican Dictionary of Occupational Titles is completed, if an attempt is made to update it with information on worker traits, tasks, and other information gathered through site visits, if it is focused on primary occupations in the Jamaican economy, and if it is attractively published, it can serve as a useful guidance tool useable by individuals and institutions. It should, then, be widely distributed. (If it remains a mere classification scheme largely borrowed from elsewhere, if it is not fleshed out by job analysis, or if it is not packaged for ease of use, it should probably be ignored in guidance efforts.)

6. The twelve occupational guides, the Career Planning Guide, the Job Seeking Guide and the Jamaican Dictionary of Occupational Titles should be developed as a kit and distributed to all-age and secondary schools as well as to training centers for out-of-

school youth and JES offices. A very short manual, addressed specifically to the materials in these "kits," and written at a simple comprehension level, should explain to teachers, instructors or any user, how these materials can be used together as well as suggesting some other activities or approaches for getting career information.

Candidate Selection Component

The goal of the candidate selection component of the MPTEP was to develop a test/assessment instrument which could be used to: (1) improve the assignment and selection of students for vocational training, (2) certify trainees and job applicants to improve selection by public and private employers, and (3) provide a guidance tool which could be useful in focusing long-term career choices of students.

The U.S. consultant, an expert in the application and analysis of the General Aptitude Test Battery, not surprisingly recommended the use of this tool. There was no prior feasibility study of the range of alternative assessment instruments. The consultant, with the cooperation of the Ministry of Education, tested the feasibility of the GATB by application to 50 ninth-grade students and 26 11th graders in New Secondary Schools. The pilot test was considered successful by the consultant and by the Ministry of Education, although the grounds for this determination are not clear. There must have been some questions, since the GATB test materials (costing several thousand dollars) had to be carried to the testing site where the application of the test

to groups of ten to twenty students required three hours, plus the travel, testing and subsequent analysis time for two test specialists, thus representing a real unit cost several times the annual per pupil expenditures on text books in the New Secondary Schools. Problems were noted with the response to timed exercises, and in the noisy testing environment of the New Secondary Schools. The U.S. Employment Service Interest Inventory was tried out and proved unsatisfactory, restricting the use of the U.S. Guide to Occupational Exploration, which is keyed to the interest inventory.

In this first pilot, the ranges between the median scores and the "cut scores" (i.e., demarcating the lowest third of students) were extremely narrow. For instance, on the general intelligence aptitude, the median score was 65 for ninth graders and the cut-off score was 63, even though the standard error of test scores was probably in the range of ten or more. Put another way, one student could guess correctly on a single answer, while another guessed wrong, and if the cut score were used to determine selection, this lucky guess on one question could spell the difference between acceptance and rejection. There was no attempt at intercorrelation analysis to determine whether those students with good numerical and verbal aptitudes also did better on the other aptitudes simply because they could read and respond to directions better, in which case academic achievement tests might have yielded very similar results to aptitude tests (at a much lower cost).

The second phase of the pilot was supposed to test 680 11th graders in various occupational assignments in New Secondary Schools. The testing supplies did not arrive on time, so only 135 students from three broad curriculum areas were tested. The assumption was that since students had received vocational training, their "aptitudes" would have been more "developed" in some dimensions than others (even though one might wonder about the use of aptitude tests for selection to training if aptitudes can be increased by training!). Yet, few differences were apparent between the pattern of aptitudes in the different curricula areas, other than that the smarter students were apparently being assigned to business education:(15)

Aptitude Scores

Aptitude	Home Economics	Business Education	Industrial/ Technical
General Intelligence	74	87	74
Verbal	83	85	81
Numerical	75	91	73
Spatial Perception	80	87	87
Form Perception	95	95	92
Clerical Perception	100	105	93
Motor Coordination	100	110	95
Finger Dexterity	96	103	98
Manual Dexterity	105	114	114

Despite this lack of differentiation, the consultant made a judgment about which aptitudes were most important for which clusters of occupations, and, then, suggested the use of the

relative rankings averaged over the important aptitudes for each occupation as an indicator for selection and guidance. The validity of this approach is questionable given the findings of minimal differences between broad clusters, particulary since there was no effort to determine whether students with recommended aptitudes actually did better in training. A student scoring high on all aptitudes, but relatively higher on spatial and form perception and motor coordination, would, by this procedure, be counselled/selected to go into arts and crafts even if he or she could go into business education which would undoubtedly yield a better career and for which aptitudes were all adequate. Likewise, a student low on all aptitudes but relatively higher on general intelligence, verbal and numerical aptitudes, would be counselled/selected into business education even though this curricula might prove too challenging.

The consultant recognized the inadequacy of the pilot results and recommended testing half of ninth graders in five new schools, and a two-year follow-up of all these students to determine success in training. To really assess the usefulness of the counselling activity per se, the other half of students should also be tested but <u>not</u> guided on the basis of results, and the success of the two groups in the tenth and 11th grades should be compared. It is a safe bet that there will be no difference betweeen the outcome for the two groups because assignment patterns are likely to respond more to enrollment opportunities and habits than abstract test results. In all likelihood, females will continue into home economics, the less capable males into

agriculture, and the more capable students into business education. But at least this prototype experiment would dismiss the notion that selection can be based on "scientific" diagnoses, and that the cost of testing can be justified by increased success rates in training institutions.

The GATB is of use for guidance purposes in the U.S. because the aptitudes of good workers in different occupations have been assessed using the test, so that good scores on the test can be correlated with the likelihood of doing well on the job. As a guidance tool, the test is usually referenced to the broad occupational groupings in the Guide to Occupational Exploration. It can tell a student that he or she might be relatively better in clerical than mechanical work, or that he or she might have difficulty in making it in professional/technical occupations, but it cannot tell ninth or 11th graders that they should be electricians rather than refrigeration mechanics, or that they cannot pursue careers in which they have a great deal of interest. There is no reason to expect that the traits which determine success or failure in the U.S. are necessarily the same as those in Jamaica, because the jobs and work situations are very different. As the consultant noted, long-term follow-up would be required of large numbers of tested students, as well as widespread testing of Jamaican workers in different occupations, to make the GATB useful -- if it ever could be -- as a primary selection tool, or even as a guidance tool helping to distinguish between aptitudes for major occupational clusters.

The inherent limitations of GATB or other aptitude tests to guide selection or assignment to specific training vocations is demonstrated by the application of the test to a sample of out-of-school youth in various ITC vocational components. The consultant first gathered instructor/supervisor ratings of a small number of ITC students in each of several of these training occupations, classifying each set of trainees into groups rated "good" and "bad" students. All were given the complete GATB, but only the aptitudes found to significantly explain job performance among workers in each occupation in the U.S. were considered for the Jamaican groups. "Cut scores" for the relevant aptitudes were determined, i.e., if students in a specific training occupation fell below these scores for any of the relevant aptitudes for this occupation of training, they were highly likely to be considered "bad" trainees by their instructors.

Aptitudes not considered significant based on U.S. experience were excluded from consideration by the consultant. They should have been included because they might have been more predictive in Jamaica. The tests are supposed to be normed on <u>workers</u> not <u>students</u> -- i.e., teachers might give higher or lower priority to some aptitudes than employers. Different percentages of students in different vocational classes were rated "good and bad" (ranging from an 83:17 good-bad split for electrician classes to a 65:35 split for automechanics), making the cut scores more discriminating in the former than the latter case. The interrelationship of aptitudes was not checked, so that it is entirely possible that the three academic aptitudes could have

predicted "goodness" or "badness" as well as the selected mechanical, dexterity or spatial aptitudes (so that already gathered achievement scores such as the CEE might have been used instead of aptitude tests). But most critically, the methodology sought to determine who was not likely to do well in a specific training class, not whether an individual was comparatively better off in one class than another. The types of trainees assigned to different classes varied. For instance, in mechanical aptitude the machinist class averaged 98.6 compared to 86.3 for plumbing. Selection had already occurred on some other grounds. The 77 cut score for mechanical aptitude may have distinguished between the good and bad students in plumbing, but if students with higher aptitudes had been assigned to plumbing and were in the sample, then the calculated cut score would have been higher. What is really needed is to follow the success of students with the <u>same</u> aptitudes distributed across all possible varieties of training. Equally important, the cut scores for the various occupations were extremely close -- well within the standard error of the test -- so that any assignment decisions on the basis of these scores alone would be ridiculous. Take the cases of cement masons, electricians, machinists, and automechanics -- all occupations' numerical, spatial and mechanical aptitudes were considered significant. The cut scores for these aptitudes for all three occupations were well within the standard error (6 points in the U.S., much larger in Jamaica) of each other:(18)

Cement Mason

	Numerical Aptitude	Spatial Aptitude	Mechanical Aptitude
Cut Score	70.5	65	91
Mean	74.5	96.6	95.8
Standard Deviation	10.2	13.3	15.5

Electrician

	Numerical Aptitude	Spatial Aptitude	Mechanical Aptitude
Cut Score	72	69	85
Mean	79.3	90.6	96.1
Standard Deviation	13.4	15.1	17.1

Machinist

	Numerical Aptitude	Spatial Aptitude	Mechanical Aptitude
Cut Score	75	71	87
Mean	77.8	78.8	98.6
Standard Deviation	16.7	15.3	16

Auto Mechanic

	Numerical Aptitude	Spatial Aptitude	Mechanical Aptitude
Cut Score	75	74	87
Mean	77.2	75.7	92.0
Standard Deviation	14.9	14.6	15.8

Even if the differences <u>were</u> more significant, followup would be required to determine their relationship to completion rates and job success. A different curricula, or a different

quality of students, would require reestimation. For instance, the work would certainly have to be reapeated before any application in newly opening HEART Academies.

Since the workshops on candidate selection, as well as the U.S. training received by Jamaican personnel of the Ministry of Education, focused primarily on the use of the GATB test, and since the vocational counseling guides also referenced GATB aptitudes, they must be considered of little long-term usefulness given the problems of applying the GATB in Jamaica. On the positive side, the staff involved in MPTEP certainly gained skills in aptitude testing and to a limited degree in analysis. The consultant was clearly an expert and made reasonable decisions in trying to respond to her scope of work. The interest in candidate selection and aptitude testing was not dampened by the limited results. But there is no real goundwork to proceed in candidate selection other than ruling out one possibility.

There are, then, three recommendations for proceeding on selection and assessment efforts:

First, if further work is to be pursued in school-wide aptitude testing, a better approach might be to identify <u>all</u> assessment options in the U.S. which fit the general requirements of Jamaica, and then to hold a conference at the outset, involving both the Ministry of Education and VTDI, to select the best few and then to try them in a comparative experiment. This process would also be a good way to identify the best potential consultants for continuing work.

Second, UNESCO has recommended a restructuring of the work-related instruction in New Schools and the elimination of all-age schools. Its recommended approach is to focus primarily on academics, combined with modules on practical skills, delaying occupation-specific training to a later age. The HEART Academies are planning a three-tier curricula, with the first tier including occupational exploration. The same practical skills modules could and should serve both purposes. If these emerge, it is recommended that these modules have built-in mastery tests and performance standards (including teacher ratings of student attitudes). Student performance in these standardized modules could be recorded and used as a primary consideration in subsequent vocational assignment along with academic scores, rather than relying on aptitude tests. This is not to argue that performance assessments are necessarily better than tests, but it is certainly the more reasonble approach unless, or until, the extensive validation and research needed to make aptitude tests useful in the Jamaican context are completed.

Third, the introduction of assessment tests in the schools as a guidance instrument should await the development of a standardized set of Jamaican vocational curricula with built-in performance standards and their adoption in the comprehensive secondary schools, the vocational and technical schools and the HEART Academies. The aptitude tests could then be normed relative to the performance of students as judged relative to the same stan-

dards, with subsequent tracking into the labor market. Again, aptitude testing should probably be a later step in the improvement of Jamaica's human resource development system.

Improvement of the Jamaican Employment Service

Another objective of MPTEP was to plan for and help implement an upgrading of the Jamaican Employment Service. The need was self-evident. Measured by either inputs or outputs, the JES had been in decline since the early 1970s. From a peak of 56,848 registrations and 33,542 placements in 1972, activity levels fell to 33,002 and 13,805, respectively, in 1977 when the MPTEP proposal was being developed.(37) There was a commensurate decline in JES offices and staffing. In 1974 there were approximately 50 offices throughout Jamaica. By 1978, the number had declined to 21. Manifold problems were documented in a National Seminar on Human Resources and Manpower in 1974, in a series of memoranda from the then Director of Manpower Services in the Labor Ministry, and by an OAS study published in 1978.(38)

Under MPTEP, four months of U.S. consultant services were provided to review and help to upgrade the JES and the staff. The expert was to assess interviewing methods, advise on man/job matching procedures and the reporting system, help in developing manuals to stabilize local employment service operations, advise on skills needs reporting and analysis of local employment service data, recommend organizational changes, facilities needs, employer contact and staff management procedures. The consultant

had long experience in the State of Uthal Employment Service, and brought a full array of national and State Employment Service manuals to add to the Ministry of Labor's collection.

The approach and product of the consultant is suggested in a segment from his final report:

> "In writing a set of technical recommendations for internal functions, I view myself as being analogous to an automobile diagnostician charged with the responsibility of recommending corrections for the ignition system, wheels, drive shaft and radiator (Job Promotion, Registration, Placement and Counselling Services). All theses necessary parts can be diagnosed and recommended for change ... (but) the vehicle will still not operate even with these repairs because of the need for a major overhaul of the engine (reorganization and revitalized management system within which the GES activities occur). Going one step further, if the engine itself can be overhauled, it can partially operate, but only on a limited basis because of lack of fuel (over-all support and significant commitment of resources to the Ministry of Labor, the Manpower Services Section and the Employment Services Office)."(38)

This "fuel" certainly has not been forthcoming. Since the initiation of the MPTEP, the number of JES offices has declined from 21 to 15, the number of registrations has fallen from 33,002 in 1977 to 14,982 in 1982, and placements from 13,805 to 4,278 (declining substantially even between 1980 and 1982 when total employment was increasing). The issue, then, is whether the consultant provided any useful jerry-rigging to help keep employment services "on the road" a little longer.

The answer, based on analysis of the final report containing the consultant's recommendations, is that he provided little of practical use. To use his analogy, his skills were in using the

most sophisticated diagnostic tools and equipment, designed for fixing advanced technology cars, not in puttering with an auto raised on cinderblocks in the back yard. Some of the consultant's specific recommendations (following soporific advice on team building, decisionmaking, understanding self and others as well as conflict resolution) included renaming the Employment Service, creating a new logo to be used on office signs, creating an Employer Advisory Council, making all positions permanent and eliminating acting appointments, providing job descriptions for each position, periodically reviewing each employee, creating a JES manual, surveying employee attitudes, raising salaries and creating career development ladders, relocating almost all JES offices into modern, durable buildings (with landscaping and street parking, comprehensive furnishings including a refrigerator and stove for employees, water coolers, fans, and music), providing staff with local purchasing authority, automobiles and allowances, introducing automated data processing so as to maintain a comprehensive reporting system including productivity and accountability measures. In brief, the recommendations would recreate a well-functioning U.S. state employment service in Jamaica. The few practical suggestions, such as decentralizing Ministry of Labor staff and decisionmaking, and consolidating some offices, were lost in the consultant's sweeping criticisms of the Jamaican governmental and decisionmaking systems. There was not attempt to identify realistic objectives, for instance, determining the procedures which made some offices so much more effectives than others.

Follow-though was also lacking under MPTEP. It was originally planned that four representatives from JES would spend three to four weeks in the U.S. reviewing Employment Service occupations. While two representatives spent six weeks studying Labor Market Statistics procedures, the review of ES procedures was never conducted. According to JES, the resources were reallocated to send Ministry of Education officials to review guidance materials.

The consultant was constantly frustrated by the lack of support for or interest in substantial reform of the JES. There is, indeed, good reason to question the inclusion of the activity in MPTEP, since there was no apparent interest in committing resources to upgrade the system. In venting his frustration in a confidential follow-up report to ILAB in the U.S. Department of Labor, the consultant raised some broader questions as well:

> "Among almost everyone involved, U.S. Department of Labor, AID specialists and project managers and Jamaicans, there appeared to be a lack of understanding of purpose, an absence of adequate planning, and a belief that what everyone was doing perhaps didn't matter at all.
>
> "I heard the opinion voiced by one U.S. expert, and agreed to by all others, that perhaps all we were about was having a U.S.A. presence in the area and the specific work we were about was, at best, of secondary importance.
>
> "I talked to three different TDYs who stated thier anger at being assigned with people who 'really don't want us here.' They were referring to both some Jamaicans and also U.S. officials."

Whatever the validity of these statements in regard to other activities of MPTEP, it appears that the efforts in the Ministry of Labor were neither productive nor very harmonious, largely because the initial task lacked specific and realizable goals backed by firm resource commitments.

Tracer Studies

An unspecified number of tracer studies were to be conducted under MPTEP covering the primary training programs, presumably including entry or pre-vocational training in New Secondary Schools, more serious training in comprehensive high schools and vocational and technical schools, out-of-school training in ITCs and youth camps, school leavers and apprenticeship programs, and targeted programs such as JAGAS and others. The original aim was not only to train staff to conduct such studies and to complete them, but to apply the findings to alter the training mix.

The effort got off to a slow start. Two consultants from the University of West Indies conducted a conference in April 1980 attended by eight representatives of the Ministries of Labor, Education, Youth and Sports and the National Planning Agency. The conference presented concepts and techniques of social surveys. At a second workshop in November 1980, the principals in the first session were to bring detailed proposals for tracer studies of the training programs covered by their agencies. From the presentations in this session, a decision was made to begin with a survey of 1979 New Secondary Schools graduates. This was not exploring a new territory, since there had

been two recent tracer studies on the same subject. Also, the consultants, rather than the agencies, ran the evaluation. They used guidance counselors and work experience instructors who volunteered and were trained to select stratified samples and to conduct interviews, which occurred from June through October 1981. The results were tabulated and analyzed over the next year, by the consultants, with submission of a report shortly before the termination of the project. No other tracer studies were undertaken. (A U.S. consultant to the Ministry of Labor produced an instrument for tracking Jamaican farm workers temporarily employed in the U.S., but this was neither very sophisticated nor feasible.)

As best can be determined, no use was made of the results of the one study completed under MPTEP. Indeed, the consultants counseled against such use:

> "Ideally, providing information on the occupation and employment experience of graduates should make for a better assessment of the performance of the Program in preparing students for productive and personally satisfactory employment. Such assessment is difficult, given the small proportion of the sample that was employed. It is not easy in such circumstances to make more than cautious statements about the usefulness of particular majors in preparing students for the world of work. As Bennett (1979) remarked of the 1977 New Secondary School graduates that he surveyed, 'The indications are that factors beyond the control of the schools were far more critical than school factors in determining the vocational outcomes.' To say, for example, that because (22%) of welding majors were also employed in welding, compared to (3%) of child care majors in child care, welding is therefore a major in which enrollment needs to be encouraged, would probably oversimplify a complex situation and unduly limit outselves to short-term considerations."(42)

Yet the tracer studies were rationalized specifically for this purpose! The original program justification argued that a better mix of training could be achieved if follow-up information were available. Indeed, it is hard to imagine how knowledge of the labor market outcomes from training programs is not an important piece of information. The disparities in success ratios noted in the completed tracer study were certainly significant.(42)

Occupation of Specialization	Percent Employed	Percent Employed In Training Related Jobs
Auto mechanics	29	15
Welding	25	22
Food services	20	13
Business education	19	9
Child care	19	3
Carpentry	16	8
Electrical installation	16	3
Clothing and textiles	15	4
Cosmetology	14	14
Machine shop and welding	13	8
Agriculture	13	3
Crafts	0	0
Arts and crafts	0	0

The only factors that were considered to explain these variances were school, area and sex; their influence was enormous. Regression analysis would certainly have helped to sort out whether training concentration mattered net of these other

factors. The sample size was large enough to justify simple regressions. However, what was really needed was in-program data such as percent of time in vocational training, instructor ratings and educational achievement. But this added data could only be handled if a microcomputer were available for the statistical analysis. This would have substantiallly raised the cost -- which was quite minimal.

On a positive note, the prototype tracer study demonstrated the feasibility of sample selection and followup by operations staff. The response rates were reasonable. It is clearly possible to implement a standardized follow-up survey of stratified samples of participants in training programs. The question is whether it is worth the effort.

Experience with vocational education and employment and training programs in the United States suggests the importance of management information systems which include followup on post-program status. It is, therefore, recommended that a management information system should be designed for the HEART Academies which collects a small amount of standardized trainee information (such as age, name, sex, educational achievement and family status), tracks amount of training in total hours or weeks, classifies the level of skills and the vocations (say automechanics 1, 2, 3, and 4), and provides an instructor rating (1 - complete mastery of skills, 2 - intermediate mastery, and 3 - limited mastery). There are several prototypes for such management information systems in the U.S., including the one used in the Job Corps.

If this could also be implemented for training programs in the New Secondary and Vocational Schools (i.e., if these institutions would define vocations and skill levels in the same way and if they would maintain the data), it would be possible to really assess the Jamaican training inputs, and to link them to post-training outcomes through institutionalization of a one-in-five or one-in-ten mandatory followup by staff as part of the management information system. If done across the board, there would be justification for the use of a microcomputer in the analysis. There is no question that this would be the best means to determine training needs and training effectiveness. Abstract analysis of supply and demand is of marginal use compared to good information about the success of recent trainees and enough data to isolate the factors related to this success. But this is only feasible as part of a comprehensive information system. It probably does not make sense to repeat ad hoc surveys using different techniques with necessarily small samples sizes.

APPENDIX 1. EVALUATION SOURCES

1. Project Paper: Jamaica Manpower Planning, Training and Employment - AID.

2. Evaluation of the Jamaica Manpower Planning, Training and Employment Project - A.I. Fiks and O.L. Davies.

3. "Comments on the Draft Final Report of the Group Seven Associates Evaluation of the Jamaica Manpower Planning, Training and Employment Project" - National Planning Agency.

4. Manpower Planning, Training and Employment Project Progress Report, 1979 - National Planning Agency.

5. Manpower Planning, Training and Employment Project Progress Report, January-June, 1980 - National Planning Agency

6. Manpower Planning, Training and Employment Project Progress Report, 1979-1980 - National Planning Agency.

7. Manpower Planning, Training and Employment Project Progress Report, 1981 - National Planning Agency.

8. Final Report: Manpower Planning, Training and Employment Project (draft) - National Planning Agency.

9. Manpower Information Bulletin - National Planning Agency.

10. Occupations in Mechanics and Repairing - Ministry of Education.

11. A Manual for Vocational Guidance in Secondary Schools in Jamaica - Ann Martin.

12. Interim Report - Vocational Guidance Materials Development Component - Ann Martin.

13. Final Report - Vocational Guidance Materials Development-Component - Ann Martin.

14. "Proposal for Funding Activities Initiated by Previous USAID/GOJ Projects" - Dr. Yvonne Mahy.

15. Design and Development of Local Candidate Selection Techniques - Margaret Robinson.

16. Instructor's Guide - How to Administer the General Aptitude Test Battery - Margaret Robinson.

17. Vocational Counseling Guide - Margaret Robinson.

18. Specific Aptitude Test Batteries for Cabinetmaker, Plumber/Pipe Fitter, Registration Mechanic, Auto Body Repairman,

Combination Welder, Automobile Mechanic, Machinist, Cement Mason and Electrician - Margaret Robinson.

19. Final Report - Candidate Selection Specialist - Margaret Robinson.

20. "Evaluation of Work Completed on the Manpower Planning, Training and Employment Project" - Dr. Yvonne Mahy.

21. The Labour Force, 1982 - Department of Ministry.

22. Demographic Statistics, 1982 - Department of Ministry.

23. "Revision To The Labour Force Questionnaire" - Department of Statistics.

24. Economic and Social Survey Jamaica 1981 - National Planning Agency.

25. Jamaica Population Census 1970, Volume II, Part E and Volume II, Part F - Department of Census.

26. "Manpower Projections: Their Uses and Methods" - Harold Goldstein.

27. Final Report of Darrel Patrick Wash - Darrel Patrick Wash.

28. "Manpower Projections and Techniques: A Case Study of the Tanzanian Method" - June Resnick.

29. Small-Scale, Non-Farm Enterprises in Jamaica: Initial Survey Results - Omar Davies et al.

30. "Manpower Projections: Their Uses and Methods" - William V. Deuterman.

31. "Employment and Training Needs in Jamaica During the 1980s" - Juan Buttari.

32. "Revision to the Labour Force Questionnaire" - Department of Statistics.

33. Economic and Social Survey, Jamaica 1975, 1979 and 1981.

34. Final Report - Project to Advise on the Establishment of the Jamaica Dictionary of Occupational Titles - Ernest D. Willoughby.

35. "Concepts, Principles and Applications of Job Analysis" - Bureau of Labor Statistics.

36. Preliminary Definitions of Occupational Titles - Professional, Technical and Related Occupations, Administrative, Executive and Managerial Occupations, National Planning Agency.

37. Statistical Bulletin 1982 - Ministry of Labour.

38. Project Paper of Assessment and Recommendations for Re-Structuring, Re-Directing and Modernizing the Government of Jamaica Public Employ ment Service: A Plan for the Decade 1980-1989 - Jennings M. Lee.

39. Part III Final Report - Mission to Jamaica Jennings M. Lee.

40. Final Report of the Labor Market Information Specialist for the MPTE Project - Vince De Santis.

41. "A Proposal for a Study of Overseas Farm Workers" - Vince De Santis.

42. Report on a Tracer Survey of New Secondary School Graduates, 1979 - D.A. Francis and H.I. McKenzie.

43. NPA Files: General, Administration, Personnel, Commodities and Equipment, Technical Staff, Department of Statistics, Ministry of Finance.

44. AID Files: Project Agreement, Seminars, Reviews and Evaluations, Correspondence, Disbursements, and AACTE/TA.

45. "Agricultural Manpower and Training Needs Survey" - National Planning Agency.

46. "Manpower and Training Needs Survey" - National Planning Agency.

47. Large Establishment Survey - HEART.

48. "Training Needs Survey of Construction Sector" - HEART.

49. Project Report: Public Sector Manpower and Training Needs Survey - Robert Girling.

50. Technical Assistance Report: Manpower Training Needs Survey - Ernest Moore.

51. Final Report on Self-Employment Curriculum in Vocational Training Programmes - Robert Nelson.

52. Trainers Manual for Supervisor Training - Ray Ogle.

53. A Final Report on Establishing A System For Occupational Proficiency Performance Standards for Skill Certification in Jamaica - H.C. Kazanaz.

54. Final Report - Implementing Self-Employment Curriculum in Vocational Training Programs - Robert Nelson.

55. A System to Develop Jamaican National Standards for Certificate of Skilled Personnel - H.C. Kazanaz.

56. Task Analysis for Automotive Mechanics - Vocational Training Development Institute.

57. Performance Test Development in Training - F.B. Wormer.

58. A Handbook for Proficiency Performance Testing - Vocational Training Development Institute.

59. Mid-Term Report of Nonformal Training and Curriculum Development Specialist - Harry Winder.

60. Evaluation Report on Dr. H.C. Kazanaz - Ministry of Youth and Community Development.

61. Final Report, Nonformal Training and Curriculum Development Specialist - Harry S. Winder.

62. Final Report of On-The-Job Training Specialist Roy R. Ogle.

63. Evaluation Report Re: Final Report from Roy R. Ogle - Ministry of Youth and Community Services.

64. Manual for Developing A Test Item Bank - Frank Wormer.

The following individuals involved in MPTEP were interviewed to provide background information:

AID:

Carney
Tomlin
Berrios
Warren

NPA:

Knight
Evans

MYCD:

Francis

VTDI:

Lawrence (and team)

DOS:

Jones
Boothe

MOE:

Mahy

MLE:

Goldson