

ECPR
ISSUES PAPER
Medex Unsolicited Proposal

Country: Africa Regional

Project Name: Operations Level Management Development; The Medex Group

LOP Funding: \$6,103,786 (Phase I)

FY 87 Obligation: \$1,500,000

Authorization Venue: AID/W

CN Expiration Date: ---

1. Description:

This project proposes to improve the health management system of the health ministries of two unspecified African countries by working at the operations (district or community) level. The objectives of this first phase (four years) are : (1) establish a receptive framework at senior ministerial levels for operations level management development, (2) assess operations level management needs (3) analyze and redesign operational level organizational structures and management systems (4) train operations level managers including the development of twenty prototype management training manuals and (5) maintain operations level management systems including the design of a simple data system using micro-computers. Upon completion of phase one, a second phase is planned to increase the number of countries and more broadly disseminate information and materials developed during phase 1.

This project was originally proposed in June, 1986 and was technically reviewed in January, 1987. The technical review panel found the proposed project to be "too ambitious in terms of scope, timetable, and cost." The Medex Group was asked to revise their proposal and re-submitted the revised proposal in April, 1987.

2. Issues:

Issue #1 - Project Concept: Is this project's single focus on operations level management development feasible in Africa? Is it possible to restructure an African health management system by concentrating primarily at the lowest level?

Discussion: The Project Committee felt that the proposal correctly identified important problem areas in developing country health systems, i.e. weak management systems and questions of system sustainability. However, the committee

noted several deficiencies in the proposal (discussed below) which will require that the proposal be revised again before it is acceptable for funding.

Most Project Committee members have serious reservations about the feasibility of this project in Africa. There is no evidence to show that it has been done effectively before in Africa and the proposal did not present a convincing case that it is possible. The committee felt that the approach proposed by the Medex was overly simplistic and did not illustrate an appropriate understanding of African health care systems nor the significant differences which exist among countries.

Recommendation: (a). The Project Committee recommends that a preliminary feasibility study phase be incorporated into the overall design to identify project countries, develop country specific project plans and test out underlying project assumptions. This preliminary testing phase could be done either as a separately financed activity prior to approving a larger project or as the initial part of a larger project with the study results being utilized to redesign the project prior to approval and implementation.

(b). The Project Committee also recommends that this project be funded regionally but that it be implemented bilaterally in two countries with management responsibility delegated to the respective missions.

Issue #2 EOPS: What will be left in Africa after this project is completed?

Discussion: Almost 60 percent of the total budget is for staff and staff support costs of Medex in Hawaii with not much going into Africa. Approximately 25 percent of the total budget is for staff and staff support costs for the teams Medex proposes to establish in two countries so that staff and staff support costs are about 85% of the total budget. In addition, there is very little in the budget, less than 3 percent, for all the training which is supposed to be a major component of the project.

The committee also noted that there were no specific plans in the proposal to work with any African management institutes and this called into question how well the Medex approach would be institutionalized. The committee felt that the project might be more sustainable if Medex collaborated closely with institutes in the region and include such plans in the proposed budget for this project.

Recommendation: (a) Medex should be requested to reassess the proposed project budget to reduce U.S. core costs and increase the planned allocation for activities within the region, especially training.

(b) Within the design of the two country specific projects financed under this project, Medex should indicate how they would shift project resources to these countries and how they would develop appropriate institutional linkages.

Issue #3 Evaluation: How will this project be evaluated and what will be the feedback/monitoring system?

Discussion: The Project Committee noted that the proposal did not include an evaluation plan or any information regarding benchmarks or other indicators of success. In view of the unproven nature of the entire project, the absence of a feedback/monitoring procedure is a significant weakness.

Recommendation: Medex should be requested to indicate in their revised submission how they plan to evaluate the project and what kind of monitoring/feedback system will be developed. In addition, Medex should include detailed and measurable country specific outputs.

Other Concerns and Guidance:

Medex and Agency Health Priorities - Committee members questioned whether the proposed Medex project was consistent with current Agency priorities in health i.e., focus on child survival activities, increased emphasis on the private sector and the sustainability of health interventions. It was recommended that the proposed project be made more consistent with current health priorities by encouraging closer Medex collaboration with the private sector in the countries selected and limiting the project to A.I.D.'s child survival emphasis countries.

Africa Bureau and ST/H Funding - AFR/DP indicated that \$1.5 million was being budgeted in FY87 for this project. The committee also noted the S&T/H obligation of \$1.0 million in FY 87 for the final year of its program with Medex. The Committee questioned whether Medex could absorb that level of funding and whether the planned new Africa Bureau start might negatively affect Medex's performance the final year of the S&T/H project. It was recommended that Medex address this concern in its revised proposal by providing specific information regarding staffing including bio-data information.

Other Technical Concerns: The Project Committee reaffirmed the earlier concerns of the technical review committee about the applicability of distance learning in Africa and the appropriateness of the planned use of micro-computers. The committee also questioned the need for twenty prototype management training manuals in view of the fact that Medex has already developed 37 health training manuals (some dealing with management topics) under other A.I.D. financed grants. It was recommended that these activities be significantly reduced or Medex should provide additional justification in their proposal to demonstrate the appropriateness of these project activities.

NOTICE OF MEETING

TO: See Distribution
FROM: Carol Peasley, AFR/PD ~~for SA~~
MEETING: ECPR
DATE: May 22, 1987
TIME: 1:30 P.M.
PLACE: 5951 NS

AGENDA

Unsolicited Proposal from the Medex Group: Operations Level
Management Development in Africa
Chairperson: Carol Peasley, AFR/PD

Attachments:
ECPR Issues Paper

Distribution:

A/AA/AFR:ARLove 6936 NS	PPC/PD:RMaushammer (2) 3841 NS
DAA/AFR/CWA:LRichards 6944 NS	PPC/PDPR/SP:RSheppard (5) 3894 NS
DAA/AFR/ESA:ELSaiers 6944 NS	PPC/CDIE/DI:Acquisitions (1) 209 SA-18
AFR/PD:CPeasley (2) 2637 NS	OSDBU/MRC:LDrummond 648 SA-14
AFR/PD:AHarding 2637 NS	S&T/PO:GGower (4) 308C SA-18
AFR/PE/PS:CCampbell 2926 NS	SER/AAM/OS:MDarvin (2)733 SA-14
GC/AFR:BBryant (1) 6889 NS	BIFAD/S:JOWeis 5314A NS
AFR/DP:JPatterson (3) 3913 NS	AAA/AFR/PRE:HIMunson 4527 NS
AFR/TR:Divisions (6) 2926 NS	AFR/TR:KSherper (1) 2497 NS

Project Committee Members:

AFR/PD/CCWAP:AVGetson 2443 NS	S&T/H:LFeinberg 714 SA-18
AFR/DP:DWilson 3918 NS	S&T/POP:AAarnes 806 SA-18
GC/AFR:MWard 6889 NS	AFR/TR/:WTrayfors 2497 NS
AFR/TR/PRO:JWood 4533 NS	

3173K

Medex Proposal History

The unsolicited proposal entitled, " Operations level Management: A Project to Strengthen and Sustain Health Programs in Africa", was submitted to A.I.D. (AFR/TR) on June 20, 1986. On January 13, 1987 a technical review was conducted by AFR/TR. The review panel concluded that the proposal had several technical deficiencies but that it was basically technically sound. The panel also indicated that the proposal was "too ambitious in terms of scope, timetable, and cost". In addition the panel recommended that the Medex Group be advised that the proposal should be greatly reduced in scope , i.e. focus on only 1-3 countries, redesigned to be tailored to specific country situations, linked to major A.I.D. child survival efforts and limited to no more than a total LOP of \$5 million for 5 years.

The Medex Group was notified verbally by AFR/TR of the results of the technical review and revised their proposal accordingly. The revised proposal was submitted to AFR/TR on April 6, 1987. The revised proposal is the subject of the forthcoming Issues Meeting. The original proposal is available from AFR/PD if needed to facilitate the review of the revised document.

DRAFT

SUMMARY:

An African Bureau in-house Technical Review of the Medex unsolicited proposal was held on January 13, 1987. Represented were:

AFR/TR/PRO	Jerry Wood
AFR/TR	William Trayfors
GC/AFR	Bunyon Bryant
AFR/PD	Howard Helman
AFR/PD	Charles Shorter

AFR/TR/HPN Staff (Drs. Sheppard and van der Vlugt, Wendy Roseberry, and Jack Thomas) also reviewed the proposal but did not attend the meeting. To the extent possible, their views are included in this summary.

It was felt that the basic approach to management improvement outlined in the MEDEX proposal was interesting and sound, having been proven effective in Asia and North Africa (most notably, Thailand and Morocco). However, there was no evidence that the approach had yet proven to be successful in subSaharan Africa.

Most important it was universally agreed that the proposal was

2

far too ambitious in terms of scope, timetable and cost. Members of the technical review panel were unanimous in the opinion that this project should be:

- cut way back in scope to focus on one to three countries at most
- redesigned to be tailor fit to individual country situations.
- linked to major USAID child-survival efforts in a country or countries of significant size and importance.
- limited to approximately \$5 million LOP over a 5-year period, in line with expected funding availabilities and priorities.

There were a number of technical deficiencies noted by the panel; the more serious of these are listed below.

The technical review panel recommends that the Medex Group be advised of these findings by the Africa Bureau, and requested to reformulate and resubmit a proposal for possible funding later in this fiscal year. End Summary.

Technical Appraisal

Country Selection

The panel was of the opinion that the basic approach, as typified in the six-step process outlined on pp 1b ff, seems sound. Although there is no evidence of its successful application in Africa to date, the panel members agree it would be an interesting experiment. Further, it was agreed that such effort would be most meaningful in the context of a major bilateral effort in child-survival, with the Medex approach built onto or into the overall program strategy in a major country. Countries suggested as possible sites (each requiring further exploration with the Missions, host governments, and AID/W) include: Cameroon, Zaire, Tanzania, Uganda, Niger, and Mozambique. The selection of these six countries involves certain inconsistencies (in USAID program support levels, security situation, etc.), but is believed at first blush to be illustrative of the situations in which the application of the MEDEX approach could be an interesting experiment.

Timetable

It was agreed that the timetable outlined for project implementation was much too ambitious. Aside from the

"expansion of the approach throughout Africa in a 2-year period"--which the panel dismissed out of hand as a pipedream--it was felt that the 10 months programmed before project startup at the field level was too short to allow for adequate in-depth analysis of each country situation, and to plan for operational-level activities. This may be particularly important if the project is to be attempted in a large country such as one of those mentioned above.

Teaching Methods

While there was good general support for some of the methods suggested in the proposal, panel members had difficulty with the "distance-learning" concept since it was apparently intended as a primary base for replication, rather than a supplement to other methods.

Further, it was felt that the idea of transferring materials from one country to another in Africa was unworkable; teaching materials, in the main, would need to be highly country-specific.

Microcomputers

The use of microcomputers at the peripheral level for "distance learning" and for client record, diagnosis, etc.) was unanimously thought to be unworkable, even by one panel member who is a well-known "micro freak" and a strong proponent of the use of micros in development. The reference in the proposal to the spread of the transistor radio to the village level as a predictor of microcomputer acceptance at that level is an insult to the reader's intelligence.

Policy Impact and Environment

Several panel members felt that the proposal did not deal effectively with the real-life context in which African health institutions function, overestimating considerably the possible impact of the Medex approach on the larger health system. The Medex approach posits that everything is improvable; panel members felt that some problems may be intractable in the African context. The proposal seems to treat "policy conditioning" as something which is done once and sticks, rather than an iterative process which takes account of the instability of policymaking and policymakers.

Evaluation

There appears to be no evaluation plan build into the Medex

approach which would measure progress overtime and serve as a means of judging project-success or failure. This needs to be ~~some~~ incorporated in any future proposal.

Cost

The panel recommends that not more than \$1 million per year be considered for this activity, given its as yet unproven nature and the intense competition for resources among existing bilateral projects.

Mechanism for Funding

The Bureau needs to consider carefully the pros and cons of a regional vs. a bilateral approach to managing a project such as this one. The issues here include: (1) capacity to manage another regional project within AFR/TR; (2) need to link activity closely with bilateral efforts; and (3) long-term cost implications. These should be the subject of a separate meeting at the DAA or AA level.

AFR/TR:WTrayfors:GB:1/13/87

#27590

The MEDEX Group
John A. Burns School of Medicine
University of Hawaii
1833 Kalakaua Avenue, Suite 700
Honolulu, HI 96815-1561
USA

Telex: WUI 634144
Cable: MEDEX (Hawaii)

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT:
A PROJECT TO STRENGTHEN AND SUSTAIN HEALTH PROGRAMS IN AFRICA

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT:
A PROJECT TO STRENGTHEN AND SUSTAIN HEALTH PROGRAMS IN AFRICA

A Proposal Submitted to:
Agency for International Development

By:
The University of Hawaii at Manoa

Moheb A. Ghali
Director
Office of Research Administration
University of Hawaii

Terence A. Rogers, Ph.D., Dean
John A. Burns School of Medicine
University of Hawaii
The MEDEX Group
1833 Kalakaua Avenue, Suite 700
Honolulu, Hawaii 96815-1561 U.S.A.
Telephone (808) 948-8643

April 6, 1987 Revision

TABLE OF CONTENTS

	<u>Page</u>
PREFACE TO APRIL 6, 1987 REVISION	1
SUMMARY	2
INTRODUCTION	9
A. TECHNICAL PROPOSAL	
1. The MEDEX Group's Approach to Management Development	14
2. Discussion of Project Goal and Outputs in Phase I	16
Critical Incident Technology	36
Distance Learning Technology	38
Case Study Technology	41
Resource Allocation Technology	43
Microcomputer Technology	45
3. Discussion of Project Goals and Outputs in Phase I	52
4. Discussion of Project Goals and Outputs in Phase II	*
B. IMPLEMENTATION PLAN	
1. Phase I: Project Years 1-4	54
2. Phase II	*
C. THE MEDEX GROUP'S EXPERIENCE, QUALIFICATIONS AND OVERALL CAPABILITY	
1. Primary Health Care Technology Development by The MEDEX Group	*
2. Long-Term Primary Health Care Project Experience	*
3. Backstopping Capabilities and Institutional Support	*
4. Ability to Recruit Technical Assistance Personnel	*
5. Summary of The MEDEX Group's Overall Capability	*
D. BUDGET PROPOSAL	
1. Budget Summary	60
2. Budget for Phase I	61
3. Budget Narrative	66
*APPENDIX A: Technical Description of the Resource Allocation Technology: Community Investment Indicators for Development	
*APPENDIX B: Distance Learning Technology: Sample Scrambled Book	
*APPENDIX C: The MEDEX Group Brochure and MEDEX Course Announcements	
*APPENDIX D: Communications with WHO, Brazzaville	

*See original proposal submitted June 13, 1986

PREFACE

APRIL 6, 1987 REVISION

This document revises the project design, implementation plan and budget of the June 13, 1986 proposal "Operations-Level Management Development: A Project to Strengthen and Sustain Health Programs in Africa" submitted to the Agency for International Development by The MEDEX Group of the University of Hawaii at Manoa.

The original proposal for a seven year effort (three phases) with an initial implementation plan of five years (Phase I, II) at an estimated cost of \$10.8 million. Following technical reviews, the Bureau for Africa of the Agency for International Development instructed The MEDEX Group to redesign the project to cover an initial implementation period of four years at a cost of approximately \$6.0 million. The MEDEX Group has complied with these instructions and herewith submits the revised project design, implementation schedules and budget.

The project is redesigned into two phases. Phase I of the revised project design incorporates Phases I and II of the original proposal and is presented in detail herein.

This document does not repeat all the narrative project description, background data and appendices contained in the June 13, 1986 original proposal. Therefore, it should be read in conjunction with the original June 13, 1986 document.

The MEDEX Group

SUMMARY

April 6, 1987 Revision

This is a project to strengthen operations-level management of Primary Health Care (PHC) programs in Africa.* The proposed management technology will be developed and applied in five (5) African countries. The budget for the initial four years of project activities in two countries is \$6.1 million.

The overall goal of the Operations-Level Management Development Project is to strengthen capabilities to implement and sustain health programs in Africa through improved management support for Child Survival and other PHC programs. Management support is particularly important at the operations level where essential preventive, promotive and curative services are delivered.

The MEDEX Group's twelve years of experience in primary health care, including field work in 16 developing countries in 1985-86, have led us to the conclusion that poor management is the single greatest obstacle to successfully implementing and sustaining PHC activities. Management problems are most serious in African countries where the extension of health services to the periphery frequently exposes chronic management weaknesses that threaten the long-term viability of these efforts. Therefore, this proposal addresses the key issue facing the Agency for International Development's (AID) health programs: how to sustain health development activities at the grassroots level in African countries.

In recent years international donors have put millions of dollars into Third World management frameworks that historically have not been able to support and sustain health development. This is a painful issue, yet it must be acknowledged, or we will make little progress in our current efforts to increase child survival and improve health. The AIDS (Acquired Immune Deficiency Syndrome) pandemic has further complicated the health situation in Africa. The AIDS pandemic lends urgency to this

*Excluding the Arab countries and the Republic of South Africa.

Operations-Level Management Development Proposal, which takes a fresh approach and concentrates on developing and strengthening management infrastructures at the critical grassroots or operations level. The MEDEX Group is convinced that unless we give urgent priority to operations-level management, we cannot realistically hope to sustain the ambitious Child Survival and other PHC programs now planned and being implemented in Africa. In addition, unless we give significant attention to management at this level, we will not be able to provide the health education and other preventive services needed to contain the AIDS pandemic threatening to sweep the continent.

The revised Operations-Level Management Development Project is divided into two phases:

Phase I (Project Years 1-4): Institutionalize a comprehensive Operations-Level Management Technology within Ministries of Health in two African countries; conceptualize, design, and field test operational-level management technologies resulting in reproducible prototype manuals, modules, workbooks and other management materials,

Phase II: Use the Operations-Level Management Technology to support health programs in three additional African countries; publish a comprehensive, adaptable, prototype Operations-Level Management Technology for Africa, and transfer it throughout Africa; and assist African countries in the adaptation and use of this prototype Management Technology.

The goals and outputs of each phase are shown in Diagram A at the end of this summary section.

The Operations-Level Management Development proposal is a direct outgrowth of The MEDEX Group's decade-long effort to improve the delivery of basic health services in the developing world. During this period, we learned from experience the necessity of a management infrastructure to support the mid-level and community-level health workers being trained in our overseas projects. We now propose to build on our experience by developing a comprehensive Operations-Level Management Technology to support PHC activities in Africa. In order to achieve the greatest possible use of this comprehensive technology, we will publish prototype methods and materials in 20 adaptable volumes during Phase II of the project.

The project proposes to use the six-step Operations-Level Management Development process shown in Diagram B at the end of this summary section. Operations-Level Management Development is a systems approach to management in the Third World. While the individual steps of the process are not new, Operations-Level Management Development is unique in that it combines all the essential components of successful management development into a comprehensive, systematic approach to strengthening management at the operations level. Each of the six steps in the Operations-Level Management Development process is briefly described below.

STEP 1. Establish a receptive framework for Operations-Level Management Development: Through meetings and workshops, policymakers learn the potential benefits of Operations-Level Management Development, as well as the likely adjustments in health system policies and procedures that the program will require at the operations level.

STEP 2. Assess operations-level management needs: Management specialists who understand the national health plan -- particularly PHC program objectives -- conduct an assessment to answer the questions: "What management support and capabilities do operations-level personnel require to achieve Child Survival and other PHC program objectives in their districts or service areas?"

STEP 3. Analyze and redesign operations-level organizational structure and management systems: This step results in the formation of a group of officials from various levels of the health system to develop and implement Action Plans for strengthening operations-level management systems that support PHC activities.

STEP 4. Develop and carry out management training for all operations-level personnel: As a result of this step, operations-level personnel receive skill-oriented, competency-based training that directly supports the implementation of the Action Plans in Step 3.

STEP 5. Introduce and maintain the new operations-level management systems and practices: This step is the centerpiece of Operations-Level Management Development. Its major results are (a) a rational resource allocation, (b) a simple information system that maximizes the flow of information among operations-level personnel, (c) a formal, operations-level system for decision-making and problem-solving, (d) a monitoring system to detect and correct deviations from the Action Plans, and (e) a supervisory system capable of supporting the new operations-level management systems and practices.

STEP 6. Evaluate results and impact of the Operations-Level Management Development project: At six-month intervals, an operations-level evaluation system will assess (a) the effectiveness and long-term viability of the new operations-level management systems and practices, (b) the effectiveness of the operations-level management training that the project provides, and (c) the project's effectiveness in meeting the management needs determined in Step 2.

As part of Operations-Level Management Development, the project proposes to develop five specialized management technologies. These technologies are targeted at key "leverage points" in the overall development process.

These leverage points are indicated on Diagram B at the end of this summary section. The specialized management technologies are:

1. Critical Incident Technology: A technique for analyzing work-related events to determine operations-level management needs. This technology will provide a rapid and accurate management needs assessment tool for countries that use it.
2. Distance Learning Technology: The use of self-instructional "scrambled books" to provide training for isolated operations-level health personnel who are scattered over large geographical areas.
3. Case Study Technology: The methodology and tools to prepare and use written cases based on trainees' actual experiences. Cases are designed to challenge old assumptions and encourages fresh solutions to operations-level management problems.
4. Resource Allocation Technology: A reliable and adaptable set of community investment indicators to help operations-level managers direct scarce health resources to communities which are able to use them most effectively.
5. Microcomputer Technology: The introduction of rugged microcomputers with appropriate software at the operations level for use in in-service training, and in the management of a simple operations-level health information system.

The MEDEX Group will operate this project through USAID Missions in Africa and the ministries of health of the selected countries. The World Health Organization in Brazzaville, and the Eastern and Southern African Management Institute in Arusha are committed to pursuing this project with The MEDEX Group and supporting project activities. The American Institutes for Research in the Behavioral Sciences (Washington, Cambridge, Palo Alto)

will collaborate with The MEDEX Group in the development of the Resource Allocation Technology. Four international development specialists (management, community development and public administration) from Stanford, Johns Hopkins and Harvard Universities will also join us in this effort.

We believe that our record of achievement in health projects in Africa and other parts of the world gives The MEDEX Group the organizational, technical, and cross-cultural capability to successfully implement this Operations-Level Management Development Project aimed at strengthening capabilities to implement and sustain PHC programs in Africa. We would welcome the opportunity to join with the Agency for International Development to improve the management support for health programs in Africa. We stand ready to provide the personnel and technical assistance to successfully implement this important project and meet the urgent need for improved health in Africa.

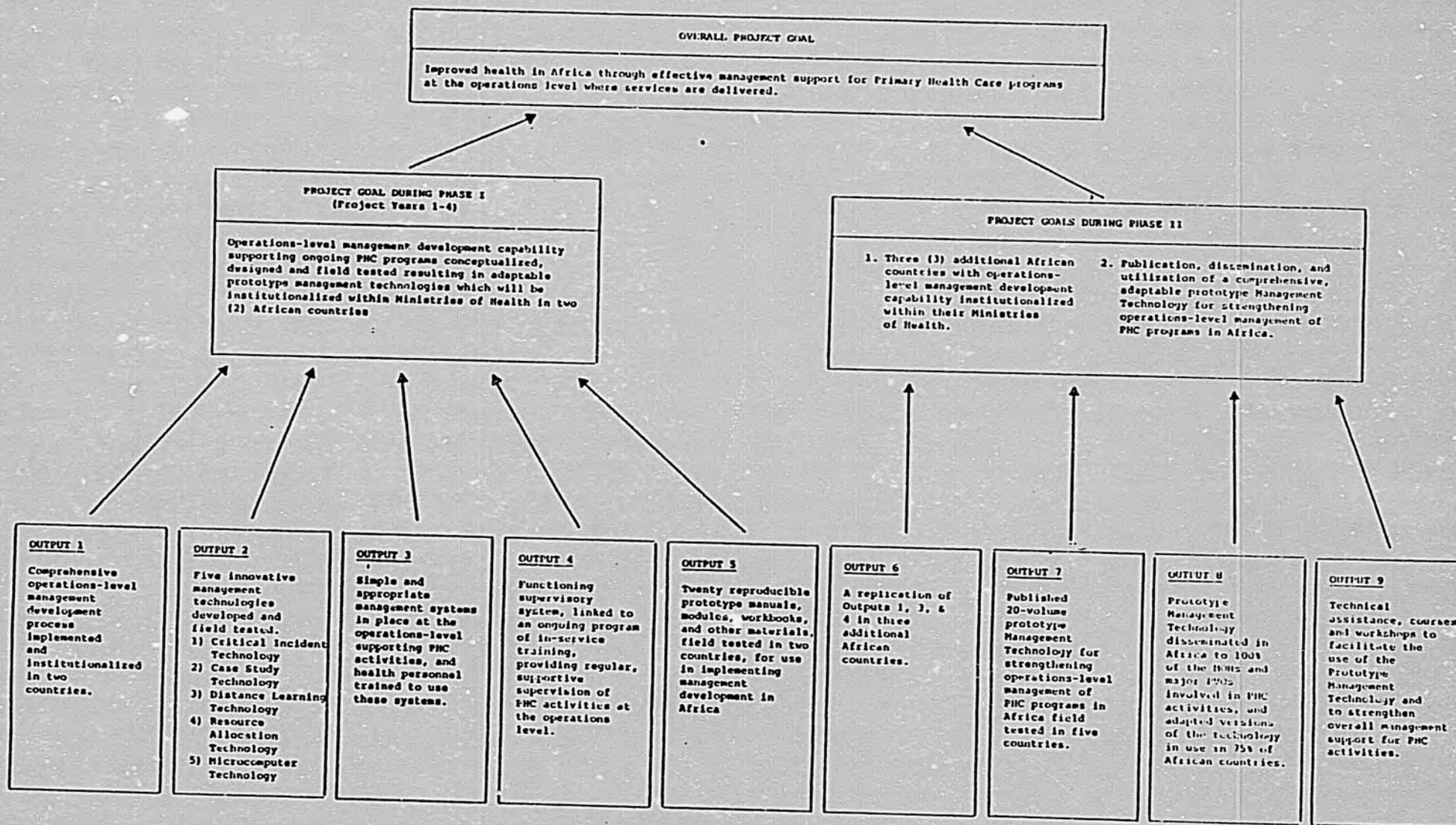
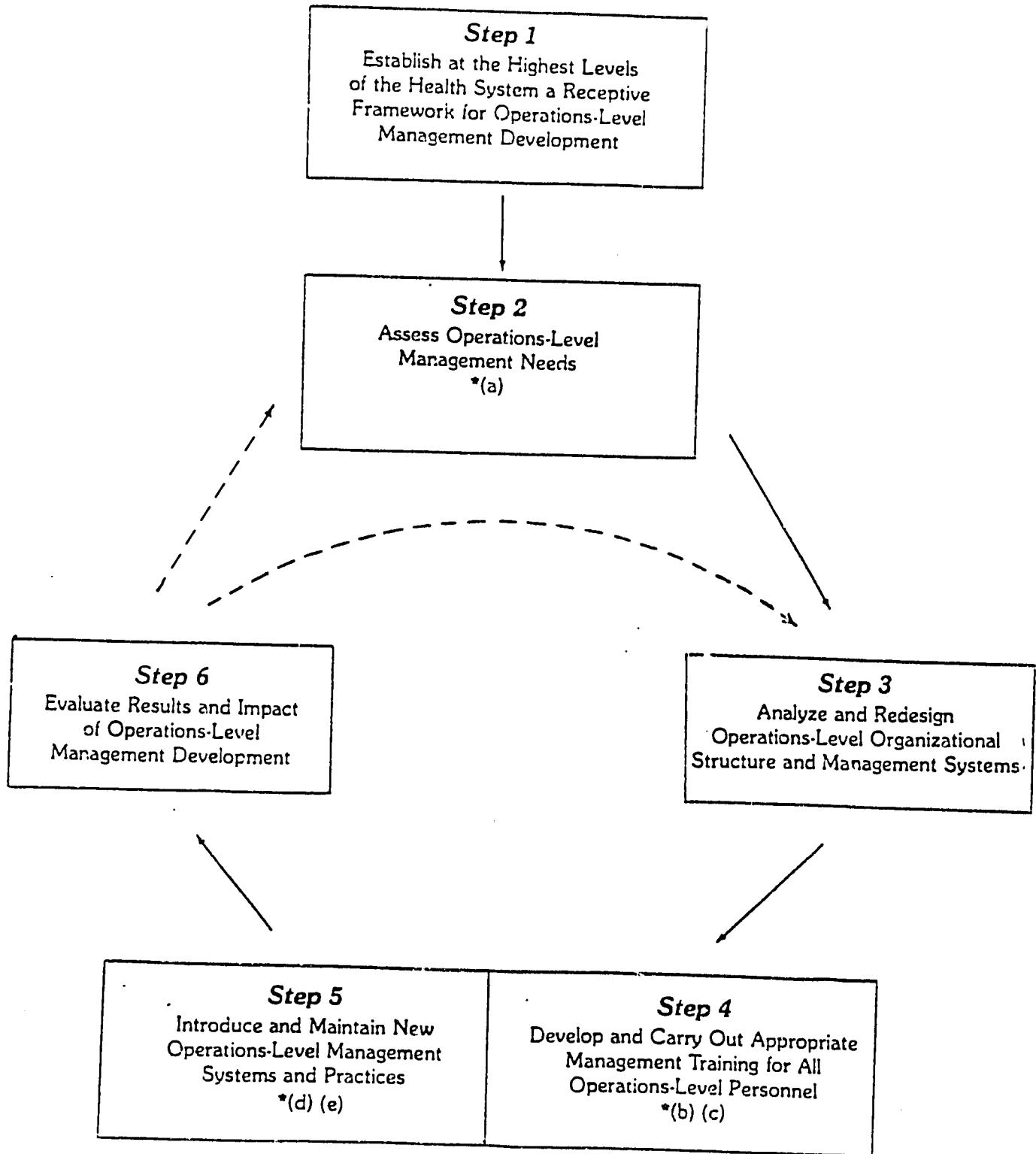


DIAGRAM A
SUMMARY OF PROJECT GOALS AND OUTPUTS

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT PROCESS



* Leverage Points for New Technology Input

- (a) Critical Incident Technology
- (b) Distance Learning Technology
- (c) Case Study Technology
- (d) Resource Allocation Technology
- (e) Microcomputer Technology

INTRODUCTION

The people of Africa suffer the poorest health in the Third World. Today, African nations are struggling with limited resources to improve the delivery of life-saving health services. Ministries of health throughout the continent have adopted the Alma Ata Declaration, and primary health care programs now exist in all African countries. The purpose of this project is to develop the management underpinnings to support and sustain intensified Primary Health Care activities as part of these ongoing programs in Africa.

The Agency for International Development recently launched an ambitious Child Survival Action Program (CSAP) aimed at reducing illness and death among children in developing countries. In Africa, the success of Primary Health Care (including CSAP) is jeopardized by a lack of day-to-day management at the operations level where essential health services are actually delivered. The MEDEX Group proposes to join with the Agency for International Development to strengthen the overall Primary Health Care effort by improving management support for these important programs, and also support for special programs now being developed to combat the AIDS pandemic in Africa.

Health services in the majority of African countries are dominated by a culture of administration, rather than a culture of management. This culture is characterized by a belief that whatever senior officials or ministries want to happen, will happen, if a sufficiently clear plan is drawn up and communicated to the appropriate officers. The result is that problems in the management and delivery of PHC services are attributed to poor planning, rather than to insufficiently trained or experienced managers at the operations level. This project aims to create a "culture of management" in five African countries. This "culture of management" will be characterized by skilled managers at the operations level who are able to use resources efficiently to achieve PHC program objectives.

In recent years millions of dollars have been spent by Governments and international donors to improve the delivery of health services in Africa.

The MEDEX Group

A variety of reasons have been offered to explain the delays and setbacks suffered in this effort -- lack of government commitment, insufficient resources, and failure of overall socioeconomic development upon which health depends. To this list must be added another important reason -- inadequate management support to sustain health programs. In other words, the success of health programs has been limited by an overemphasis on the technical side without a balance of development on the management side. This project is based on the premise that effective management in the health sector, especially at the operations level where services are actually delivered, will strengthen PHC programs and have a substantial impact on improving the level of health in Africa.

Services cannot be used if they are not available, and for all practical purposes, health services have not been made available to the majority of Africa's population, except at great cost to the potential users. The "costs" may be financial, psychological, or social -- all of which represent real barriers to the potential user. Making PHC programs function so that services will be available at a cost acceptable to the user and provider is the primary concern of management. Previous experience, including field work in 14 developing countries in 1985, has led The MEDEX Group to the conclusion that the single greatest obstacle to the successful implementation of PHC activities in Africa is poor management. This problem is most serious in African countries, where the extension of PHC services to the periphery has exposed chronic management weaknesses that the health sector was previously able to ignore.

Since the early 1970s, management development has been one of several important parts of the work of The MEDEX Group. Now we want to narrow our focus to Operations-Level Management Development as described in this proposal, because we view good management as the key to providing and sustaining PHC programs for African populations. Operations-Level Management Development is a systems approach to Third World management. While the six steps of our proposed Management Development Process are not new, Operations-Level Management Development uniquely combines all the essential components of successful management development into a

comprehensive, systematic approach to strengthening management at the operations or grassroots level.

Because this project focuses on the operations level, we are not concerned directly with broad policy issues such as the overall organization of a country's health care system, how much of the national budget should be allocated to health, or what the country's health strategy should be. We assume that these decisions have already been made and that our task is to work within the basic policy framework to achieve more satisfactory results at the operations level where the policies are being implemented. It is at the operations level of government health systems that management is the weakest,* and for this reason, management development at this level has the greatest potential for increasing the impact of health programs in Africa.

Management at the operations level is the process of using resources efficiently to achieve objectives. A manager is a person who assumes responsibility for this process -- a person who makes things happen. The term "manager" is not a title or even a specific position. An effective health organization will have many persons at all levels performing management functions. These persons may be physicians, nurses, administrators, field workers, or whatever. Their professional background is unimportant. What characterizes them as managers is the way they approach their jobs. They ask such questions as:

"What are we really trying to accomplish?"

"How can we improve the way we work?"

"How can we stretch our resources?"

"How can we make our services more effective?"

Managers ask these and similar questions and then commit themselves to acting on the answers. What distinguishes a manager is this commitment to action. A manager is committed to making the health organization function more effectively.

*Human Resource Development for PHC, Evaluation Study No. 9, United Nations Development Program, New York, 1983.

Unfortunately, both managerial perspective and management skills are often lacking in health organizations in Africa. Long established service routines (usually curative oriented) are followed blindly even though they are costly, ineffective, and may even hinder the achievement of PHC program objectives. This project is concerned with changing this outdated approach to health care delivery by creating true managers at the operations level who are able to use resources efficiently to achieve PHC objectives.

This project's primary focus is the operations level close to where essential health services are actually delivered. In most African countries, "operations level" means districts* and health centers. Since the effectiveness of PHC programs ultimately rests on the health workers who are delivering the services, it is appropriate to look first at their management needs and the potential for management improvements at the level where they work. For this reason the project places special emphasis on management development at the operations level, i.e. at districts and health centers.

In our work in many developing countries, The MEDEX Group has found that operations-level personnel in the health sector commonly have attitudes that contrast sharply with what is considered a good managerial perspective. These operations-level personnel too often say: "What difference do we make; we cannot change the way things are done. The Ministry will not listen to us." This viewpoint reflects the traditionally passive role of operations-level health personnel in African countries. They wait for senior officials to make decisions and supply resources. They then wait for people in the community to seek them out rather than actively promoting their services. Management training provided as part of this project aims to help these operations-level personnel to redefine their roles in more active terms: to accept responsibility, to take initiative, to be creative. We have found that much can be achieved by

*The term "district" refers to a defined geographical area with one main hospital and numerous outlying health centers serving a total population of between 100,000 and 500,000.

operations-level personnel even when they receive only minimal support and encouragement from higher levels. This project prepares the "higher levels" to better support the operations level, but the emphasis is on equipping operations-level personnel to act positively and creatively to solve problems and achieve results even if resources are meager and higher levels are only minimally supportive. This "management perspective" is the key to successful PHC programs in Africa.

The Agency for International Development has recently adopted a Child Survival strategy aimed at reducing illness and death among children in developing countries. An ambitious development effort such as this, like other PHC programs, must concern itself with sustainability. In a recent publication the Agency addressed this important issue:

"Child Survival activities, by their very nature, must be ongoing. There are always new cases of diarrhea to be treated, new groups of mothers to be trained, new candidates for vaccination. Without continuing support...Child Survival activities may lose their effectiveness. With long-term commitment, they're likely to pay off."*

The purpose of this project is to ensure that child survival and other PHC activities "pay off" in the long-term by developing and applying the management technology needed to support Child Survival programs in Africa.

This project is complex, because management development is complex. However, by structuring activities according to a comprehensive six-step Operations-Level Management Development Process (see Diagram B on page 8), we approach the task systematically and with confidence that significant results will be achieved. The hallmark of this project will be a concern with results, and a focus on the actions required at the operations level to achieve results in PHC programs.

*Child Survival: A Report to Congress on the AID Program, AID Publication, December 1985, p. 43.

A. TECHNICAL PROPOSAL

1. The MEDEX Group's Approach to Management Development

Since the Alma Ata Declaration in 1978, health care worldwide has been growing and changing at a staggering rate, and policymakers are increasingly looking to the management sciences for help in coping with these enormous changes. This Operations-Level Management Development Project represents part of The MEDEX Group's continuing effort to meet the changing management needs of health care programs in the developing world.

The MEDEX Group has evolved an approach to management development based on improving management systems and management practices, and then applying these improvements to achieve substantial, cost-effective results by individuals, teams, and entire health organizations. It is a practical, results-oriented approach that emphasizes the strengthening of management at the operations level of the health system. The roots of this approach go back to the 1970's and it has been field tested and strengthened through long-term AID health projects in four countries.* The process of learning from experience and helping others to learn from their experience is a distinguishing feature of The MEDEX Group's approach to management development.

Successful management development is a process in which the concerned individuals and organizations have control over the direction of the development. This project will not result in The MEDEX Group making decisions on how things should be managed, or The MEDEX Group telling people how to do their jobs. What The MEDEX Group will do is use its expertise to structure a process that will encourage individuals and teams to extract from their experiences how best to manage their resources. This approach is highly skill oriented, with an emphasis on individuals and teams learning from experience and applying this learning in the workplace.

*Pakistan, Guyana, Lesotho, and Liberia.

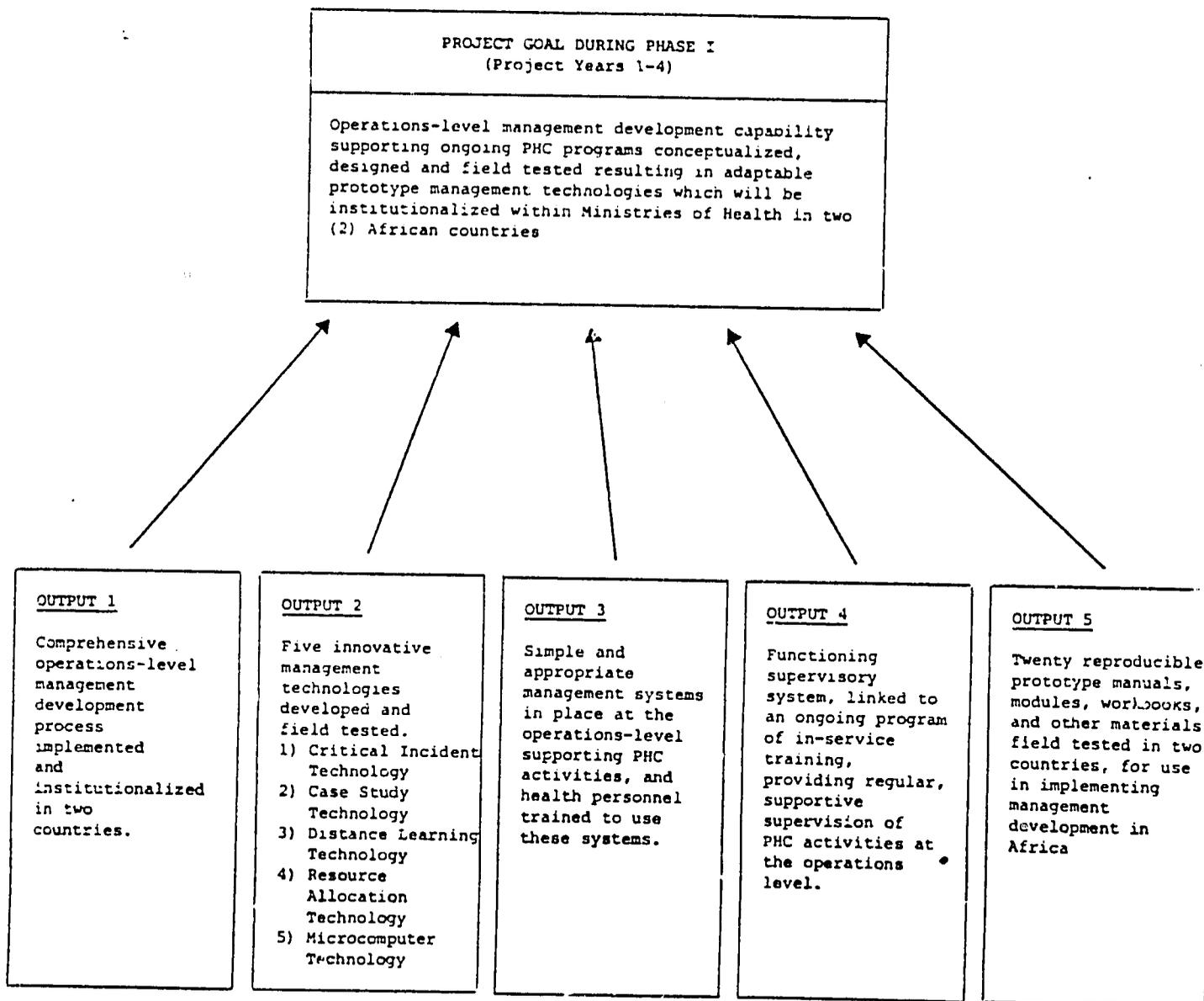
An important part of management development is to establish a common management language and a common approach to management throughout a health system. The MEDEX Group will help five African countries to develop a common management language and approach that will bring central, district, health center, and community levels together in a way that diversity becomes a strength rather than a weakness.

There is a need in every health organization to avoid "perpetual tampering," yet always a need for fresh ideas and improvements. The MEDEX Group's approach to management development strikes a balance between these two extremes by allowing people working within the organization to set the pace of development. In this way, we ensure that management development does not become change imposed from outside, but rather change initiated and controlled from within the health organization.

Successful management development is a combination of many factors. However, we have found that in any development process, success leads to more success, because it creates feelings of confidence and satisfaction among health personnel. Conversely, failure leads to failure because it creates feelings of anxiety, frustration, and inferiority. The MEDEX Group's approach to management development is to start out with small success at the operations level which build feelings of confidence that eventually infiltrate the entire health system. The secret is to start small; achieve modest successes, and slowly build momentum that enables individuals and work teams to tackle larger and larger management problems.

2. Discussion of Project Goal and Outputs in Phase I

The Operations-Level Management Development Project is divided into two phases. The goal and five outputs for Phase 1 (Project Years 1-4) are shown in the diagram.



We believe the project must produce these five (5) major outputs in order to reach the Phase I goal. Each of these outputs is discussed on the following pages.

OUTPUT 1: Comprehensive operations-level management development process implemented and institutionalized in two countries.

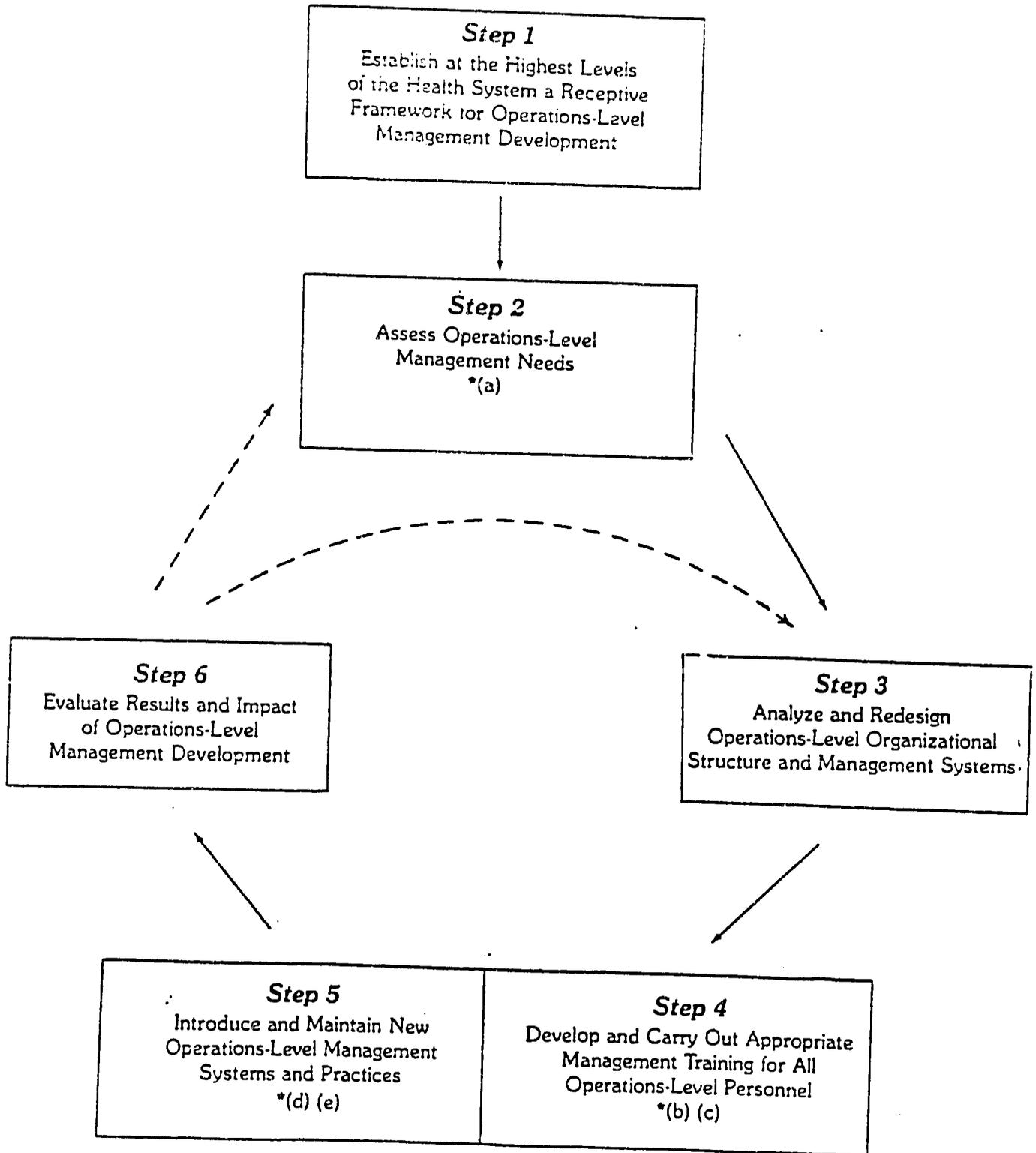
Discussion of Output 1: The MEDEX Group's Operations-Level Management Development process contains six steps (see Diagram B on the following page). While the various steps tend to overlap, particularly steps 4 and 5, we will discuss each step separately and in its proper sequence. Unfortunately, this makes the process seem rigid, but in practice it is flexible and has been used successfully on a small scale for management development in four long-term PHC projects implemented by The MEDEX Group.

STEP 1: Establish at the Highest Levels of the Health System a Receptive Framework for Operations-Level Management Development

Operations-Level Management Development begins at the highest levels of the health system, usually with senior policymakers at central headquarters. The objective of this initial step is to make these officials and the policies and procedures they have established -- the framework of the health system -- receptive to Operations-Level Management Development. Receptive frameworks are equally important at other levels of the health system, and they tend to develop as a natural result of proper structuring of Step 2 and Step 3.

Senior officials must be receptive to Operations-Level Management Development at the outset, because they control the resources necessary for beginning such a program. Later, these same officials must be receptive to changes in existing policies and procedures, because Operations-Level Management Development invariably leads to a need for adjustment at other levels of the health system.

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT PROCESS



* Leverage Points for New Technology Input

- (a) Critical Incident Technology
- (b) Distance Learning Technology
- (c) Case Study Technology
- (d) Resource Allocation Technology
- (e) Microcomputer Technology

In our work with many health systems, we have found that it is important to accomplish four major objectives during Step 1:

1. To achieve policymakers' understanding and appreciation of the potential advantages of Operations-Level Management Development, which include more efficient use of resources, more effective health services, and ultimately improved levels of health in the country.
2. To achieve policymakers' understanding and acceptance of the six steps of Operations-Level Management Development and the activities necessary during each step.
3. To achieve policymakers' understanding and acceptance of the estimated resources and time necessary to complete the first cycle of the Operations-Level Management Development process. We have found that policymakers frequently underestimate the resources and time required.
4. To achieve policymakers' awareness and acceptance of the likely side-effects of Operations-Level Management Development, which include pressure for decentralization, increased demand for resources for the operations level, the need to adjust existing policies and procedures, and the "ripple effect" that a change at the operations level can have on other levels in the health system.

We have found that meetings culminating in a one-day workshop for policymakers to be an effective means of achieving these objectives. During the workshop, we use practical exercises to demonstrate, rather than just explain, the principles of management development. Policymakers generally regard this workshop as good management training for themselves. Even though we conduct this workshop at the central level, we consider it an essential first step in Operations-Level Management Development.

STEP 2: Assess Operations-Level Management Needs

The purpose of the management needs assessment is to answer this question:

"What type of management system is needed to enable operations-level personnel to achieve PHC objectives in their district or service area?"

To answer this question, the person(s) doing the assessment must understand the national health plan, and particularly the country's PHC objectives. Furthermore, they must be familiar with conditions at the operations level, including the social, economic, and political context within which health personnel are working. A common mistake during the Management Assessment Phase is to focus too narrowly on immediate management problems and overlook the broader picture and its implications for management.

We have found that a management specialist from outside the health system is best suited for conducting the Management Needs Assessment. Such a specialist generally lacks the vested interests that sometimes interfere with objectivity; furthermore, this assessment is the starting point for Operations-Level Management Development, and to ensure getting off to a good start, it ought to be done by someone with a background in management theory and practice. The length of time required to complete a Management Needs Assessment depends on the assessment methods used and the complexity of the health system. However, in our experience, six to eight weeks is usually sufficient time to conduct a thorough assessment in most countries.

Although focused on the operations level, the Management Needs Assessment includes all levels of the health system. We recommend that the assessment begin at the level of district operations. If we start lower in the system -- for example, at the health center level -- there is a risk of losing sight of the overall management framework of the health system. Perhaps an even greater danger lies in starting above the district level, where the concerns of senior administrators and policymakers are likely to guide the assessment into areas that may or may not be related to improving management at the operations level. By beginning the assessment at the district level, we ensure that subsequent management development efforts are focused on the crucial operations level.

To assess operations-level management needs, we recommend the following techniques:

1. Critical Incident Analysis -- a simple and straightforward analysis of decisive, work-related events as a precise tool for focusing management development efforts on operations-level management needs;
2. Job Analysis -- includes diary entries to document management needs of key personnel;
3. Interviews and Small Workshops;
4. Participatory Observation -- to verify data from critical incident analysis, job analysis, diary entries, and interviews and workshops.

Before ending this discussion of Management Needs Assessment, we want to emphasize that the purpose of such an assessment is to determine management requirements, especially those at the operations level. A distinction is made between management "requirements" and management "problems." During a Management Needs Assessment, many management problems are documented, but the focus is not on problems but on management needs. (The focus on management problems occurs during the Management Analysis Phase described in Step 3.)

STEP 3: Analyze and Redesign Operations-Level Organizational Structure and Management Systems

Once Step 2 has identified management needs, a detailed analysis of the operations-level organizational structure and management systems is necessary. Organizational structure can mean many things: the way the organization assigns duties and responsibilities; the way it structures tasks and activities; or the way it groups people into work teams. Operations-level organizational structure determines whether health personnel develop a sense of teamwork and a commitment to achieving objectives, or place themselves in narrow jobs and develop a commitment only to meeting minimal standards of performance. Knowing how to structure an organization to achieve objectives is an important tool for operations-level managers.

Traditionally, high-level policymakers have determined the organizational structure of health systems. But in recent years, the decentralization of health systems has created more flexibility in operations-level organizational structure. One of the objectives of this project is to help operations-level personnel restructure their organizations so that they become better able to support teamwork, commitment to high standards of performance, and problem-solving procedures. With improved organizational structures, operations-level personnel are able to organize their programs for achieving health objectives, such as increasing immunization coverage and other activities to reach PHC goals.

The management analyst who spearheads activities during Step 3 must be a person with in-depth understanding of conditions at the operations level, preferably based on first-hand work experience at that level. We have found that with proper training and guidance, mid-level technicians and administrators make excellent management analysts. They are able to collect data, identify management problems, and write simple reports explaining the causes of the problems and offer possible solutions.

A carefully selected group of health personnel representing the different levels of the health system uses the local management analysts' written reports as a starting point for discussion. The written reports serve primarily to stimulate group discussion and action. Based on the cumulative experience of its members, and whether agreeing or disagreeing with the reports' presentations of problems and solutions, the group moves toward identifying real problems and feasible solutions. We have found that the reports of local management analysts recruited from the mid-level of the health system serve as better catalysts for group action than do the technical -- perhaps more professional -- reports of short-term foreign consultants.

The task of the group that studies these reports is to reach a consensus on the priority management problems at the operations level,

and then redesign the organizational structure and management systems in order to eliminate or at least minimize the problems. The MEDEX Group provides technical advice during this period, but the group of host country health personnel makes the decisions. Proper structuring of the group's work results in detailed Action Plans for Operations-Level Management Development. Peer pressure helps motivate group members to implement these Action Plans. We have found that this approach works particularly well at the operations level, where the number of key personnel is fewer, and accountability and commitment to the Action Plans are correspondingly greater.

The simplest Action Plan should specify what the required actions are, who should perform them, and when. More complex Action Plans are sometimes necessary, especially if they extend over more than a year. Action Plans are discussed further in Step 5. The group that makes the Action Plans must format the plans to fit their management development objectives. A simple method for planning and monitoring actions is one of the operations-level manager's most essential tools.

One of the objectives of this project is to teach operations-level managers simple techniques for planning and monitoring actions. Designing Action Plans is not difficult; in our experience, operations-level personnel have learned the technique in one-day workshops.

Unfortunately, good Action Plans do not ensure good management. Operations-level personnel must be committed to carrying out the plans. Monitoring and feedback are the keys to successful implementation of Action Plans. Consequently, another objective of this project is to institutionalize a simple action planning and monitoring process at the operations level that will enable managers not only to measure progress but also to motivate personnel to achieve objectives.

A basic management problem at the operations level is to keep health personnel oriented toward PHC objectives. Since the Alma Ata

Declaration in 1978, policymakers in developing countries have completely reoriented their health systems to primary health care, but old habits and routines change slowly at the operations level. Traditionally, health personnel have had a tendency to give priority to curative services that contribute little to achieving PHC objectives. Operations-level management must continually focus services on the achievement of PHC objectives.

Our experience has taught us several important lessons about Step 3, the Analysis and Redesign Phase of Operations-Level Management Development. First, information is the glue that holds any health system together; yet information systems in the health sector are invariably very weak. Therefore, we will give early attention to a thorough analysis and strengthening of the information system. During this project, we propose to introduce microcomputers at the operations level in order to modernize information systems and provide managers with the data they need. Operations-level microcomputers will complement computer technology already found at central planning levels in many African countries.

Second, improving and strengthening existing management systems is almost always more effective than trying to introduce completely new and different systems. Operations-level management systems are only parts of an overall health system that frequently rejects the introduction of something completely new and unfamiliar.

Third, reorganizing and redesigning operations-level management systems almost always means simplifying the existing systems. For example, district health departments are usually small-scale replicas of the ministry of health, i.e., organized according to a hierarchy, and having many organizational levels. Yet an organizational structure that works well at the central level, where the chief concern is policymaking and planning, frequently is not appropriate for the district level, where the chief concern is implementation. Therefore, Step 3 of Operations-Level Management Development usually results in simplification of the organizational structure to one with

less hierarchy and fewer levels. Such an organizational structure encourages teamwork, the key to effective implementation.

Furthermore, we have found that extensive recordkeeping and reporting is required of already overburdened operations-level personnel, who frequently respond by ignoring paperwork, which is one reason for the generally poor management of supplies and logistics systems at the periphery of most health systems. By streamlining regulations and reducing paperwork, Operations-Level Management Development unburdens operations-level personnel and allows them to focus on essential management activities.

STEP 4: Develop and Carry Out Appropriate Management Training for All Operations-Level Personnel

Health professionals often enter the health service with general medical backgrounds, but rarely have they been trained in management. This immediately creates a frustrating, uncomfortable situation for these professionals. The clinical tasks demanded of them tend to be routine and repetitive, so they soon become bored. Their motivation and enthusiasm declines. However, if they are trained to view their job from a management perspective, i.e., a creative effort to use resources efficiently to achieve objectives, then their approach is different and more productive. Yet clinical personnel are rarely trained to approach their jobs from a management perspective. In fact, they are frequently unaware of any aspects of their jobs other than the clinical routines, and therefore may appear to have little initiative simply because they have no concept of what else they might be doing. And if they do have a broader concept of their jobs, they may feel unqualified to take effective action, because their professional training emphasized medical, not management, subjects. One of the goals of this project is to develop appropriate management training for all categories of operations-level personnel, including clinicians who find themselves with important management responsibilities.

This project is based on the premise that people like to use, and will use, skills in which they feel competent. We have found that when operations-level personnel, including clinicians, are given management skill training, then the opportunity for them to use these skills is likely to be highly motivating. This project treats training as an important management tool, and therefore, operations-level personnel not only receive management training but also are taught how to provide such training for their subordinates.

The Action Plans developed in Step 3 will require a number of changes in the operations-level organizational structure and management systems. Each change will be accompanied by training for the personnel working in the system(s) being changed, as well as for health personnel affected by the change. Such training may range from an informal explanation of the new system to formal workshops and courses. A distinguishing feature of this project is that all management training is related to and directly supports the implementation of the Action Plans.

Based on our experience, we recommend and use competency-based, results-oriented management training for operations-level personnel. Competency-based training focuses on the development of essential job-related knowledge and skills. Consequently, only knowledge and skills directly related to job performance will be included in the management training developed and carried out as part of this project.

In developing management training for operations-level personnel, the project will follow this procedure:

1. Determine the precise management knowledge and skills required at the operations level for successful implementation of the Action Plans.
2. Determine the categories of operations-level personnel and their present workloads and management responsibilities.
3. Distribute management responsibilities among the different categories of personnel in such a way that they are able to implement the Action Plans efficiently.

4. Determine the present management knowledge and skills of operations-level personnel and compare these with the knowledge and skills they need to carry out the Action Plans.
5. Develop competency-based management training for those categories of health personnel who lack the required knowledge and skills; develop orientation to the new procedures for those personnel who possess the required knowledge and skills.
6. Carry out the required management training, including orientations; all training is sequenced to support the implementation of the Action Plans.
7. Evaluate the management skills of graduates at regular intervals after they have completed their training to ensure that they are carrying out their management responsibilities effectively; provide refresher or supplementary management training as necessary.

We have found that successful use of this training procedure requires both the services of a full-time training specialist and the support of an in-country training institution. We believe that management institutes in Africa can provide such support, and that they are uniquely qualified to become focal points for management development in the health sector. Therefore, where appropriate this project will work with management institutes as well as other training organizations associated with ministries of health.

In developing and carrying out management training for operations-level health personnel over the past ten years, we have learned several important lessons. First, management training should focus on developing practical skills. While health personnel enjoy learning management theory -- perhaps because their own professional training included so much theory -- most management theory has limited applicability at the operations level in developing countries. On the other hand, practical management techniques and skills have great applicability, and therefore must be the focal point of management training.

Second, management training must be integrated with the supervisory and continuing education systems in order to ensure its long-term effectiveness. Supervisors are in the best position to evaluate the results of management training. If they themselves receive proper training, supervisors can provide remedial management training as part of ongoing, in-service training programs; thus a country can avoid the common mistake of treating management as separate from other technical and professional training. Careful integration is the key to institutionalizing management training within a health system.

Third, operations-level personnel must be involved in the development of the management training program. Their experiences provide the best content for many training sessions. We have found a surprisingly high level of practical management ability -- usually learned through painful trial and error -- among operations-level personnel. By involving these people in the development of the management training program, we ensure that the training does not repeat what they and their colleagues already know, but rather provides new and necessary management knowledge and skills. We have also found that operations-level personnel make excellent teachers for management training sessions.

Fourth, management training must rely heavily on practical exercises and field work, or "learning by doing." Lectures should never exceed an hour (preferably $\frac{1}{2}$ hour) without a break for some practical exercise or demonstration. Furthermore, we have found that trainees readily accept and enjoy non-formal training methods that rely on small-group work. Case studies are particularly effective, and one of the objectives of this project is to institutionalize the ability to develop and use culture-specific case studies as part of Operations-Level Management Development. The participatory approach to problem-solving that case studies encourage is precisely the process we want to encourage among operations-level managers. We propose to develop technology for the local preparation and use of written and videotaped case studies. We will base these case studies on the trainees' actual experiences in order to challenge their old

assumptions and encourage fresh approaches and new solutions to operations-level management problems.

A fifth important lesson we have learned is that distance learning is a particularly effective way to provide ongoing management training at the operations level, where personnel are frequently posted at facilities scattered over a large geographical area. With a reliable postal service (or a suitable substitute), a management training institute can provide management training by using self-instruction materials and maintaining regular correspondence with operations-level personnel. One of the objectives of this project is to establish successful distance learning programs in five African countries. The MEDEX Group has developed and field-tested sample distance-learning materials called "scrambled books," based on The MEDEX Primary Health Care Series. (See sample scrambled book in Appendix B.) We will develop scrambled books for a variety of PHC activities, because distance learning materials provide a useful management tool for supervision of operations-level personnel.

STEP 5: Introduce and Maintain New Operations-Level Management Systems and Practices

The project concentrates its resources on Step 5. The overall goal of Operations-Level Management Development is to introduce and maintain new and improved operations-level management systems and practices. Step 5 brings Action Plans and trained personnel together to begin accomplishing this goal.

We have found the introduction of new operations-level management practices to be surprisingly easy. New procedures and the accompanying management training generate interest and enthusiasm among operations level personnel; also, the introduction of new management systems frequently results in the availability of additional resources. The interest, enthusiasm, and additional resources invariably produce short-term, and sometimes dramatic, management improvements. However, the test of new management

practices is how well the operations-level personnel maintain them after the initial enthusiasm wanes and the additional resources diminish or disappear. This project pays particular attention to maintenance and long-term effectiveness. In our experiences, we have learned that long-term effectiveness depends on (1) rational resource allocation, (2) timely decision-making and problem-solving, (3) continual monitoring, and most importantly (4) adequate supervision.

Rational Resource Allocation. The MEDEX Group believes that the trend in developing countries toward decentralization will continue, requiring more and more operations-level decisions about resource allocation. We must begin now to develop simple resource allocation methods to give operations-level managers the tools they need to get maximum results from scarce health resources. We propose to develop for adaptation a set of reliable indicators to identify the communities with the greatest willingness and ability to use their resources to support PHC activities. The objectives of categorizing communities in this way are (1) to maximize the impact of scarce health resources and (2) eventually to bring all communities to a level of willingness and ability sufficient to support PHC activities. (See Appendix A for a detailed discussion of the Resource Allocation Technology to be developed during this project.)

A rational approach to resource allocation is one of the primary concerns of operations-level management. One of the reasons for this concern is that management itself is a consumer of resources, especially of staff time. Consequently, wasting or haphazardly allocating resources not only adversely affects the quality of health care but also starves the management systems of resources, leaving them seriously -- if not terminally -- weakened. Categorizing communities according to their willingness and ability to use their resources to support health activities is one way of helping to ensure the appropriate allocation of health sector resources. This approach has the added benefit of encouraging community involvement in the management of health services, and such support represents additional

resources for operations-level managers. Previous experience also tells us that success with development in one community often serves as an encouragement and model for nearby communities to pursue similar development activities.

Timely Decision-Making and Problem-Solving. To foster timely decision-making and problem-solving, the project proposes to introduce a simple operations-level information system which includes microcomputer technology appropriate for PHC programs in Africa. This system will minimize paperwork but encourage a continual flow of essential information among operations-level facilities and personnel. The Microcomputer Technology is discussed in more detail under Output 2.

Key operations-level personnel will receive training in decision-making and problem-solving skills, with emphasis on encouraging individuals to make decisions that fall within their authority and to take the initiative in solving problems. The objective of this training is to create a group of effective decision-makers and problem-solvers who, acting both collectively and individually, will significantly improve operations-level management. The project will establish a formal system for decision-making and problem-solving, including regularly scheduled meetings and workshops. The project will emphasize decision-making and problem-solving as important management functions that all operations-level personnel must perform regularly.

Continual Monitoring. In Operations-Level Management Development, monitoring means following the progress in implementation of Action Plans and making corrections and adjustments when necessary. Operations-level monitoring is necessary to maintain the new management systems and to keep Operations-Level Management Development on track. We recommend that monitoring be built into the Action Plan, and that the Action Plan format include space for writing monitoring results.

Adequate Supervision. Monitoring and supervision are closely related, because supervisors do much of the monitoring. Introducing improved management systems and practices at the operational level is a complex undertaking that involves many people. The improved management systems, no matter how streamlined and functional, will need minor adjustments from time to time; operations personnel, no matter how thoroughly trained, will need management advice and support. Supervisors are able to make the minor adjustments and provide the needed advice essential to the long-term maintenance of the new management systems. This project will give particular attention to making the existing supervisory system sufficiently strong to support Operations-Level Management Development.

STEP 6: Evaluate Results and Impact of Operations-Level Management Development

Operations-Level Management Development makes a clear distinction between periodic evaluation (Step 6) and continual monitoring (Step 5). Monitoring is collecting and analyzing information about day-to-day operations so that deviations from the Action Plans are detected and corrected. Evaluation is also concerned with collecting and analyzing information, but the aim of evaluation is to assess final outcomes and the impact of operations-level management improvements on the overall delivery of health services. Ultimately, evaluation is concerned with the impact of management improvements on PHC. Evaluation is broader in scope, more technically complex, and more time-consuming than monitoring. Few operations-level personnel have either the time or the technical expertise to carry out full-scale evaluations.

During Step 1 of Operations-Level Management Development, senior policymakers determine the type of evaluation they expect during Step 6. Policymakers normally want to know what activities operations-level personnel have carried out and how these activities have improved operations-level management systems and practices. In addition, they may want to know the impact of Operations-Level

Management Development on the overall health system as well as on PHC. Evaluation can be as simple or as complex as policymakers wish to make it. The minimum evaluation system used during this project will evaluate the project outputs at six-month intervals. In addition, we will develop a system of indicators and data-analysis procedures to provide whatever type of evaluation senior policymakers decide upon in Step 1.

Operations-level personnel will be primarily responsible for evaluation, but they will receive technical assistance from the central level. Data for the evaluation will come largely from the on-going monitoring at the operations level; therefore, the evaluation will impose little additional reporting or recordkeeping on operations-level personnel.

In summary, The MEDEX Group proposes to use a six-step Operations-Level Management Development Process in this project. Summarized below are the major objectives for each of the six steps.

STEP 1: ESTABLISH AT THE HIGHEST LEVELS OF THE HEALTH SYSTEM A RECEPTIVE FRAMEWORK FOR OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT

1. Meetings culminating in a workshop for the senior policymakers of the health organization.
2. Policymakers who understand the six steps of Operations-Level Management Development, its potential benefits, and the adjustments it is likely to require in health system policies and procedures.
3. Commitment from policymakers to undertake and to allocate time and resources for Operations-Level Management Development.

STEP 2: ASSESS OPERATIONS-LEVEL MANAGEMENT NEEDS

1. Critical-incident analysis to highlight strengths and weaknesses of operations-level management.
2. Daily diaries of key operations-level personnel that document management activities and management needs.

3. Interviews and small workshops that focus on management responsibilities and management needs of operations-level personnel.
4. Management Needs Assessment based on data verified by participatory observation at all levels of the health system.

STEP 3: ANALYZE AND REDESIGN OPERATIONS-LEVEL ORGANIZATIONAL STRUCTURE AND MANAGEMENT SYSTEMS

1. Systematic analysis of operations-level organizational structure and management systems.
2. Formation of group committed to developing and implementing Action Plans for strengthening operations-level management.
3. Development and implementation of Action Plans.

STEP 4: DEVELOP AND CARRY OUT APPROPRIATE MANAGEMENT TRAINING FOR ALL OPERATIONS-LEVEL PERSONNEL

1. Competency-based management training for all operations-level personnel to directly support implementation of Action Plans.
2. Distribution of management responsibilities among various categories of operations-level personnel to ensure efficient implementation of Action Plans.
3. Collaboration with an in-country management institute in Operations-Level Management Development.
4. Institutionalization of management training by integrating it into existing pre-service and in-service training programs.
5. Involvement of operations-level personnel in Operations-Level Management Development and in facilitating management training sessions.
6. Institutionalization of management training and use of case studies for Operations-Level Management Development.
7. Development of a distance learning program for providing management training for operations-level personnel involved in PHC activities.

STEP 5: INTRODUCE AND MAINTAIN NEW OPERATIONS-LEVEL MANAGEMENT SYSTEMS AND PRACTICES

1. Rational allocation of operations-level resources.

2. A simple information system, including microcomputers, that minimizes paperwork and maximizes the flow of information among operations-level personnel.
3. A group of effective decision-makers and problem-solvers prepared to act both individually and collectively to improve operations-level management.
4. A formal operations-level system for decision-making and problem-solving.
5. A monitoring system that includes a standardized monitoring tool and operations-level personnel capable of gathering and analyzing information to detect and correct deviations from Action Plans.
6. A supervisory system capable of supporting the new operations-level management systems and practices.

STEP 6: EVALUATE RESULTS AND IMPACT OF OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT

1. An assessment of the short-term and long-term effectiveness of the improved operations-level management systems and practices.
2. An assessment of the effectiveness of the operations-level management training.
3. An assessment of the effectiveness of Operations-Level Management Development in meeting the needs identified in Step 2.
4. An operations-level evaluation system that carries out formal evaluations at six-month intervals.

OUTPUT 2: Five innovative management technologies developed and field tested.

Discussion of Output 2: The MEDEX Group proposes to develop or adapt five special management technologies for use at key leverage points in the Operations-Level Management Development process.

1. Critical Incident Technology

The Critical Incident Technique analyzes decisive, work-related events as a precise tool for focusing management development efforts on operations-level management needs. It is used during Step 2 of Operations-Level Management Development.

The Critical Incident Technique involves eliciting and analyzing work-related events (or incidents) as a precise tool for assessing management needs. The technique is simple, straightforward and has great potential for focusing management development efforts on the actual operations-level management problems commonly found in Africa. By developing an adaptable Critical Incident Technology specifically designed for the health sector, we will be providing the developing world with a powerful, yet sensitive, management tool that has been used effectively in the industrialized world for over 40 years.

The Critical Incident Technique was invented during the closing years of World War II when a group of psychologists led by John C. Flanagan* developed and used it to analyze training conditions that would improve the performance of combat pilots. Subsequently, the Critical Incident Technique has had hundreds of applications in both the public and private sectors. One of the early applications of this technique in the United States was by the National Board of Medical Examiners who used it to describe

*Flanagan, John C., The Critical Incident Technique, Psychological Bulletin, Vol. 51, No. 4, July 1954.

the competence expected of a physician at the conclusion of an internship.

The Critical Incident Technique has not been widely used in developing countries. One of the few documented uses was in a 1984 study conducted in nine African countries to assess management competency at various levels in the public and private sectors. Using interviews, a questionnaire, and diaries kept by managers at various levels, management events (critical incidents) were collected, classified and coded. When the sample number reached 2,000, all relevant experience had been captured, in the sense that no new major categories of "management events" emerged. Frequency analysis of the data, including simple correlations and counting, was then used to quantify the management events. In this African study the emphasis was on events that reflected the application of management skills or knowledge.

The combination of interview, questionnaire, and diary entries will form the first part of our Critical Incident Technology, which will be adapted to form an important part of the Management Needs Assessment in Step 2 of Operations-Level Management Development. The remainder of this technology will describe procedures for the collection and analysis of data and ways to arrive at conclusions. The purpose of developing this technology is to provide operations-level managers with a simple tool for identifying bottlenecks and problems in their management systems, so that they can take remedial action.

Dr. John D. Montgomery, former director of the John F. Kennedy School of Government and presently a member of the public administration faculty at Harvard, will provide substantial assistance to The MEDEX Group in developing the Critical Incident Technology.

2. Distance Learning Technology

The MEDEX Group has developed and field-tested sample distance-learning materials called "scrambled books," based on The MEDEX Primary Health Care Series. These materials are particularly effective for providing in-service management training to operations-level personnel who are posted at facilities scattered over a large geographical area. We will also develop scrambled books for additional PHC activities. Distance learning materials provide a useful management tool for supervision of health personnel and in-service management training. This technology is used during Step 4 of Operations-Level Management Development.

Distance learning is defined as a teaching method in which the trainees are at a distance from their trainers for all, or most all, of their course of study. Its effectiveness in situations where trainees are isolated from each other and from training facilities has been demonstrated.

The MEDEX Group has developed and field-tested sample distance-learning packages derived from The MEDEX Primary Health Care Series. Called "scrambled books", they use an algorithmic (logic-tree) approach to instruction, designed to stimulate maximum learning. Lay-out and content have been arranged so as to overcome the customary boredom experienced by trainees while studying the usual correspondence course texts, or while working through other types of programmed materials. These instructional booklets have proved effective for training in management competencies. The MEDEX Group envisages the use of such instructional materials both for the training of managers at the operations level and as a tool for supportive supervision. One of the prime functions of field supervisors is the provision of in-service PHC training to health workers. Scrambled books are regarded as being very useful and cost-effective in such efforts.

There are several important advantages to using this innovative approach to management and health training in Africa. First, individuals are able to study by themselves, at their own pace.

During training in groups, slower learners are often discouraged and impede the progress of faster learners, who, in turn become frustrated. Scrambled books allow the learner to set his or her own pace and work in private. Privacy is important to many trainees who find unacceptable, in front of their peers, the step-by-step evaluation and feedback necessary for successful learning. Using scrambled books, slow learners will not feel rushed, discouraged or embarrassed, while fast learners will not become frustrated because they are being held back by others. Self-pacing and private learning solve one of the problems that has always beset instruction: allowing for individual differences.

Another very important advantage in using scrambled books is that they will ensure uniformity of instruction, both in terms of quality and content. Many variables affect learning outcomes in more traditional training, not the least of these variables being the instructors and participants themselves. No two instructors teach the same way, nor with the same results, even when objectives are identical. No two participants learn in precisely the same way or to the same extent. No single instructor presents the same content in precisely the same way on each occasion. The scrambled books, however, will present the same content in the same manner and will demand the same level of accomplishment by all trainees. This will have the effect of turning out graduates which share the same concepts and terminology.

Results obtained by using Distance Learning Technology will be more uniform than results which might have resulted from a series of workshops devoted to the same content. The effectiveness of the scrambled books will have been determined prior to their distribution and use. In the course of their development, they will have been subjected to empirical tests on sample groups of

trainees. Subsequently, they will be modified or revised as often as necessary to ensure that they are effective instructional packages.

The development of scrambled books is based on a meticulously detailed analysis of what the trainee is to learn. The writing of such instructional materials is time-consuming and requires special talents, knowledge, and skills. Some of the competencies required are as follows:

- *Knowledge and experience in instructional development technology
- *Knowledge of the subject-matter and work experience in developing countries
- *Technical writing skills
- *Cross-cultural sensitivity and appreciation of language comprehension levels
- *Graphics capabilities, layout and design
- *Technical editing skills

Even though development of scrambled books will require a large initial effort, this technology will prove economical in the long run, especially as economies of scale will begin to operate as ever larger numbers of trainees are enrolled. Since the individual trainee can work through the books at his or her workplace, travel, per diem and other workshop costs will be greatly decreased.

The MEDEX Group has always insisted that training be competency-based. The objective of training is improved job-performance rather than academic excellence. The appropriateness of competency-based training has been demonstrated by MEDEX training programs in the United States and

overseas. We are certain that management practices at the operations level can be improved significantly using competency-based methods allied to an effective Distance Learning Technology.

3. Case Study Technology

The case method encourages the type of participatory management needed at the operations level of almost every health system. We propose to develop technology for the preparation and use of written cases appropriate for Third World conditions. We will base these cases on the trainees' actual experiences in order to challenge their old assumptions and encourage fresh approaches and new solutions to operations-level management problems. The Case Study Technology is used during Step 4 of Operations-Level Management Development.

The case method is used extensively for high-level professional training in the health and management fields in the industrialized world; however, it is rarely used in the Third World for operations-level management training. Yet the case method has the advantage of engaging trainees in a participative process of management problem solving.

We propose to develop simple, adaptable training materials using the case method. The Case Study Technology will have four basic components: prototype management cases, a methodology for adapting the prototypes to local situations, methodology and tools to develop written cases locally, and a guide for trainers who plan to use the cases in management training. The cases will be based on the trainees' actual work experiences, will challenge their old assumptions and encourage fresh approaches and new solutions to operations-level management problems. Case studies will be used in combination with other training methods to bolster the management skills of operations-level managers.

The case method is based on the concept of metaphors and simulation. Each case is a description of a real management situation and serves as a metaphor for a particular group of problems. The actual situations which operations-level managers face may differ from the situation described in a particular case, but taken together, cases provide a useful and relevant set of metaphors to improve problem definition and problem solving skills. The case method of management instruction recognizes that management is a skill rather than a collection of techniques or concepts. The best way to learn this skill is to practice in a simulation-type exercise such as analyzing a real case.

Students learning by the case method first read and analyze cases that describe an actual management situation. Guided by the instructor, they then discuss the problem, propose and defend their own plan of action, and react to the solutions proposed by their classmates. The case method provides trainees with exposure to a wide range of management issues in a great variety of settings, sharpens their skills in defining problems and developing solutions, and increases their confidence in their ability to make decisions.

In recent work in nine African countries,* a study team found that cases were not being used in management training institutions. Instead, instructors in Africa relied heavily on the lecture method. The few cases discovered by the team were not being used, either because the cases were irrelevant to the local management environment or the instructor was uncomfortable or unable to teach using this method. The Case Study Technology developed by this project will help to overcome these problems.

*Improving Management in Southern Africa, Report to SADCC by the National Association of Schools of Public Affairs and Administration, January 1985.

Effective management cases are based on actual and relevant situations and extensive research and work is required to develop them. We plan to visit both public and private health organizations in African countries, interview health managers at various levels, and review records, reports, and other documents to compile relevant materials for a series of prototype cases in the management of health services. The project will also train operations personnel to write cases based on their own experiences. The Critical Incident Technology discussed earlier will contribute material for the development of cases.

The Case Study Technology will be aimed at developing local capability in writing, editing, adapting and teaching cases. In combination with other training methods, the cases will provide practical training in basic management techniques that can be immediately applied at the operations level.

4. Resource Allocation Technology

The MEDEX Group believes that the trend toward decentralization will continue, requiring more and more operations-level decisions about resource allocation. We must begin now to develop simple resource allocation technology to give operations-level managers the tools they need to get maximum effectiveness from scarce health resources. We propose to develop for adaptation a set of reliable indicators to identify the communities with the greatest willingness and ability to successfully support PHC activities. This technology is used during Step 5 of Operations-Level Management Development.

A "Willing and Able" classification system used successfully in Thailand to target village development resources will be the starting point for developing a Resource Allocation Technology appropriate for the operations level in African countries. This technology will be based on a set of reliable indicators which rank communities' willingness and ability to successfully support PHC activities. It is a tool that will help operations-level managers increase the success rate of PHC programs by identifying

communities that have the most potential for success. Initial efforts can then be focused on these natural "starting points" for PHC programs. And once a project is successful in one community, neighboring communities are often eager to implement similar activities. This Resource Allocation Technology will help to target operations-level resources more effectively.

As decentralization of health services continues, more and more resource allocation decisions will be made at the operations level. The operations level does not presently have, and most likely never will have, the sophisticated planning and budgeting capacity of the central-level health bureaucracy. We must begin now to develop new and simple resource allocation methods that give operations-level managers the tools they need to target scarce health resources for maximum impact.

The Resource Allocation Technology to be developed during this project is an adaptation of successful operations research into village investment behavior. The original "black box" or set of indicators to help direct resource allocation was developed and used successfully in Thailand. The result of this project will be a similar "black box" with immediate applicability at the operations level in Africa. The health sector throughout the developing world is in critical need of technology to help target scarce resources into communities with the greatest potential to successfully support and sustain health activities.

The MEDEX Group believes that development of this Resource Allocation Technology will be a major step forward in helping to make PHC services, including Child Survival programs, accessible on a large-scale, and on a permanent basis, to rural and urban populations in African countries.

The MEDEX Group will collaborate with the American Institutes for Research in the Behavioral Sciences (AIR) in developing the Resource Allocation Technology described above. AIR developed

the original "black box" of indicators used in Thailand. Also consulting with us on this part of the project will be Dr. Eugene J. Webb, Associate Dean for Academic Affairs at the Stanford Graduate School of Business. (See Appendix A for a detailed description of the Resource Allocation Technology to be developed by this project.)

5. Microcomputer Technology

The MEDEX Group successfully introduced microcomputers into health projects in Lesotho and Liberia, and we believe that portable (lap model) computers have an important role to play in Operations-Level Management Development in Africa. Based on our experience, the use of this technology will require programmable memory of at least 356K, a reliable energy source such as solar charged batteries, maintenance services to prevent down-times in excess of four weeks, and rugged hardware which is resistant to dirt and moisture.

The operations-level management systems to be developed in five African countries will be designed for computerized operations. However, we intend to base this project on a traditional, manual information system. Nevertheless, we will introduce microcomputers at the operations level at selected sites in five African countries in order to field test and refine the technology. This project will not be able to introduce microcomputers throughout the five countries, because of the capital costs involved. However, once the technology is developed and successfully being used at the selected sites, we will assist countries to seek funds for expanding their use of microcomputers at the operations level.

This project will develop and use two computer programs at the operations level. Program #1 will replace pencil and paper scrambled books as the media used for distance learning aimed at operations-level supervisors. Program #2 will record outpatient

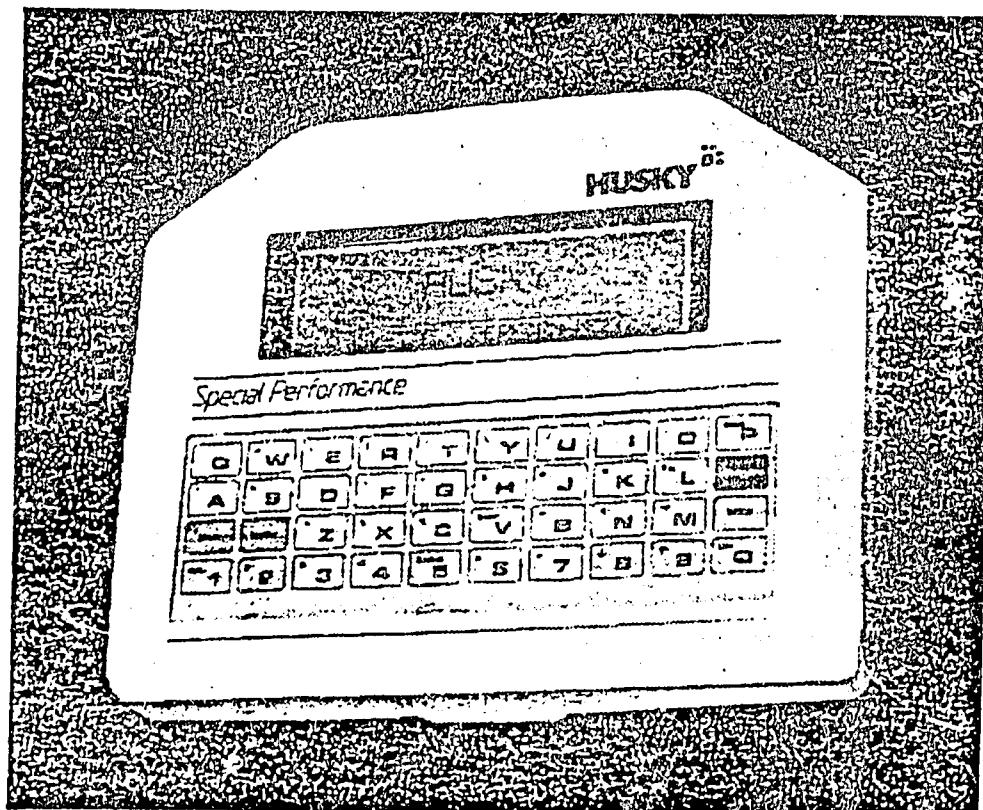
visits, diagnosis, and drugs prescribed, and use this information to re-order drugs and supplies, as well as to calculate drug costs per outpatient visit. This program will provide useful health statistics and epidemiological data, as well as enabling supervisors to monitor drug utilization. Important information can be downloaded by the supervisor's portable microcomputer in order to supply data to central statistics departments. Also, supervisors will check scrambled book test scores and provide immediate feedback and on-the-job training. The supervisor will then load new scrambled books into the microcomputer to provide additional distance learning programs.

After a long search, The MEDEX Group has identified the microcomputer hardware appropriate for this project. It is called the Husky Special Performance (see next page). This microcomputer is lightweight, rugged, resists dirt and moisture and is ideal for use in desert and jungle environments where conventional computers fail. The Husky which has a mean time between repairs of 10,000 hours, has great potential for many PHC and Child Survival programs especially those where AID is "making a special effort to collect reliable data."* The Husky also has great potential for revolutionizing the operations-level information systems in African countries. We often use the example of the transistor radio, which within one generation has found its way to the remotest African villages. We believe that new Microcomputer Technology is likely to achieve this degree of acceptance by the Year 2000, resulting in a quantum leap forward in operations-level management. Through this project, The MEDEX Group wants to collaborate with AID in this coming information revolution in Africa.

*Child Survival: A Report to Congress on the AID Program, AID Publication, December 1985, p. 43.

SARASOTA

HUSKY "SPECIAL PERFORMANCE"



- Up to 352K bytes of RAM memory
- Extended battery life
- Fast communication capabilities
- Full CP/M compatibility
- Extensive graphic commands

The "Special Performance" version of the HUSKY has a RAM capacity of up to 352K bytes of memory and provides extended battery life. HUSKY SP can be used for large, complex, high level language programs written and compiled on other computers for subsequent downloading, allowing a degree of artificial intelligence to be implemented in a portable system for the first time. It features full CP/M compatibility and extensive graphics in a rugged, waterproof case.

OUTPUT 3: Simple and appropriate management systems in place at the operations level and supporting PHC activities, and health personnel trained to use these systems.

Discussion of Output 3: Management at the operations level is an area of weakness in African health systems. However, as the focal point for the delivery of PHC services, the operations level must be well managed if this project is to succeed in achieving its overall goal. We believe the key to better operations-level management is (1) simple and appropriate management systems, and (2) health personnel competent to use these systems.

Based on our experience in many countries, including long-term experience in Lesotho and Liberia, we have identified ten (10) management support systems needed to sustain PHC activities at the operations level.

1. Drugs and Medical Supply System
2. General Supply System
3. Maintenance System
4. Transportation Systems
5. Communication Systems
6. Personnel System
7. Finance System
8. Information System
9. Referral System
10. Supervisory System

These systems are interrelated, and each system is important for supporting health activities. During the Operations-Level Management Development process discussed under Output 1, these ten systems are analyzed and strengthened. This process usually involves simplifying existing systems, for example by streamlining regulations and reducing paperwork. The objective is to design each system so that the focus is on supporting PHC activities. Our overall approach to strengthening management systems is discussed in more detail under Output 1.

Management systems are only as good as the people who manage them, and therefore this project will give special attention to management training for operations-level personnel. The MEDEX Group uses a competency-based, results-oriented training methodology which focuses on the development of essential job-related management skills. Our approach to training is also discussed in more detail under Output 1.

OUTPUT 4: Functioning supervisory system, linked to an ongoing program of in-service training, providing regular, supportive supervision of PHC activities at the operations level.

Discussion of Output 4: Planning and implementing PHC programs receives much attention from ministries of health and international donor organizations. But afterwards, the maintenance of these programs is left to supervisors who are frequently overworked, undertrained, and without access to resources. We have found that supervision is the "weak link" in health programs worldwide.

The first step in strengthening supervision is to acknowledge it as crucial to the success of the project. We often refer to supervision as the "glue" that holds a PHC program together, and therefore we have emphasized supervision by making it a separate output of this project.

The second step in strengthening supervision is to integrate supervision and in-service training into one overall support system for operations-level personnel. Supervisors are in the best position to determine the in-service training needs of health workers, and to provide on-the-spot training when and where it is most needed. Especially at the operations level, supervision and in-service training become two parts of one overall support system for grassroots health activities.

The third step in strengthening supervision is to use a systems approach. Supervision is a system requiring trained personnel, transport, supplies, communication, finances, etc. The supervisory system must be treated like any other system, i.e., it must be planned, organized, monitored, and

adjusted from time to time. Furthermore, the supervisory system must be designed to operate within the resources available at the operations level. For example, it is fine to say that supervisors should visit clinics once a week, but if vehicles are not available, then the supervisory system should not be organized around weekly visits to clinics. These kinds of problems will be avoided by treating supervision as an important system and giving it the attention that it deserves from the very beginning of the project.

Supervisors are the managers who set the tone and direction of the health organization. Depending upon the style and skill of the supervisors, their visits are viewed as welcome opportunities to receive practical assistance, or dreaded occasions of inspection and fault finding.

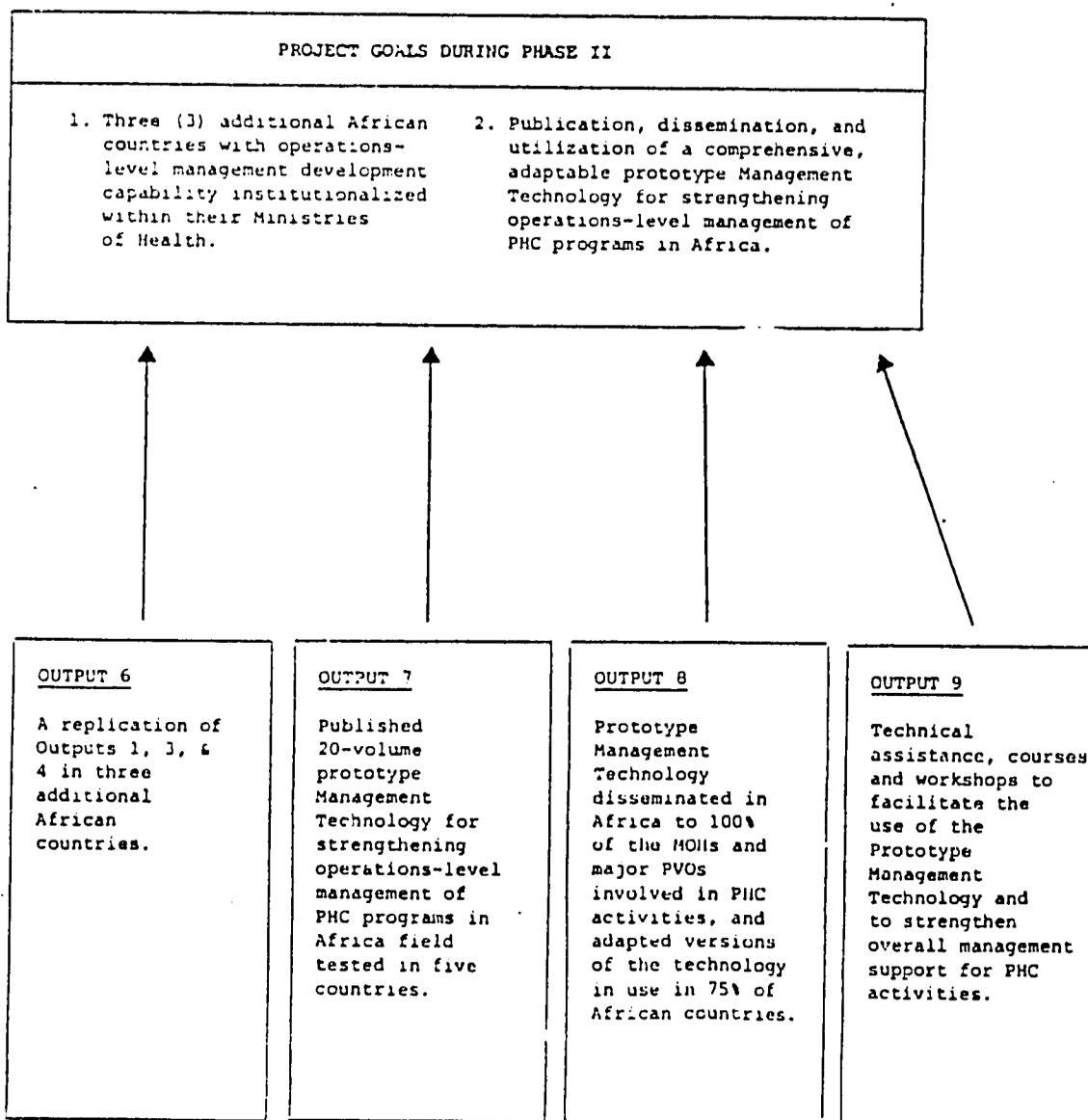
We have found that the roles and responsibilities of operations-level supervisors are often badly misunderstood. In some cases, the supervisor is looked upon as the person to solve all problems (over-expectation), while in other cases the supervisor is seen merely as an expert clinician (under-expectation). Ineffective autocratic styles of supervision, as well as ineffective laissez-faire styles, are the norm in too many health systems. These ineffective styles are defended on the grounds that they conform to cultural norms in developing countries. Yet in every culture, we have found those few managers who understand the supervisory role and how to develop the relationships with subordinates required to achieve program results. These managers are remarkably successful, and for them supervision is a powerful management tool. One of the objectives of this project is to determine the supervisory skills and approaches being used by effective local managers, and then to train large numbers of operations-level health personnel to use these same skills and approaches. In this way we will create a "critical mass" of effective supervisors at the operations level, who by interacting with each other and with senior officers at higher levels, will have a substantial impact on improving the management of PHC services. We have found that demand generated by competent supervisors at the operations level is the quickest and surest way to improve managerial practices throughout a health system.

CUTPUT 5: Twenty (20) reproducible prototype manuals, modules, workbooks, and other materials field tested in two countries, for use in implementing management development in Africa.

Discussion of Output 5: The MEDEX Group and its African colleagues will prepare drafts of all the materials used in operations management development efforts in the two countries. These materials will be compiled into twenty volumes of reproducible prototypes so that they will be readily available to others involved in management development in Africa. These materials will be based on actual field trials and experiences and will represent a valuable management resource.

3. Discussion of Project Goals and Outputs in Phase II

The Operations-Level Management Development Project is divided into two phases. The two goals and four outputs for Phase II are shown in the diagram. A budget and implementation schedule for Phase II will be worked out during the latter stages of Phase I, and are not included in this document.



This concludes the discussion of the technical approach we would use to achieve the five (5) major outputs during Phase I of this project. One of our first tasks upon being awarded this contract would be to develop quantitative indicators to measure progress toward these outputs. Before closing this section, we would like to emphasize that a complex project such as this will require a high level of cooperation among The MEDEX Group, African countries, USAID Missions, and AID/Washington. To achieve this needed cooperation, our project management approach will focus on maintaining open and effective communication among all parties. Our approach will also include full cooperation and collaboration with the World Health Organization, projects involved in Child Survival-related activities in Africa, FRITECH, REACH, Control of Communicable Childhood Diseases (CCCD) and other PHC projects.

B. IMPLEMENTATION PLAN

This section describes our proposed implementation strategy for Phase I of the Operations-Level Management Development Project. We discuss proposed project sites, project personnel and organizational structure, major project activities, and project implementation schedules.

1. Phase I Implementation Plan: Project Years 1-4

Project Sites for Phase I

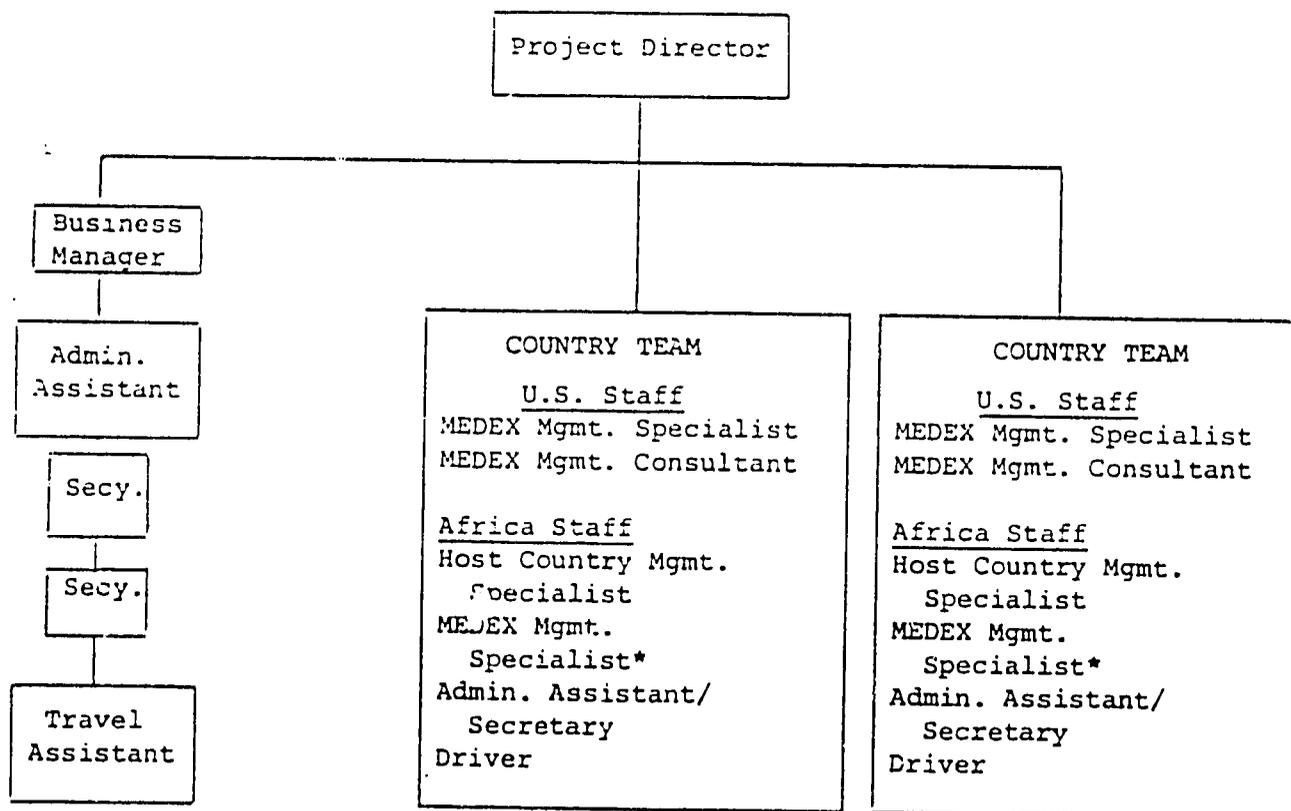
Two African countries will be selected as sites for implementing project activities during Phase I. The MEDEX Group, in collaboration with AID and the World Health Organization, will select the two project countries. The World Health Organization's regional office in Brazzaville is committed to collaboration with us in this project. Along with USAID Missions, WHO has relationships with African countries which will greatly assist in the selection of appropriate project sites.

The criteria for selection of countries will be the willingness and ability of a country to pursue Operations-Level Management Development. A "willing" country is one in which the government has expressed a commitment to address issues related to operations-level management on a national basis; an "able" country is one with the political stability and available human and material resources which point to a high potential for project success. The notion of a high potential for success is critical in this project. It has been our experience over the past fourteen years of health development in the Third World that acceptance of change comes slowly, especially when changes in administrative structures are involved. However, we have learned that success is infectious, and invariably aids in introducing further changes. It is for this reason that we have chosen the potential for success as a criterion for country selection.

Project Personnel for Phase I

Project personnel are grouped into two "country teams" (see project organization chart on next page). Each country team includes both U.S. and Africa-based personnel. The teams will be carefully organized so that the skills of team members complement each other.

PROJECT ORGANIZATIONAL STRUCTURE
 PHASE I
 (Project Years 1-4)



Specialist Consultants

- 1 Consultant for critical incident technology
- 2 Consultants for case study technology
- 1 Consultant for resource allocation technology
- 2 Consultants for microcomputer technology

*MEDEX Management Specialists will be based 24 months in Africa.

MEDEX Management Specialists (MxMS)

Four full time positions based at home office. However, two of these specialists will rotate to the field for two years, during which time they will become in-country LTAs. The MEDEX Management Specialists provide the technical support for project activities. They have responsibility for conceptualizing, developing and field testing the operations-level management technology.

MEDEX Management Consultants (MxMC)

Two part-time positions filled by consultants with extensive experience working with The MEDEX Group and with management development in the Third World. One MEDEX Management Consultant will be assigned to each country team, and provide technical support through consultations at regular intervals over the four years of the project.

Host Country Management Specialist (HCMS)

Two full time positions, one in each country. The HCMS will be an experienced manager or administrator within the Ministry of Health, and in the country an expert on existing management systems and practices. The HCMS will participate in the full range of project activities, supervise in-country project support staff, and ultimately have responsibility for carrying on management development activities once the project is completed.

Project Implementation Schedule for Phase I

On the following page is the implementation schedule for the project.

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT PROJECT

BUDGET SUMMARY

	<u>YEAR 01</u>	<u>YEAR 02</u>	<u>YEAR 03</u>	<u>YEAR 04</u>	<u>TOTAL</u>
I. Salaries	\$ 409,747	\$ 430,233	\$ 451,741	\$ 474,329	\$1,766,050
II. Fringe	72,469	76,093	79,897	83,892	312,351
III. Consultants	103,916	126,675	108,771	103,217	442,579
IV. Travel and Transportation	252,864	237,895	216,458	166,221	873,438
V. Allowances	153,490	192,125	123,524	87,150	556,289
VI. Other Direct Costs	162,759	172,760	179,339	185,703	700,561
VII. Equipment, Vehicles, Materials and Supplies	205,410	26,313	27,629	29,011	288,363
VIII. Participant Training	25,000	26,250	27,563	28,941	107,754
IX. Indirect Costs	262,472	279,740	263,402	250,787	1,056,401
TOTALS	\$1,648,127	\$1,568,084	\$1,478,324	\$1,409,251	\$6,103,786

OPERATIONS-LEVEL DEVELOPMENT MANAGEMENT PROJECT

I. SALARIES	YEAR 01		YEAR 02		YEAR 03		YEAR 04		TOTAL	
	PM	Salary								
<u>Home Office Staff</u>										
Director	12	\$ 74,895	12	\$ 78,639	12	\$ 82,571	12	\$ 86,699	48	\$ 322,804
Management Development Specialist	12	47,804	12	50,195	12	52,704	12	55,340	48	206,043
Management Development Specialist	12	44,352	12	46,570	12	48,898	12	51,343	48	191,163
Management Development Specialist	6	22,176	0		6	24,449	12	51,343	24	97,968
Management Development Specialist	6	20,526	0		6	22,629	12	47,521	24	90,676
Business Manager	6	14,560	6	15,288	6	16,052	6	16,855	24	62,755
Administrative Assistant	12	21,685	12	22,769	12	23,907	12	25,103	48	93,464
Travel Assistant	12	21,685	12	22,769	12	23,907	12	25,103	48	93,464
Secretary	12	18,081	12	18,985	12	19,934	12	20,931	48	77,931
Secretary	12	18,081	12	18,985	12	19,934	12	20,931	48	77,931
Total Home Office Staff	102	\$303,845	90	\$274,200	102	\$334,985	114	\$401,169	408	\$1,314,199
<u>In-Country Staff</u>										
Long-Term Advisor/Management Development Specialist	6	\$ 22,176	12	\$ 46,570	6	\$ 24,449			24	\$ 93,195
Long-Term Advisor/Management Development Specialist	6	20,526	12	43,103	6	22,629			24	86,258
Host Country Management Spec.	12	18,000	12	18,900	12	19,845	12	20,837	48	77,582
Host Country Management Spec.	12	18,000	12	18,900	12	19,845	12	20,837	48	77,582
Administrative Assistant/Secretary	12	10,000	12	10,500	12	11,025	12	11,576	48	43,101
Administrative Assistant/Secretary	12	10,000	12	10,500	12	11,025	12	11,576	48	43,101
Driver	12	3,600	12	3,780	12	3,969	12	4,167	48	15,516
Driver	12	3,600	12	3,780	12	3,969	12	4,167	48	15,516
Total In-Country Staff	84	\$105,902	96	\$156,033	84	\$116,756	72	\$ 73,160	336	\$ 451,851
TOTAL SALARIES	186	\$409,747	186	\$430,233	186	451,741	186	474,329	744	\$1,766,050

	<u>YEAR 01</u>	<u>YEAR 02</u>	<u>YEAR 03</u>	<u>YEAR 04</u>	<u>TOTAL</u>
II. FRINGE					
20% of U.S. Salaries	\$ 69,309	\$ 72,775	\$ 76,413	\$ 80,234	\$298,731
5% of Host Country Nationals	<u>3,160</u>	<u>3,318</u>	<u>3,484</u>	<u>3,658</u>	<u>13,620</u>
TOTAL FRINGE	\$ 72,469	\$ 76,093	\$ 79,897	\$ 83,892	\$312,351
III. CONSULTANTS					\$442,579
Year 01	\$103,916				
Year 02		\$126,675			
Year 03			\$108,771		
Year 04				\$103,217	
IV. TRAVEL AND TRANSPORTATION					
<u>Domestic Travel</u>					
Home Office Staff	\$ 6,936	\$ 3,640	\$ 3,820	\$ 6,015	\$ 20,411
Consultants	15,606	5,460	3,820	8,020	32,906
Others	<u>5,202</u>				<u>5,202</u>
Total Domestic Travel	\$ 27,744	\$ 9,100	\$ 7,640	\$ 14,035	\$ 58,519
<u>International Travel</u>					
Home Office Staff	\$ 62,400	\$ 47,775	\$ 60,519	\$ 63,531	\$234,225
Long-Term Advisors	18,420	39,480	22,074		79,974
Consultants	50,200	64,155	41,448	27,195	182,998
Host Country Nationals	9,400	9,870	1,764	1,851	22,885
Others	<u>23,500</u>	<u>35,595</u>	<u>15,543</u>	<u>27,195</u>	<u>101,833</u>
Total International Travel	\$163,920	\$196,875	\$141,348	\$119,772	\$621,915
<u>Transportation of Household Effects</u>					
<u>Baggage and Vehicles</u>					
Air and Surface Shipments	\$ 24,000		\$ 26,460		\$ 50,460
Vehicle Shipment	<u>8,000</u>		<u>8,820</u>		<u>16,820</u>
Total Transportation	\$ 32,000		\$ 35,280		\$ 67,280
<u>Storage of Household Effects</u>	\$ 1,200	\$ 2,520	\$ 1,320		\$ 5,040

	<u>YEAR 01</u>	<u>YEAR 02</u>	<u>YEAR 03</u>	<u>YEAR 04</u>	<u>TOTAL</u>
IV. TRAVEL AND TRANSPORTATION (continued)					
<u>In-Country Travel and Per Diem</u>	\$ 20,000	\$ 21,000	\$ 22,050	\$ 23,153	\$ 86,203
<u>In-Country Workshops</u>	\$ 8,000	\$ 8,400	\$ 8,820	\$ 9,261	\$ 34,481
TOTAL TRAVEL AND TRANSPORTATION	\$252,864	\$237,895	\$216,458	\$166,221	\$873,438
V. ALLOWANCES					
<u>Post Differential @ 20%</u>	\$ 8,540	\$ 17,935	\$ 9,416		\$ 35,891
<u>Housing Allowance</u>	\$ 14,400	\$ 30,240	\$ 15,876		\$ 60,516
<u>Furnishing Allowance</u>	\$ 20,000				\$ 20,000
<u>Education Allowance</u>	\$ 12,900	\$ 27,100	\$ 14,232		\$ 54,232
<u>Domestic Per Diem</u>					
Home Office Staff	\$ 2,700	\$ 1,425	\$ 1,500	\$ 2,100	\$ 7,725
Consultants	<u>13,500</u>	<u>5,700</u>	<u>3,000</u>	<u>18,900</u>	<u>41,100</u>
Total Domestic Per Diem	\$16,200	\$ 7,125	\$ 4,500	\$ 21,000	\$ 48,825
<u>International Per Diem</u>					
Home Office Staff	\$39,600	\$ 28,500	\$ 42,000	\$ 31,500	\$141,600
Long-Term Advisors		2,850	1,500		4,350
Consultants	27,000	45,600	30,000	25,200	127,800
Host Country Nationals	3,600	2,850	1,500	1,575	9,525
Others	<u>11,250</u>	<u>29,925</u>	<u>4,500</u>	<u>7,875</u>	<u>53,550</u>
Total International Per Diem	\$ 81,450	\$109,725	\$ 79,500	\$ 66,150	\$336,825
TOTAL ALLOWANCES	\$153,490	\$192,125	\$123,524	\$ 87,150	\$556,289

	<u>YEAR 01</u>	<u>YEAR 02</u>	<u>YEAR 03</u>	<u>YEAR 04</u>	<u>TOTAL</u>
VI. OTHER DIRECT COSTS					
DBA Insurance	\$ 5,359	\$ 7,490	\$ 5,804	\$ 3,491	\$ 22,144
Office Rent	72,000	75,600	79,380	83,349	310,329
Telephones, Long Distance	\$ 18,600	\$ 19,530	\$ 20,507	\$ 21,532	80,169
Telephones, Equip. Rental	8,400	8,820	9,261	9,724	36,205
Telex, Cables	10,200	10,710	11,246	11,808	43,964
Photocopy	13,200	13,860	14,553	15,281	56,894
Postage	6,000	6,300	6,615	6,946	25,861
Vehicle Maintenance & Fuel	14,400	15,120	15,876	16,670	62,066
Equipment Maintenance	8,600	9,030	9,482	9,956	37,068
Other Costs	<u>6,000</u>	<u>6,300</u>	<u>6,615</u>	<u>6,946</u>	<u>25,861</u>
TOTAL OTHER DIRECT COSTS	\$162,759	\$172,760	\$179,339	\$185,703	\$ 700,561
VII. EQUIPMENT, VEHICLES, MATERIALS AND SUPPLIES					
<u>Materials and Supplies</u>					
Office Supplies	\$ 14,460	\$ 15,183	\$ 15,942	\$ 16,739	\$ 62,324
Training Supplies	6,600	6,930	7,277	7,641	28,448
<u>Freight</u>	7,750	4,200	4,410	4,631	20,991
<u>Equipment</u>	146,600				146,600
<u>Vehicles</u>	<u>30,000</u>				<u>30,000</u>
TOTAL EQUIPMENT, VEHICLES, MATERIALS AND SUPPLIES	\$205,410	\$ 26,313	\$ 27,629	\$ 29,011	\$288,363

	<u>YEAR 01</u>	<u>YEAR 02</u>	<u>YEAR 03</u>	<u>YEAR 04</u>	<u>TOTAL</u>
VIII. PARTICIPANT TRAINING					
Participant Tuition	\$ 9,500	\$ 9,975	\$ 10,474	\$ 10,997	\$ 40,946
Participant Stipends	6,500	6,825	7,166	7,525	28,016
Participant Travel	<u>9,000</u>	<u>9,450</u>	<u>9,923</u>	<u>10,419</u>	<u>38,792</u>
TOTAL PARTICIPANT TRAINING	\$ 25,000	\$ 26,250	\$ 27,563	\$ 28,941	\$ 107,754
IX. INDIRECT COSTS (22% of MTDC)	\$ 262,472	\$ 279,740	\$ 263,402	\$ 250,787	\$1,056,401
TOTALS	\$1,648,127	\$1,568,084	\$1,478,324	\$1,409,251	\$6,103,786

OPERATIONS-LEVEL MANAGEMENT DEVELOPMENT PROJECT
BUDGET NARRATIVE

Note: An inflation factor of 5% after Year 01 is reflected throughout the budget.

I. SALARIES:

Home Office Staff: Two members of the Home Office Staff, the two Human Resource Development Specialist positions, will be located at the Home Office for the first six months of Year 01 of the project. For the second six months of Year 01, all of Year 02, and the first six months of Year 03, they will be moved overseas to function as Long-Term Advisors, one in each African country. For the second six months of Year 03 and all of Year 04, they will be located at the Home Office.

In-Country Staff: As detailed in the "Home Office Staff" section above, the two Human Resource Development Specialist positions will be relocated overseas for part of Year 01, all of Year 02, and part of Year 03 of the project. Host Country Management Specialists will be on staff throughout the project, Years 01-04. Also on staff, to assist them, will be one Administrative Assistant/Secretary and one Driver for each of the two African countries.

II. FRINGE:

Rates of 20% for U.S. nationals and 5% for host country nationals are based on fringe rates currently being paid.

III. CONSULTANTS:

Consultancies have been scheduled in varying time periods to assist with the Critical Incident, Case Study, Resource Allocation and Microcomputer technologies, and with the overall functioning of the project.

IV: TRAVEL & TRANSPORTATION:

Domestic Travel:

Home Office Staff: 4 trips in Year 01, 2 trips in Year 02, 2 trips in Year 03, and 3 trips in Year 04 to attend conferences or meet with AID officials.

Consultants: 9 trips to Home Office in Year 01; 3 trips in Year 02; 2 trips in Year 03; 4 trips in Year 04.

Others: 3 trips are scheduled in Year 01 for personnel from collaborating institutions.

International Travel:

The following international travel includes all travel to and from Africa, as well as travel within Africa outside of the countries in which we are based.

Home Office Staff: 16 trips in Year 01; 11 trips in Year 02; 13 trips in Year 03; 13 trips in Year 04.

Long-Term Advisors: 6 trips in Year 01; 8 trips in Year 02; 7 trips in Year 03. Long-Term Advisor trips include moving of LTAs and dependents to post, R&R leave, and official meetings.

Consultants: 12 trips in Year 01; 13 trips in Year 02; 8 trips in Year 03; 5 trips in Year 04.

Host-Country Nationals: 2 trips in Year 01; 2 trips in Year 02; 1 trip in Year 03; 1 trip in Year 04.

Others: Travel for personnel from collaborating institutions is scheduled as follows: 5 trips in Year 01; 3 trips in Year 02; 3 trips in Year 03; 5 trips in Year 04. Additionally, 18 trips are scheduled for the Case Study Workshop participants in Year 02.

Transportation and Storage:

Air, surface and vehicle shipments for the two Long-Term Advisors to relocate them to Africa in Year 01 and return them to their home base in Year 03. Storage for a limited amount of household and personal goods at their home base.

In-Country Travel and Per Diem:

Travel and per diem for LTAs and Host Country Management Specialists to travel within their particular country.

In-Country Workshops:

Incidental expenses such as on-site photocopying, space rental, typing or messenger services, etc., for an estimated 4 workshops per year.

V. ALLOWANCES:

Housing Allowance: Monthly house rental for two Long-Term Advisors while overseas.

Furnishing Allowance: One-time \$10,000 allowance per family for household furnishings such as appliances, carpets, drapes.

Education Allowance: Tuition fees for children of Long-Term Advisors.

Per Diem: Per diem is budgeted according to number of trips detailed in Domestic Travel and International Travel, with varying lengths of stay for each trip.

VI. OTHER DIRECT COSTS:

DBA: Defense Base Act Insurance. This is a required workers' compensation policy for staff and consultants living and/or working overseas.

Office Rent: Rental of office space at the Home Office.

Other Costs: Miscellaneous costs such as recruitment fees, brochure production, etc.

VII. EQUIPMENT, VEHICLES, MATERIALS AND SUPPLIES:

Office Supplies: Office supplies purchased both in Africa and at Home Office.

Training Supplies: Supplies purchased in Africa for use in workshops and other training activities.

Freights: Freight on supplies and equipment to be shipped to Africa.

Equipment: Year 01 includes purchase of the following for each country: manual typewriter, electric typewriter, file cabinets, desks, chairs, calculator, tables, dictaphone, personal computer, computer printer, and 35mm camera. Year 01 also includes purchase of 25 microcomputers for each country.

Vehicles: 1 vehicle per country to be purchased in Africa in Year 01.

VIII. PARTICIPANT TRAINING

Funds for three to four participants per year to attend training workshops in the U.S. Included are tuition, stipend and travel costs for each participant.