Afghanistan Agricultural Sector Support Project

Technical Proposal

Volume One

Submitted to the U.S. Agency for International Development in response to RFP No. Afghanistan-89-0204-019

June 1989

in association with:

GIC Agricultural Group

Earth Satellite Corporation

Harza Engineering Company

Development Research and Management Services (DRMS)

Agrisystems (Overseas) Ltd.

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June 8, 1989

Mr. John A. May
Contracting Officer
U.S. Agency for International Development
18, 6th Avenue, Ramna - 5
Islamabad, Pakistan

SUBJECT: The Afghanistan Agricultural Sector Support Project
RFP No. Afghanistan-89-0204-019

Dear Mr. May:

Development Alternatives, Inc. (DAI) is pleased to submit this proposal to provide technical services to the Agricultural Sector Support Project for Afghanistan. We have assembled a strong consortium that has complementary experience in agribusiness and commodity trade (GIC Agricultural Group), water resource development (Harza Engineering Company), remote sensing analysis (Earth Satellite Company), Afghanistan rural surveys (Agrisystems Overseas, Ltd.), and regional economics and local development implementation (Development Research and Management Services, DRMS). We believe our proposal contains these strengths:

- **Connectedness** to the ongoing programs of the first phase of ASSP, with the inclusion of the key actors who brought cross-border commodity shipments to rural Afghanistan to life and made it successful;
- **Objectives** for the next phase of ASSP, based upon carefully considered proposals for the **scope, coverage, effectiveness,** and **pace** of the new project;
- **Integration** of Track III, soon to become the ARR component of the existing project, with the newly added PSA and MAP components;
- **Strategies** for implementing each of the three components of the expanded project, including program support for MAP and ARR; and
- **Leadership** from proven performers on DAI's permanent staff who will add new perspectives and capacity to the existing project implementors.

By being **connected** with ongoing activities and personnel, DAI is ready to begin, with the individuals identified who can start now to make the expanded project work. This includes not only off-shore staff but also resident Afghans who can make significant new contributions. There will be no downtime as the new project team is added to ASSP.

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The inclusion of specific **objectives** for the expanded project provides a distant goal to guide the early steps for the expanded project. Although these goals and objectives will be negotiated with and improved by the Office of the A.I.D. Representative for Afghanistan during the first 90 days of the project, they represent one vision of the project's end point of December 1992.

We believe that full and complete **integration** of all project components and activities is a necessary decision if the project is to perform to its potential. We see the concept of the ARS unit as expanding toward becoming province-wide centers for rehabilitation support. We believe that the ARR component should direct all field activities in ARS areas, including those that support MAP and PSA activities. Implementing these decisions effectively calls for all activities to be under one consistent, integrated management unit and prime contract.

Each of the three project components faces unique problems that, we believe, are best solved simultaneously. Our proposal provides **strategies** for the components: to staff field units under MAP, to distribute fertilizer while building a market demand function for agricultural inputs, to begin agricultural tests and demonstrations, and to use the resulting information for all project activities. There may be better ideas to be incorporated into the expanded project, but DAI has provided a starting point and a path to move along, quickly.

DAI has proposed that Eugene (Tony) Babb, an experienced development professional who has lived and worked in Afghanistan, be named Chief of Party for ASSP. Tony Babb is a long-term senior staff member of DAI who provides **leadership** that is participatory and inclusive, and gets the job done. He will be supported in the PSA component by DAI staff member, Paul Guenette, an agribusiness enterprise specialist. We have gone with our long suit, professionals with proven track records who are thoroughly integrated into the prime contractor's concepts and systems. David Garner, responsible, we believe, for much of the project's success to date, is proposed as the head of the MAP component.

DAI began support to Engineer Mohammad Sediq, present director of the ASSP contact, 13 years ago in Kabul, during two assignments led by Donald R. Mickelwait. Those assignments began our direct involvement in and commitment to Afghanistan. It is a powerful comment on the continuity of our staff that all four principals from those teams are nominated to provide specialist support to ASSP.

Development in Afghanistan, then and now, remains a tremendous challenge. The organizations and individuals assembled for ASSP recognize the extent of the problems and the magnitude of the potential for resettlement in and rehabilitation of the agricultural sector.

We look forward to the challenge and to the beginning of the expanded project. We will be pleased to respond to questions you may have regarding this proposal and the possibility of entering into negotiations with you in the near future. Please contact me or Tony Barclay, Senior Vice President of DAI. The proposal remains valid for 90 days.

Sincerely,

Donald R. Mickelwait
President

TABLE OF CONTENTS

Page

VOLUME ONE

INTRODUCTION 1
The Rationale Behind The Proposal 1
Matching The Evaluation Criteria to The Proposal. 2

CHAPTER ONE

BACKGROUND AND CONTEXT OF THE PROJECT 3

THE CURRENT SITUATION 3
THE AFGHAN POLITICAL COMMUNITY 4
Government-level Efforts 4
Commanders and Shuras 4
The Donors 5
THE PROJECT: HISTORY AND CONTEXT 6
Status of the Project 7
Commercial Channels 11
Training 11
Planning and Data Collection 11
TYPICAL AREA REHABILITATION SCHEME 13
Baraki Barak District 13
Parties and Commanders 14
The Development Shura 15
Land Ownership 15
Labor 15
Farm Power 15
Crops 16
Irrigation 16
Agricultural Inputs 17
Bazaars 17
Project Activities in Baraki Barak 17

CHAPTER TWO

THE OBJECTIVES AND ENDPOINTS OF THE PROJECT. 19

STATED GOALS AND PURPOSES OF ASSP 19
IMPLICIT OBJECTIVES THAT MAY INFLUENCE PROJECT IMPLEMENTATION . 20
ACHIEVING THE PROJECT'S GOALS AND OBJECTIVES 22

The Scope of The Project 22
The Coverage of ASSP 23
The Effectiveness of ASSP 24
THE IMPLICATIONS FOR ACHIEVING THE ENDPOINTS PROPOSED. 25
REACHING THE OBJECTIVES OF ASSP 25

CHAPTER THREE

INTEGRATING THE COMPONENTS OF THE PROJECT 27

INTEGRATING OR SEPARATING THE COMPONENTS 27
ORGANIZATIONAL REQUIREMENTS FOR INTEGRATED PROJECT MANAGEMENT 28
ADDING FINANCIAL, ADMINISTRATIVE, AND LEGAL SUPPORT TO THE CONTRACT. 28

CHAPTER FOUR

THE AGRICULTURAL AND RURAL REHABILITATION COMPONENT. . . 31

TASKS FOR THE REORGANIZED ARS UNITS 32
Rural Works 32
Agricultural Demonstrations 33
Supporting the MAP Component 34
Supporting the Agribusiness Component 34
MOVING FROM THE FIRST TO THE SECOND PHASE OF ARR ACTIVITIES . . . 35
RATIONALIZING AND JUSTIFYING THE ARR COMPONENT 36
TRAINING 37

CHAPTER FIVE

THE PRIVATE SECTOR AGRIBUSINESS COMPONENT 39

AN IMMEDIATE STRATEGY FOR DELIVERING CONSUMABLE AGRICULTURAL INPUTS FOR THE 1989 GROWING SEASON 40
Farm Equipment 40
Agricultural Inputs 40
Initiating the Fertilizer Distribution Program 42
LINKING THE PRIVATE SECTOR TO AFGHANISTAN'S REQUIREMENTS -- THE LONG RUN 43
MAKING THE ARRANGEMENTS: PROVIDING DEAL MAKING OR HONEST BROKER SERVICES. 45
SPECIAL CONSIDERATIONS: REFLOWS FROM A.I.D-PURCHASED EQUIPMENT AND COMMODITY SALES 45
SPECIAL STUDIES ON AGRICULTURAL INPUTS AND OUTPUT PRICING 46

EXCHANGE RATES AND BARTER POSSIBILITIES 46
GETTING STARTED: THE STRATEGIC PLANNING AND THE COMMODITY DISTRIBUTION TEAMS 47

CHAPTER SIX

THE MONITORING, ANALYSIS, AND PLANNING COMPONENT 49

ESTABLISHING A RURAL RESOURCE INVENTORY OF ARS AREAS 49
ESTABLISHING THE COMMERCIAL DYNAMIC IN RURAL AFGHANISTAN . . . 51
BUILDING A STRATEGY AND PLAN FOR ASSP 53
MONITORING PROJECT ACTIVITIES 53
SPECIAL STUDIES AND ANALYSIS FROM THE MAP UNIT 54
REMOTE SENSING POSSIBILITIES 55
ALTERNATIVE DATA COLLECTION METHODOLOGIES 56
TRAINING AND SUPERVISING THE FIELD DATA COLLECTORS 57
INFORMAL DONOR PLANNING POSSIBILITIES 58
CONCLUSION 58

CHAPTER SEVEN

STAFFING THE CONTRACT 59

STAFFING THE POSITIONS DEFINED IN THE RFP 60
Staffing the Project Management Function 60
Staffing the MAP Component 62
Staffing the PSA Component 66
Staffing the ARR Component 69
Resumes and References for the Long-Term Staff 72
ALTERNATIVE ONE 97
The Additional of a Financial Controller 97
ALTERNATIVE TWO 105
The Addition of Professional Production Agriculturalists and a Data Collection and Analysis Specialist 105
Bolstering Agricultural Development in Afghanistan 105
Staffing a Data Collection and Analysis Position within MAP 106

CHAPTER EIGHT

MANAGING THE CONTRACT IN THE FIELD 123

RESPONDING TO PROJECT REQUIREMENTS 123
COORDINATING AND DIRECTING THE FIELD EFFORT 123
SETTING DEVELOPMENT STRATEGY 124
IMPLEMENTING PRIORITIES AND SCHEDULES 126
REPORTING 126

CONTRACT MANAGEMENT 127
FINANCIAL MANAGEMENT 127

CHAPTER NINE

WORK PLAN AND START-UP STAFFING 131

STARTING THE PROJECT 131
Start-up Requirements 132
Creating a Functioning Project Team 135
Distributing Agricultural Inputs 136
PROGRAM SUPPORT FOR THE THREE PROJECT COMPONENTS 136
THE SKELETON OF A WORK PLAN FOR THE FIRST SIX MONTHS 137

CHAPTER TEN

HOME OFFICE BACKSTOPPING ARRANGEMENTS 139

FINANCIAL, ADMINISTRATIVE, AND LOGISTICAL BACKSTOPPING 140
Ensuring Rapid and Effective Communications, Coordination, and Record Keeping within the Home Office Staff 141
Nominating the Home Office Coordinator 141
TECHNICAL BACKSTOPPING 141
MANAGEMENT BACKSTOPPING 142
WHY THE DAI SYSTEM WORKS 142
DOCUMENTING THAT DAI'S BACKSTOPPING WORKS 143

CHAPTER ELEVEN

SUMMARY CORPORATE EXPERIENCE AND QUALIFICATIONS 145

THE DAI CONSORTIUM 145
THE EXPERIENCE AND QUALIFICATIONS OF DAI 145
Working in Remote, Isolated, Locations 145
Implementing Large, Complex Projects with Long- and Short-term Technical Assistance Requirements 146
Supporting Private Sector Agribusiness Projects 147
Rapid Mobilization of Technical Assistance 148
Providing Short-term Specialists to ASSP 149
INTEGRATING COOPERATING FIRMS INTO THE IMPLEMENTATION OF ASSP . 149
GIC Agricultural Group 150
EarthSat 150
DRMS 150
Harza Engineering Company 151
Agrisystems (UK) 151
Rural Works, Inc. 151

VOLUME TWO

SECTION I: CONSORTIUM EXPERIENCE

SECTION II: RESUMES OF SHORT-TERM SPECIALISTS

SECTION III: DAI LONG-TERM PROJECT MANUAL

LIST OF TABLES

Table		Page
Volume One		
1	ARS Location by Province	7
2	ASSP 1988 Program Expense Analysis Estimates	144
3	DAI Chiefs of Party and Responsible USAID Officers in Asia	144
4	Major Long-Term Overseas Projects Implemented by DAI	147
Volume Two		
5	DAI's Experience in Pakistan	9
6	Profiles of Major DAI Projects	27
7	Recent DAI Experience in Arranging Short-Term Assignments	37
8	DAI Technical References	49

LIST OF FIGURES

Figure		Page
Volume One		
1	Organizational Chart of Existing Track III Activities	9
2	ASSP Rural Works, Cumulative Expenditure per Province, 1988	9
3	ASSP Commercial Sales inside Afghanistan, Current Combined Totals	12
4	Management and Staffing of an Integrated ASSP Contract	29
5	Proposed Short-Term Specialists: The MAP Component	65
6	Proposed Short-Term Specialists: The PSA Component	67
7	Proposed Short-Term Specialists: The ARR Component	70
8	Organization Chart of the ASSP Technical Assistance Field Team	125
9	Start-up Actions for ASSP	133
10	ASSP 12-Month Summary Work Plan	138
Volume Two		
11	DAI Organization Chart for Project Backstopping and Management	24

INTRODUCTION

The Rationale Behind the Proposal

In the aftermath of the Soviet withdrawal, the international donor community has shown a heightened interest in providing resettlement and reconstruction assistance to war-devastated Afghanistan. The U.S. Agency for International Development has been the major provider of humanitarian assistance to areas held by the resistance. The proposed redesigned Agricultural Sector Support Project (ASSP) builds on earlier A.I.D.-funded efforts in agriculture and rural works but greatly expands the kinds and amounts of assistance to be provided.

With the recent establishment of a resistance-formed Interim Government, many hope that the task of helping the people of Afghanistan rebuild their country can begin. For the immediate future, however, the environment in which ASSP must work remains exceedingly complex. The intricacies of the project itself and the political situation are such that they require detailed explanations. Taken together, they present a formidable challenge to any bidder responding to the RFP who hopes to provide a clear exposition of the who, what, when, and whys of the contract proposal.

To facilitate an understanding of the pages that follow, we provide here some insight into the process used by Development Alternatives, Inc. (DAI) to assemble the pieces of this unique puzzle. Each portion of the process is referenced to the section of the proposal that contains those details identified as critical to project implementation.

DAI first looked closely at the current project, talked with its senior staff, read reports of project goals and activities, and reviewed progress to date. The nuances and subtleties of understanding required to work in present-day Afghanistan convinced us of the need to incorporate substantial portions of the existing project leadership into the expanded next phase of project activities. Readers will find in Section II of this proposal a management and staffing plan that provides continuity with the current stage of cross-border operations. As one answer to the "who" question, we have included those who brought the current agriculture and rural works project to life and who have provided a solid basis for the now-planned expansion.

Second, we examined existing operational modes and weighed them against the goals and objectives of the new project, and then generated a scenario of what might be possible after three years of expanded activities. This vision, which presents one version of the end points of the project in December 1992, provides a distant goal to guide more immediate operational steps to be taken as the new contract begins. Chapter Two, "The Objectives and Endpoints of the Project," presents our considered vision of how ASSP might evolve to meet expanded project responsibilities.

Third, we analyzed the three separate components of ASSP, assessing each in terms of the contribution they should make to the successful attainment of the vision proposed in Chapter Two. In Chapter Three, "Integrating the Components of the Project," we have presented a strategy and plan for the organization of the project and the deployment of staff for each part of the project.

Fourth, based upon the components analysis mentioned above, we asked what kinds of skills and talents -- in addition to those held by individuals connected with the current project -- would be necessary to make an expanded effort work. Our judgment, based upon nearly 20 years of experience in complex project management, and a very well-credentialed professional staff, is that leadership, management, and execution capabilities (the implementation skills) are far more critical and difficult to obtain (and nearly impossible to assess correctly from a resume) than economic and technical analysis and strategic planning skills. Thus, in Section II, "Staffing and Managing the Project," we present a proposal to provide long-term staff who have proven implementation skills and established linkages to the prime contractor. We also identify short-term specialists who can supply the specialized technical analysis and strategic contributions at critical points in the project's development.

Finally, we asked what institutional arrangements should be necessary to complement DAI's principal role. We decided to propose strengthening capacities in water resource development, agribusiness commodity trade, data collection and analysis, satellite imagery monitoring, and rural works construction. Chapter Eleven identifies the roles of the consortium members, explaining how the various institutions fit into a comprehensive package of services to fulfill the requirements of ASSP.

Matching the Evaluation Criteria to the Proposal

The RFP contains specific evaluation criteria that are to be found in the proposal in the following sections:

Requirements	Location
Overall Quality of the Proposal	Chapters One through Eleven
General Aspects	
Plan for Mobilizing Resources Quickly	Chapter Nine
Creativity, Innovation	Chapters Two through Six
Management Plan and Chief of Party Authority	Chapter Eight
Technical Assistance Team	Chapter Seven
Relevant Experience	Chapter Eleven (Summary) Volume II, Part One
Relevant Qualities	Chapter Eleven (Summary) Volume II, Part One
Home Office Backstop	Chapter Ten

CHAPTER ONE

BACKGROUND AND CONTEXT OF THE PROJECT

The Current Situation

Afghanistan has been devastated and its population decimated by 10 years of war. More than 1 million Afghans have been killed and 3 million driven into exile. The populations of the principal cities have swollen beyond the capacity of city services, and large numbers of displaced persons living in very marginal conditions are found in many parts of the countryside. The country's infrastructure has been badly damaged and in places is almost completely destroyed. The damage to irrigation systems in particular has had a major effect on agricultural production and on people's livelihoods. Even more disastrously for the well-being of the Afghan people, the social fabric that once knit together these disparate and fiercely independent tribes and ethnic groups has been badly torn. It will not prove easy to mend. Traditional leaders have in many areas lost power, and thousands of semi-autonomous commanders, some of whom have little interest in or aptitude for civilian affairs, hold sway. In addition, ethnic, sectarian, and party clashes may be on the rise. Tribal and clan feuding continues, although it may often now be prosecuted in the name of party loyalty.

The institutions that used to help unite the Afghans and that had begun to provide services to them have been eliminated. Ministries, departments, and the agencies of government for all practical purposes have ceased to function, their staff scattered. The University is now only a hollow shell offering poor training, primarily to female students. The percentage of students attending primary school has fallen dramatically, affecting future possibilities for development. Health services do not exist in many parts of the country, and where they are found, supervision of health workers is nonexistent.

This background section sketches the context in which a future Agriculture Sector Support Project (ASSP) will operate. To do this, the section looks at the Afghan world through four windows:

- The Afghan political community;
- The international donor community;
- The project context, and the recent experience of the current project over the last two years; and
- A typical area rehabilitation scheme (ARS): Baraki Barak, in Logar Province, to understand the problems and opportunities that these schemes present.

The Afghan Political Community

Government-level Efforts

Afghanistan historically has been a loose confederation of tribes and ethnic groups, with a government of sorts in Kabul presiding over the confederation. Local power, particularly in Pushtoon areas, was strong and could often fend off the center. While fragmentation of the body politic has been exacerbated during the war, important efforts have been made throughout the war to help the Afghans to become more unified. There have been three major alliances of the various Afghan political parties or tanzeems, the first two of which collapsed as a result of internal differences. More recently, there have now been two attempts to establish creditable alternatives to the regime in Kabul: first the government of which Ahmad Shah was Prime Minister, followed by the current Interim Government of Afghanistan. These efforts represent important steps to give the Afghan people a coherent voice with which to speak to the world.

Although important, these efforts are not yet truly national in scope. The Interim Government, for example, which sits in Peshawar, is composed primarily of representatives of the seven Afghan tanzeems. It has left unnamed ministries vacant for Afghan Shiites and for 'good Muslims from Kabul." It is Sunni in make up, and it has a preponderance of Pushtoons in its composition. Until now, the Shiites who have their own eight tanzeems in Iran have been substantially excluded from the councils of the Interim Government, although there have been attempts to negotiate a place for them. To some extent, the peoples of Afghanistan's northern regions (Tajiks, Uzbeks, and Turkoman) are also under-represented in Peshawar.

Nevertheless, the Interim Government is moving forward in some important ways to develop a capacity to represent the people of Afghanistan and to obtain the delivery of services to communities inside the country. This is most conspicuously true in those sectors where USAID has provided substantial support: in health, education, agriculture, and rural development. In addition to the national approach represented by the Peshawar tanzeems and the Interim Government, nation building is also taking place by commanders and local shuras.

Commanders and Shuras

The efforts to create formal institutions of government have made some progress and represent a vital political priority. At the same time, there are other elements of the Afghan body politic that are also important players. Various commanders control people and territory inside Afghanistan, although the amount of territory they control ebbs and flows and, in some cases, fluctuates from day to day. For purposes of the jihad, the commanders in many instances have sometimes formed themselves into loose shuras (or councils) to help to coordinate military activities. As areas have come more firmly under the grip of the resistance and security has improved, opportunities for more serious reconstruction activities have begun to emerge.

Initially, nongovernmental organizations (NGOs) and donors worked through single commanders because they needed security for their goods and personnel, and only commanders could provide that security. Increasingly, however, attempts are

being made to form reconstruction councils, which may in some areas represent the first steps toward the establishment of local government-type institutions at the village or district level. At the same time, the capacity of these nascent organizations is still very limited. In the past, such councils were normally formed to adjudicate grievances and differences between individuals and groups (jirgas). Now they are being asked to try to take on a much broader mandate, deciding reconstruction priorities and, often, selecting beneficiaries. Like the current Interim Government, local shuras (reconstruction councils) also lack strong capacity and can mirror the differences in the community.

As Afghanistan stabilizes and begins to rebuild, it seems likely that several overlapping solutions will evolve. At the lower level, there may be various kinds of shuras and councils for districts and provinces, such as the reconstruction councils or the Kandahar shura. At an intermediate level, there may be some type of confederation of the various tribes, peoples, and provinces of the country. These may consist primarily of military entities that have formed local civil administrative units or committees that emulate government departments. Examples here might be the Shura-e-Nizar or perhaps even the Amirate of Ismail Khan in Herat. Presiding over this at the top will be some type of federal system, filling some of the normal functions of a national government.

In the next few years, it will be necessary for donors to work with all these elements, and others that emerge, and to support and strengthen them whenever possible, until the Afghans find appropriate mechanisms for governing themselves.

The Donors

While the Afghans struggle to find ways to knit their country back together, the international donor community also struggles to find ways to assist the Afghans. Many players are trying to promote resettlement, political unity, and reconstruction. Few major governmental bilateral cross-border programs are extent, with that of USAID being far and away the largest.

The beginning of multilateral assistance is taking place through the various U.N. agencies. The United Nations Children's Fund (UNICEF) and United Nations High Commission for Refugees (UNHCR) have probably been the most active of the U.N. agencies in funding cross-border programs to date. Other agencies currently involved in planning for, or actually mounting, repatriation of cross-border programs include the Office of the Special Coordinator, the United Nations Development Programme (UNDP), the World Food Program (WFP), and the Food and Agriculture Organization. Finally, there are nearly 100 NGOs working cross-border and with refugees, supported by private and governmental funding from European countries, the United States, Canada, and Japan.

Donors and NGOs operate at various levels, and their appreciation and understanding of the situation inside Afghanistan varies widely. The principal organizations are dealing with hundreds of millions of dollars and have programs that extend across several sectors and several regions of the country. Staff currently number in the hundreds or thousands.

Other assistance groups consist of only a few people operating from a small house in Peshawar. Various efforts have been set in motion to try to help coordinate these disparate efforts. One manifestation of this is the United Nation's Office of the Special Coordinator, under Prince Saddruddin Agha Khan. A second level of effort exists in the NGO-generated body, the Agency Coordinating Body for Afghan Relief (ACBAR). The UNHCR seems to accomplish some further coordination through its funding to private voluntary organizations (PVOs) and NGOs. USAID has a special Rural Assistance Program (RAP), which extends support to private and voluntary organizations.

Because there are wide differences within the community, and many different strategies that are being put in place to provide assistance, there is considerable potential for duplication of effort and for one group undermining the work of another. There are problems of some areas receiving too much assistance, and other areas receiving none at all. There are different standards being applied with some of the donor agencies and many of the NGOs adopting a social-welfare attitude in the provision of assistance. This begins with certain of the U.N. agencies, which historically have been providing relief assistance. Groups such as WFP and UNHCR have strong institutional biases toward providing relief assistance under emergency conditions. The attitude extends to many of the NGOs, which often began their institutional life giving refugees what they called "cash for food," intended as emergency stipends sufficient to permit families to survive the winter.

A background of competing and overlapping patterns of donor assistance colors the context in which ASSP will work. Although all express token support for coordination, there appears to be relatively little effective coordination on the ground. While donors give lip service to common standards for the provision of development assistance, the reality is that there are no common standards in effect, and in fact there are wide differences between groups and agencies about what it is appropriate to provide and the way it should be provided. Those with a social welfare or relief approach, wishing to benefit the poorest segments of the community, may be in a potential position of conflict with the goals and objectives of the ASSP program -- and particularly the agribusiness component. These differences in objectives of the donor community must be kept in mind by the staff who will be charged with implementing ASSP. **Correctly planned and implemented, market-driven assistance and more short-term-oriented social welfare distributions can be mutually supportive of the resettlement and rehabilitation of Afghanistan.**

The Project: History and Context

To convey the context of the project, this proposal first provides a brief history and then summarizes the status of project activities. The first phase of ASSP life as a grant, from the office of the A.I.D. Representative to Afghanistan, to a private and voluntary organization for the redesign of an earlier proposal that had been submitted for possible funding.

This refined project design started with two parallel mechanisms for delivering services. One channel, (referred to as Track I) was designed to work through the Afghan Agricultural Council, composed of representatives from each of the seven tanzeems. In addition to Track I, there was also a separate and independent Track II, which was mandated to work through private sector channels, to deliver goods

and services. Over time, and despite all good efforts, Track I proved to be a dysfunctional structure, whereas Track II proved to be modestly successful. Track II can properly be said to be the father of ASSP's new agribusiness component.

A few months after work began with Tracks I and II, project management staff, with the support of the Office of the A.I.D. Representative, began working on a major amendment to the project to add a rural development component. This was done with the assistance of Engineer Mohammad Sediq, who was recruited to come from Yemen, based on past working relationships with various members of the technical assistance team. This redesign effort, in turn, became Track III. Design work continued through the summer and early fall 1987. Engineer Sediq formally started work with the project in September 1987. At this time, an amendment was drafted to the basic program documents, adding an additional technical assistance position to the team, amending the Activity Approval Memorandum, authorizing the addition of a rural development component to the program.

When the Agricultural Council proved an unworkable institutional home, resources for agricultural development were eventually redeployed via Track III, working through the structure of area development schemes (ADS) that had been established. These schemes were expected to be primarily centers for rural works activities. Once rural works activities actually commenced, however, it became clear that these ARSs could also serve as administrative and organizing mechanisms for delivering agricultural resources to rural Afghanistan.

Status of the Project

Since autumn 1987, most project activities have been concentrated around the ADSs, renamed in 1989 to become area rehabilitation schemes (ARSs). There are currently 14 established ARSs, with more than 125 field staff working inside Afghanistan. These ARSs are located in 10 of the 29 provinces of Afghanistan, primarily across the eastern half of the country. They included the following:

TABLE 1
ARS LOCATION BY PROVINCE

Province	ARS
Kandahar	Maroof, (1) and Panjwai (2)
Paktika	Waza Khawa (3)
Logar	Charkh (4) and Baraki Barak (5)
Ghazni	Markaz-i-Ghazni (6) and Andar (7)
Wardak	Chak (8) and Saidabad (9)
Takhar	Fakhar (10)
Parwan	Chard-i-Gorband/Panjshir (11)
Baglan	Dhana Ghori (12)
Konar	Asmar (13)
Kabul	Sarobi (14)

Work in each of these ARSs typically consists of karez cleaning, perhaps some road construction, and the provision of various kinds of agricultural inputs. Each ARS has a package of one or more Massey Fergeson tractors, for example, together with tine tillers, reapers, plows, and blades for demonstration purposes. One to three demonstration wheat threshers have also been sent into most of these ARSs, to introduce the farmers to this important labor saving technology. Bullocks have been sent into several ARSs on a pilot basis, to assess the feasibility of an expanded program of animal traction. Improved wheat seed and fertilizer have been sent into one ARS on a pilot basis to assess the most appropriate systems for making these crucial inputs available. Horticulture activities have commenced in most ARSs, and there were small agroforestry nurseries set up in 10 of the ARSs in 1989.

Activities in each ARS are implemented directly by project field staff, working closely with local people, under the broad auspices of a development council or shura. Typically, the complement of staff for each ARS has been set at 14. These men have been divided into groups, so that half are available for rural works and half for agriculture. In many instances, staffing has not yet reached the fully authorized complement of 14 persons per scheme. The project currently has approximately 225 local-hire staff, of whom 90 percent are Afghan and 10 percent are Pakistani. Only the Afghans now work cross border. Approximately two-thirds of the present staff are field based; the balance provide technical and administrative support from Peshawar. An organization chart showing the current structure of the ARSs, together with the necessary support mechanisms in Peshawar, is given as Figure 1.

In addition to the staff who are assigned to the ARSs, the project has also worked to establish counterpart councils or shuras, to help make decisions about the allocation and distribution of project resources. At this time, shuras are in place for all of the extant ARSs. These councils typically are composed of local military commanders of the area, drawn from the various Afghan political parties. In addition to the commanders, there usually is a leavening of civilians, either respected elders or sometimes educated individuals, who also sit on the shura. These shuras have proved to be important mechanisms to help legitimate the presence of project staff and to make certain key decisions about the allocation of project resources in ways that are acceptable to the Afghan communities in which the project is working. Shuras typically operate at the level of a district or part of a district.

An indication of the level of activity achieved under the project is demonstrated in Figure 2, in which the cumulative ARS expenditures for calendar year 1988 for 12 provinces are illustrated. Some of the field expenditures are outside the current framework of the ARSs. In some places, for example, in Helmand Province, ARSs have not been established although a limited amount of irrigation work has been done here. Expenditures for roads may also fall outside the framework of the ARS. An example of this is the road that has been improved, and in some places constructed, in Paktia Province.

Figure 1
Organizational Chart of Existing Track III Activities

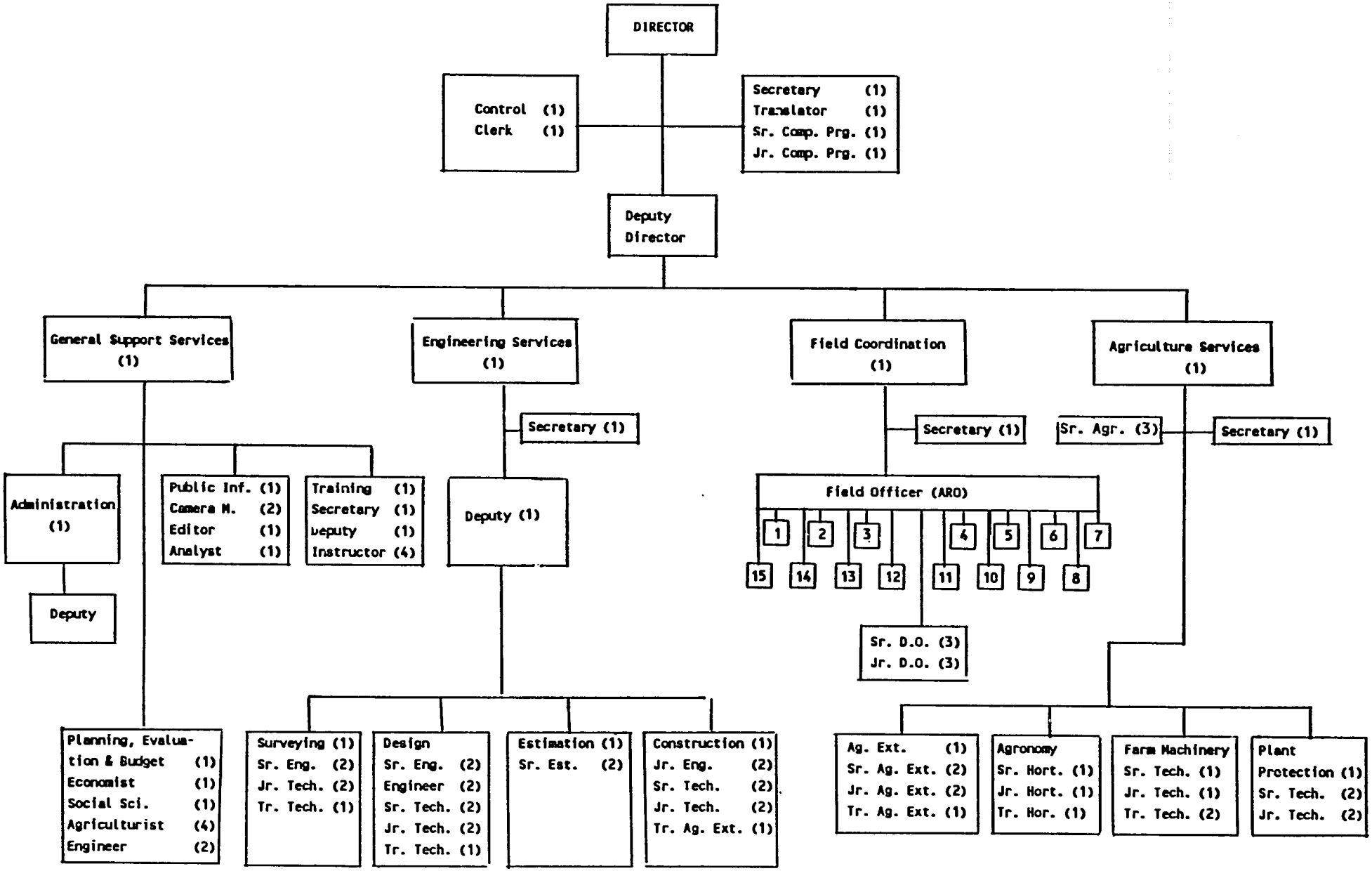
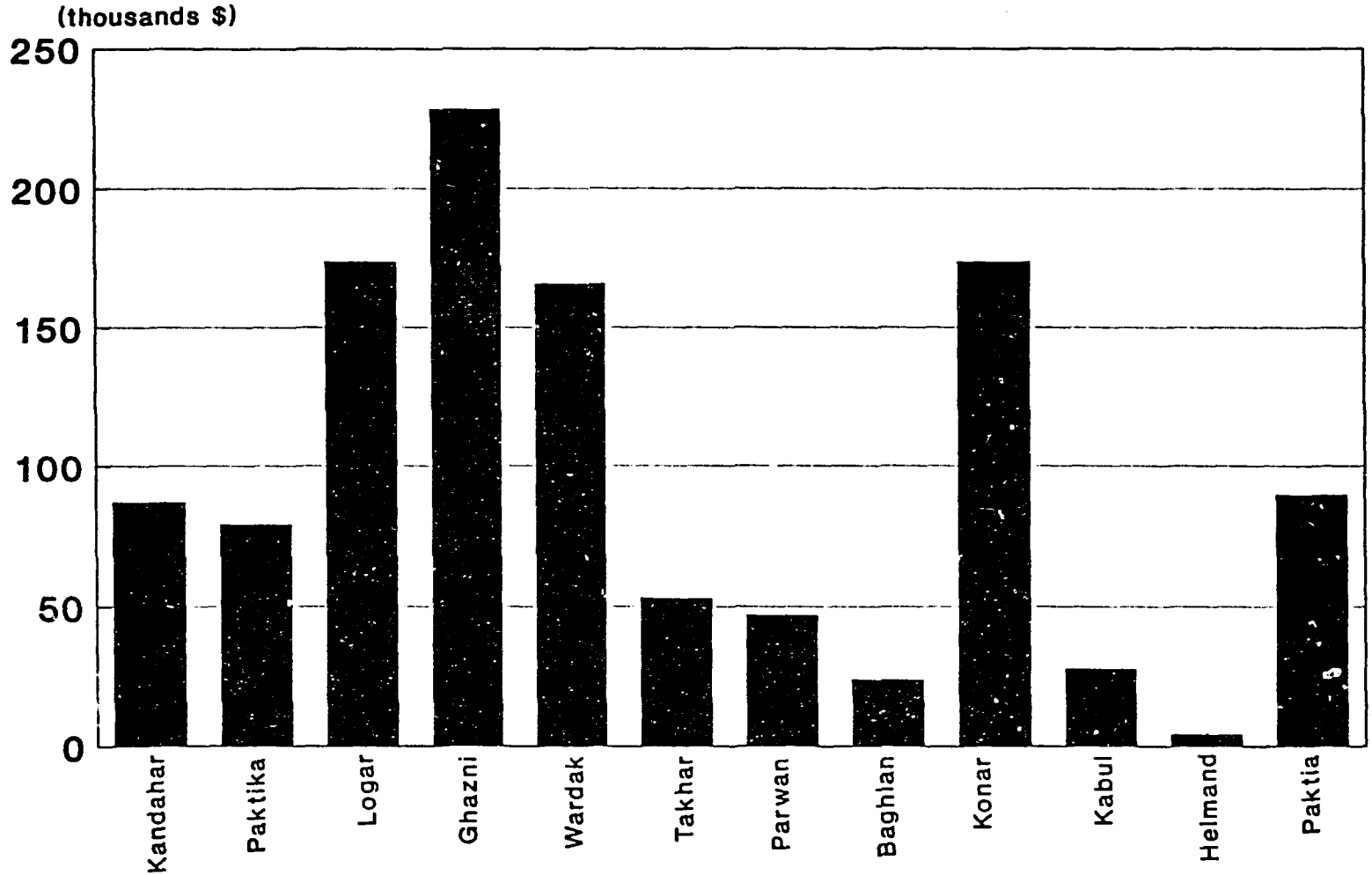


Figure 2
ASSP Rural Works
Cumulative Expenditure per Province, 1988
(in $ U.S.)



Converted at Rps. 17.5 to $1.

Commercial Channels

In addition to the rehabilitation carried out through the ARS structure, the project has facilitated the sale of agricultural equipment through commercial channels to encourage greater use of these important technologies in Afghanistan. This activity began in March 1987 and continues to the present. To date, agricultural machinery valued at more than 33 million rupees has been shipped to Afghanistan, nearly $2 million. This machinery has included more than 300 wheat threshers, approximately 200 rice huskers, more than 2,000 water pumps and engines, and more than 5 million rupees ($300,000) in miscellaneous spare parts. To facilitate the flow of this equipment, the project has put in place a subsidy to reduce the sale price to customers in Kabul. Typically this subsidy has ranged from 20 to 30 percent, depending on the item in question. These incentive subsidies have represented one important way that the project has contributed to the rehabilitation of Afghan agriculture. The subsidies program has provided an increased incentive to private companies to export agricultural equipment to Afghanistan. It has also benefited the farmers who have had easier access to machinery at reduced prices. Figure 3 suggests and illustrates the current combined totals in percentage terms for the individual components of the Track III program.

Training

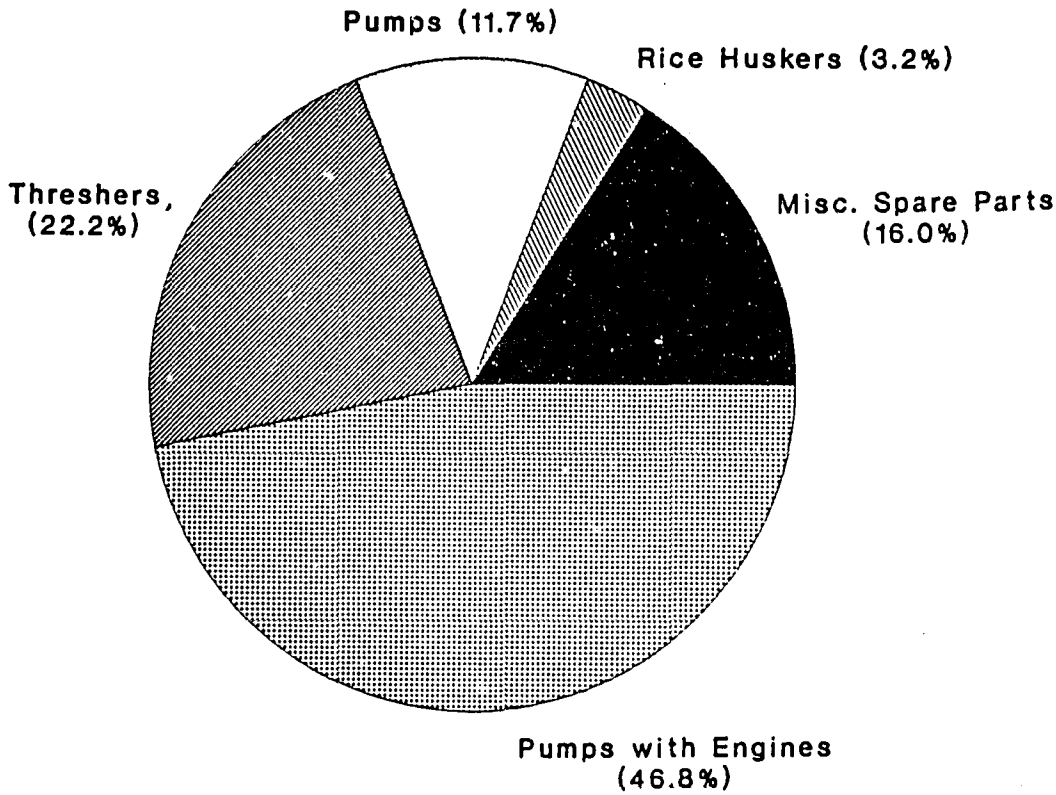
The project has conducted approximately 10 in-service training programs for its staff over the last 18 months, as it began to integrate a disparate group of Afghans into a more tightly knit organization. Through the autumn and winter 1988-1989, four in-service programs were completed. The first of these was a planning seminar for the senior officers from each ARS. A second planning seminar of a similar nature was also carried out this spring in Peshawar, during Ramadan. In addition, the project has also conducted extended in-service training for its cadre of agricultural extension agents from December 1988 to February 1989. At the same time, a similar extended training program for rural works technicians and engineers was conducted.

Planning and Data Collection

For the project to navigate, and correct its course, planning and monitoring activities have been required. Monitors who work for the project, both in Afghanistan and in Pakistan, have tracked the completion of roads, karezes, and agricultural equipment usage, as well as more general progress of the project. For the last 18 months, the project has monitored wheat prices for each province since this represents one important benchmark in determining the health of the economy of individual provinces and regions of Afghanistan. Various other monitoring tools have been designed, including agricultural survey forms, a pilot base-line data form, and a political-ethic survey form. As with ARS activities and commercial sales, the planning and monitoring activities that have been conducted to date have helped to lay the groundwork for the next phase of the ASSP and its proposed new Monitoring, Analysis, and Planning unit (MAP).

Figure 3
ASSP Commercial Sales inside Afghanistan
Current Combined Totals (1987-1988)

by percent, based on dollar value



Typical Area Rehabilitation Scheme

A common basis for understanding the project context can best be established by reviewing the profile of a typical area rehabilitation scheme. This is based on one of two ARS units in Logar Province. The profile of Baraki Barak is representative of ARSs in the eastern part of Afghanistan.

Baraki Barak District*

Baraki Barak is located in the southwestern portion of Logar Province, and borders Wardak Province to the west and Kabul to the north. The district is considered to have some of the best agricultural land in Afghanistan, most of it lies at an altitude of 500 to 1,000 meters above sea level.

Based on a survey conducted by one major NGO working inside Afghanistan, approximately 6,000 families live in 60 extended villages in Baraki Barak. About 5,000 of these are farm families. If one assumes an average of seven persons per family, this gives a district population of approximately 42,000 people. It is thought to be slightly smaller in area, as well as in population, than a typical ARS, which are assumed to have approximately 50,000 people each. In all other respects it appears representative of most ARSs.

Field staff working with the project in Baraki Barak and Logar suggest that only about 5 percent of the pre-war population have left Baraki Barak as a result of the war, despite parts of the district having been hit fairly hard. Of those who left, some have gone to Kabul and some have fled to Pakistan. Many men have been killed during the jihad. Field staff also suggest that there are many widows in the district.

Various Pushtoon tribes are found in Baraki Barak. The Tajiks are the second biggest group after the Pushtoons, and they appear to get along well with their neighbors. The area is largely detribalized, compared with other more traditional parts of Afghanistan. The population of Logar province is generally well educated. Prior to war, many Logaris worked for the civil administration in Kabul or were part of the military. Now these same people earn their living by farming.

Because Baraki Barak is only 10 kilometers from the regime-held town of Pul-i-Alam and is also just off the Kabul-Gardez highway, over the course of the war it has been the target for a lot of bombing. Comparatively, Baraki Barak has felt the effects of war more seriously than neighboring Chark District, but less than some of the northern districts closer to Kabul. The eastern portion of the district has been

* This illustration of the working of a typical ARS can be omitted by those who have direct knowledge of the program, without loss of continuity with the remainder of this proposal.

most heavily damaged. Field staff report that the worst years of the war for Baraki Barak were 1983-1987. According to one survey, 95 percent of the farmers from 22 villages reported that their village had been bombed in 1987. Fourteen percent said that their irrigation system was destroyed in 1985, while 12 percent reported irrigation system destruction in 1987. Half the farmers reported that they had livestock shot in 1985. Field staff estimate that many fields in the district have been bombed, some so heavily that it is difficult to prepare the land for planting. In addition to the fields, one estimate suggests that as much as half the housing in Baraki Barak may have suffered some damage. Most of the damaged houses are still standing and are inhabited, even though many are now structurally weak and no longer safe to live in. There appear to be no land mines remaining anywhere in the district.

Currently, there is no fighting in the district itself, with the exception of the provincial capital of Pul-i-Alam, which remains in Kabul regime hands. The rest of the province is liberated.

Roads in the district were mostly unpaved prior to the war. Almost all of them have been damaged by bombing, artillery, and heavy military transport. No maintenance has been done for years. The roads are all badly rutted, and travel time between any two points generally is longer than before the war. Buses go daily from the district to Kabul. Until a year ago, it took a week to reach Logar from any border point in Pakistan. Now there are two main routes through which a traveler from Pakistan can reach any part of Logar in two days. There are now no serious difficulties in taking agricultural or other goods from Pakistan into Baraki Barak or returning with agricultural surpluses and cash crops to Pakistan.

Parties and Commanders

All seven tanzeems have some influence in Baraki Barak, but the amount of that influence varies. Currently, Jamiyat appears to be the strongest tanzeem, followed by Harakat. Hizb-i-Islami (Hekmatyar) probably ranks third. In general, the various Afghan political parties appear not to have separate areas of control. Instead, commanders from different parties draw supporters from the same village.

There appears to be a loose war council of seven important commanders. It might meet once a month over the winter but much less often in the other three seasons, when more fighting is going on. Except for the older religious scholars, the other five commanders on the council all appear to be younger, new style, educated leaders from relatively small and heretofore uninfluential families. Relations between the commanders seem relatively smooth. Although there have been tensions in the past, there appears to have been no interparty fighting for the last several years. Above the district level, a provincial-level shura of commanders meets to coordinate military activities as the need arises. It also settles disputes between tanzeems.

The Development Shura

These seven commanders or their deputies also sit on the reconstruction or development shura, which works with project staff to help make key decisions on the allocation of project resources. On some occasions, civilian elders may also take part in these deliberations. Field staff report that attendance at meetings is variable. Roz Gul, the project's senior area development officer (ADO), with overall responsibility for supervising project staff and the use of project resources in Logar Province, has been trying to persuade the leading commanders to nominate and then delegate some responsibilities to an Executive Committee, which would consist of a group of farmers who could work with project staff on a day-to-day basis, but the commanders in Baraki Barak are not now willing to do this.

Land Ownership

Field staff believe than an average family in this district owns approximately 5 jeribs of land (2.5 acres). It also appears that land ownership is relatively equally allocated, with the vast majority of the population owning a little land. A local resident estimated that only 10 percent of the population is landless, and there are very few large landowners.

Labor

As almost everywhere in Afghanistan, agricultural labor is in short supply. Although there has been relatively little population loss as a result of flight from Baraki Barak, there have been deaths in the war and younger men have been occupied with fighting. Older farmers in the district complain that the younger men show little interest in laying down their arms and resuming life as ordinary farmers. Some women work in the fields, but it is not clear that the percentage of those who are willing and able to do so has increased as a result of the greater demand for labor.

Farm Power

Many oxen have been killed during the war, and some have been sold off to cover expenses. Field staff guess that perhaps 50 percent of the oxen in the district have died or been killed during the war. The incidence of sharing oxen, which was very common before the war, has increased proportionately, as farmers have found it difficult to replace them. Very few are available for sale locally, and the price has

skyrocketed. An ox presently costs 80,000 to 100,000 Afs (or 10,000 Rps.).[1] Ten years ago, it was possible to buy an ox for 8,000 Afs.

There are approximately eight private for-hire tractors in Baraki Barak. The fee for tractor hire last year was 800 Afs per hour (80 Rps.). It may be higher now because of the difficulty of finding diesel fuel.

Crops

An estimated 6,600 hectares of land were irrigated before the war in the district, with wheat as the major crop. Most wheat is irrigated, but one member of the project field staff estimated that approximately 3,000 hectares of rainfed land were also planted in wheat. Some rainfed land has been abandoned as a result of low productivity. Corn is the second most important crop. People grow vegetables mostly for family consumption. A few raise potatoes or tobacco as commercial crops, which they market in Pakistan, where prices are higher. Some fruit is grown in villages in the northwest portion of the district. Apples are the predominant horticulture crop, followed by apricots. Melons are grown when the rain and snowfall has been exceedingly good.

Production of all these crops has declined substantially since the war. Orchards have also suffered badly from the lack of water and the inability to purchase agro-chemicals.

Irrigation

The lack of irrigation water is a serious problem for the farmers in Baraki Barak, as it is for many farmers throughout Afghanistan. In most villages throughout the area, the number of fully irrigated jeribs has dropped dramatically. Poor precipitation over the last several years has adversely affected the flow of both karezes and rivers. This has been compounded by bombing and the accumulated lack of maintenance on diversions, canals, and intake structures. In 1988, surveyors from a Peshawar-based NGO talked to 138 farmers who had left Baraki Barak. The shortage of irrigation water was reported as their most serious problem.

There are many karezes in the district. All have been neglected, and some have been bombed. Currently, project field staff have completed the cleaning of 28 karezes. They are working on cleaning an additional 79, and they have recently received sanction to clean an additional 70.

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[1] Conversion from afghanis (Afs) to rupees (Rps) was 10 Afs to 1 Rps for many years until early 1989. In the last four months, the unofficial conversion rate has dropped to 14 Afs to 1 Rps. In May 1989, the Pakistan Rps converted to the U.S. dollar at 20 Rps to $1.

Agricultural Inputs

Improved seed, fertilizer, and agro-chemicals are not available locally. Even when they were available for purchase, only a few farmers could afford to buy them. Field staff also suggest that shopkeepers do not bring these items from Peshawar, because prospective purchasers cannot afford the price that merchants would have to charge to cover their costs and make a small profit. Farmers were accustomed to using agro-chemicals before the war, especially on horticultural crops. The shortage of these inputs, and the lack of purchasing power to buy them, are major constraints on farm production.

Bazaars

Two bazaars function in the district: Baraki Barak town, and Baraki Rijan. There are approximately 80 shops in Baraki Barak bazaar and 100 in Baraki Rijan. Rice, sugar, cooking oil, gas, diesel, kerosene, and soap are scarce or unavailable. There are no petrol stations or fuel depots, and shopkeepers bring limited quantities of fuel from Peshawar. Prior to last autumn, they were able to buy petrol and diesel in Kabul. No agro-chemicals, pesticides, herbicides, fertilizer, or improved seed are available in the bazaar. According to some reports, many of the foodstuffs available in the bazaars are being brought in from Pakistan. Meat is scarce and very expensive. One egg costs 15 Afs, or 1.5 Rps.

Artisans and mechanics work in the bazaars, but they generally lack tools and machinery. Some spare parts are available.

Project Activities in Baraki Barak

At this time the project staff in Baraki Barak consists of 10 men, including a senior ADO, five agricultural staff, three engineers, one civil works technician, and one administrative officer. Field work to date has involved the use of approximately $100,000 of project funds. More than 175 karezes have been cleaned or are scheduled to be cleaned. No significant repair or rehabilitation of roads has been undertaken, although a small amount of minor repair and surfacing has been done.

Approximately 50 buliocks were sent in to Baraki Barak on a pilot basis, to test the feasibility of providing this commodity through the project. In addition, the project has made available two tractors for custom hire. The tractors came equipped with tine tillers, plows, and two blades. There are also two trailers to use behind the tractors, for hauling gravel, and other appropriate supplies and inputs. In addition, the project has sent three threshers to Baraki Barak, along with two motorcycles for staff transport and two poinjar drills for light construction. The level of effort in Baraki Barak is representative of most of the ARSs in the eastern provinces, which were established in 1988.

The pages that follow suggest some possible future directions in which the project might go, building on the base that has been established in these various ARSs, as well as in Peshawar under the current project.

CHAPTER TWO

THE OBJECTIVES AND ENDPOINTS OF THE PROJECT

Stated Goals and Purposes of ASSP

This proposal responds to the requirements of the project, attempting to draw out both the explicit goals and purposes and the implicit but interrelated objectives that should help shape the implementation plan. A review of these goals and objectives is valuable as a starting point for the analysis that follows:

> The goal of the Agricultural Sector Support Project (ASSP) is to help facilitate the resettlement of war-affected Afghans into Afghanistan over the near term. The purposes of the ASSP are threefold:
>
> (1) to help restore agricultural productivity through small-scale agricultural infrastructure rehabilitation (primarily small-scale irrigation systems and farm-to-market roads);
>
> (2) [to] help assure the provision of essential production inputs and other crucial commodities; and
>
> (3) to broaden the economic base of Afghanistan by building trade links and commercial ties with Pakistan and other open-market countries.[1]

The description of the purposes of the three components of the project is stated as follows:

> **Project Monitoring, Analysis, and Planning (MAP).** The purpose of the MAP component shall be to keep track of, and to perform analysis and planning for:
>
> - All aspects of implementation activities for the Agriculture Sector Support Project; and
> - Those aspects of Afghanistan's agriculture which have a direct relationship to overall implementation of the Agriculture Sector Support Project.[2]
>
> **Private Sector Agribusiness (PSA).** The PSA component will strengthen economic and commercial ties between Afghanistan and Pakistan and in so doing assist in eliminating shortages of agricultural inputs which have developed over the last ten years. It will promote and encourage the increased flow of critically needed production inputs to Afghan farmers utilizing Afghan and Pakistani private sector agribusiness channels.[3]

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[1] RFP Ag-89-0204-019, page C-1.

[2] Ibid., page C-7.

[3] Ibid., C-3.

Agricultural and Rural Rehabilitation (ARR). The objective of the ARR is to rehabilitate agriculture in large areas of eastern and northern Afghanistan (i.e., to restore them to the approximate level where they were in 1979 prior to the Soviet invasion). This objective includes priority emphasis on assisting in the resettlement of returnees. While there are other areas in which agriculture has been damaged, this component focuses on two principal areas:

- Restoring agricultural productivity; and
- Restoring rural infrastructure.[4]

Some interesting issues are to be resolved in the goal and purpose statements, which need to be subjects for early discussion with the Mission as the contract begins and initial strategies are being prepared. The project's purpose statement indicates that agricultural productivity will be restored through rural works, whereas the more detailed discussion of the ARR component gives equal attention to agricultural technology and inputs. As work plans are drafted during the first 60 days of the contract, clarifications may be required in the relationship between broad goals and purposes, and the way they will be achieved during the life of the project.

The objective of strengthening economic and commercial ties between Afghanistan and Pakistan is particularly important. Without a stable central government in Kabul, it is clearly in the interest of the United States to foster strong economic linkages with Pakistan. In the eastern crescent bordering Pakistan's tribal areas, some natural trading routes from Peshawar to Kabul have been blocked by government forces. The project has helped construct and create new avenues for commerce between the two countries, furthering this important objective. In the northeast and in the southeast, current project activities can and should be expanded to increase coverage and influence. But in the central (Shiite dominated), northern (Russian), and western (Iranian) spheres of influence, trade linkages have not been toward Pakistan. ASSP can initiate the movement of goods and services into regions not traditionally serviced from Pakistan, thereby increasing the constructive influence of ties to Pakistan.

Implicit Objectives that May Influence Project Implementation

At least four, and possibly more, implicit objectives may influence the implementation of ASSP. These are listed below along with an explanation of how each might affect the project.

- **Assist the Establishment of Quasi-governmental Institutions.** Until a central government with some capacity to reach the local level is in place in Afghanistan, reconstruction programs undertaken in resistance-held areas will require the establishment of some sort of authorizing local body. By helping to create shuras, or informal decision-making councils that can legitimize and help make decisions for the ARSs, ASSP may be able to help with the establishment of some checks on the power of individual commanders. Over

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[4] Ibid., C-9.

the long run, by expanding the ARS concept from district-level to provincial-level coverage, it may be possible that the project can have a positive influence on the early establishment of government-like institutions.

These institutions could help promote stability in an area because they would have a broader base of support than commanders, who in many cases are also potential rivals. This implicit objective may influence the manner in which ASSP conducts its activities in Afghanistan, perhaps creating understandable tradeoffs between the pace of expansion and the creation of viable local institutions capable of providing services to the people.

- **Create Self-sustaining Commercial Linkages that Foster Development.** The inability to sustain government initiatives over time has generated a legacy of failed development projects around the world. Although ASSP has some elements of a quasi-governmental development program, its heart is the establishment of commercial linkages between private trading partners, serving paying agricultural "customers" inside Afghanistan. These linkages, correctly initiated and nourished, do not require continuing recurrent government expenses. Under the right circumstances, such linkages can generate continuing mutually profitable development services and support. This implicit objective may influence the pace of project expansion.

- **Support Private Sector Development in Pakistan.** The United States has a significant stake in the preservation of a government in Pakistan that shares our interests in the creation of an outward-looking Afghanistan and that also maintains and strengthens developmental and democratic forces within Pakistani society. One method of achieving this goal is to ensure that development support to Afghanistan is complementary to private sector development in Pakistan. This implicit objective will influence decisions on sourcing of both commodities and services from Pakistan. It also will require that project staff coordinate with appropriate governmental authorities in Pakistan.

- **Demonstrate a Model for Multi-donor Support to the Agriculture Sector.** While not diluting the effectiveness of direct bilateral aid, ASSP may be able to forge informal coalitions that support a private sector solution to agricultural development in Afghanistan. Many of the PVOs working in Peshawar are inclined to donate commodities and provide free services. Such activities, while useful to many segments of society at least in the short term, are not self-sustaining over the long-term and may seriously distort the economics of agricultural production. Rather than being encouraged to produce useful outputs, the Afghan farmers may devote their energy to entering the queue that receives free handouts. An informal planning group or council, which gives the Peshawar community regular exposure to the results of ASSP's planning and monitoring efforts, may influence the direction of PVO or U.N. programs. This could also help to create complementarity and widened support for a private sector solution to Afghanistan's agricultural problems.

Achieving the Project's Goals and Objectives

There are four dimensions on which the project can be judged as it attempts to achieve its goals and objectives. The first is the **scope** of the project. This is the issue of the quantity and type of equipment, together with the goods and services made accessible to any one geographic location in Afghanistan. This dimension answers the question, What is being provided that is useful, for how many, to do what?

The second dimension is **coverage** of the project inside Afghanistan. This dimension addresses the question of the spread of project activities within a province or district, and the number of provinces or districts being covered.

The third dimension is the **effectiveness** of project resources in bringing development to Afghanistan. This dimension addresses the quality of information used to establish priorities, select among competing objectives, plan for future requirements, initiate new activities, modify ongoing ones, and assess the cost/benefit and impact of completed activities.

The fourth dimension is the **pace** of the expanded project. Agribusiness sales and subsidies could peak in the first year -- reflecting the immediacy of rehabilitation efforts -- or begin more slowly and expand -- reflecting the uncertainties that attend obtaining the objective of large-scale private-sector transportation and sale of agricultural commodities inside Afghanistan. The best pace will depend upon a combination of immediate requirements and the project's learning curve.

During its initial years, the project established that it is possible to conduct cross-border support to agricultural development, working wherever the political, security, and transport systems allowed. In the next phase of the project, more rigorous planning will be needed. This phase should target resources to be deployed, and determine the way they can be used most effectively in a program that goes from being essentially local, to one that strives to become of national importance. By the end of 1992, after more than three years of expanded ASSP activities, the following endpoints could be targeted:

The Scope of the Project

The project would deliver two kinds of services:

- Rural works, starting with the less complex karez and road rehabilitation, moving in concentric rings from the ARS center, adding surface irrigation activities as the local situation and the project's engineering capacity improves; and

- Agricultural tests and demonstration of cultural practices and crop selection appropriate for that particular area and region. These demonstrations should include the full package of mechanized tillage, planting, harvesting, seed, fertilizer, and other inputs necessary for high-yielding output from field crops, along with the particular inputs required for relevant horticulture crops.

The project would facilitate farmers' access to needed agricultural inputs and equipment. Based upon the results of the demonstrations, the project should assist in providing farmers with access to the full package of equipment and consumable supplies found to be necessary from field work done on the demonstration farms. "Access and facilitation" might include warehousing the commodities at the ARS site, or other depots as appropriate, and providing base pay for commission agents to promote sales by explaining use and benefits of the equipment and supplies.[5]

In addition, access should be provided for farmers to purchase "missing" elements in their agricultural production cycle. For the private sector, niche marketing of commodities or goods would help fill gaps in cultivation, harvesting, and input requirements. These commodities would be based not upon a complete package required to produce specific crop, but upon an investigation into the missing elements within the agricultural production chain. Some fertilizer may be available from government sources. Custom tractor services including threshers might eventually be available in the region. If horticulture has been a principal export crop, new grafting stock and nurseries may be what is needed. The identification of special area requirements for feedback into the agribusiness chain will be an important requirement for the agricultural component of the expanded ARS.[6]

The Coverage of ASSP

There are approximately 15 ARS sites now, although some rural works construction can be turned into new sites, while existing ARS units in close proximity to one another can be merged, expanding the area under project influence without increasing the total number of ARSs. In any case, coverage should increase under the expanded project. First, local ARS units will generally expand until they start to cover whole districts. Districts, in turn, will eventually expand until they start to cover most of a province. This will help move the project into a more prominent position within a region and assist in supporting the implicit objectives of creating a quasi-governmental presence, under the broad auspices of an Interim Government.

Second, it is estimated that ARS coverage could expand to parts of 20 provinces in 1990-1991, and 25 by 1992, moving outside the eastern crescent to the west-central and northern regions of the country. With 25 ARS units, each operating at a multi-district level, the program would begin to have national characteristics, and address some of the important issues of "equity" and "spread" raised by the initial project evaluation.

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[5] Pricing, ownership, and sales of the private sector commodities are complex but solvable issues, treated in some depth in Chapter Five.

[6] How much new agricultural output can be generated by the resources of the project? What elasticity of demand are we dealing with? How much wheat and horticulture can be grown through the sales of specified quantities of agricultural inputs? Answers to these questions can be roughly estimated, and should be one output of the early strategic planning exercise completed in the first 60 days of the new contract.

Moving from local ARS units to district levels and then to provincial centers, and expanding first to parts of 20 and then 25 provinces are thought to be reasonable and necessary objectives for ASSP if the implicit goals of the project identified above are accurate.

The Effectiveness of ASSP

It is remarkable that ASSP's early years have been successful, with a rapid expansion of sites and services, given the turbulence of the environment in rural Afghanistan. This is clearly a tribute to the dedicated effort provided by the leadership of the project. In an expanded phase, far more efficiency can be expected in the use of project resources, based upon the knowledge generated in the first years of operation. The following elements of an expanded project can improve effectiveness over the next three years:

- A **Planning Model** for agricultural development that builds upon past successes and specifies the phases of activities, the priorities for project support, and the criteria for selecting project services. The model should also help make decisions about project sites, in the likely event that there are to be more opportunities than resources.

- **Data collection and analysis** that allows ASSP to select among potential sites and services based upon clearly defined and understood criteria from the Planning Model. Some locations offer more potential than others. Some rural works projects will deliver far more land into production than an equally costly alternative site. Although there will always be a need to review political considerations, security, and the local situation, the project should collect and analyze data on alternative site selection, using that information in conjunction with a knowledge of local particulars to weigh the trade-offs and increase the efficient use of project resources.

- **Ongoing monitoring** of the availability and prices of agricultural commodities in specific local areas. It will be necessary to have this information to target the private sector agribusiness delivery of goods and equipment.

- **Ongoing assessment** of the impact of the project and the progress of the agricultural sector is also important. This may require at least two different methodologies. First, observations based upon indicators of change and improvement. Techniques for rural development indicators are well established, but apply only in defined local circumstances where the evidence of rehabilitation (development) is unambiguous. The second methodology might involve the use of carefully structured formal sample surveys, to provide hard evidence of agricultural production and change, as well as to provide ground truth for the indicator system.[7] Together, the

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[7] It would be convenient if the agricultural survey of rural Afghanistan conducted under the auspices of the Swedish Committee could be updated. Although that may be possible, attempts to use their data for establishing an agricultural baseline on districts within ASSP are not encouraging. Both the instrument used, and the sampling frame, like many other aspects of early aid to Afghanistan, were dictated by what could be done, rather than accuracy and statistical validity. Chapter Six deals with this subject in more detail.

first can provide broad coverage, while the second provides harder evidence of change. In this way, ASSP can provide useful estimates of the benefits and impact of the project, and the pace of resettlement and rehabilitation in rural Afghanistan.

The Implications for Achieving the Endpoints Proposed

ASSP needs far more agricultural production capacity and professional agricultural management than its presently has or, based on its proposed staffing, than it will receive from the technical assistance in the expanded project. Demonstration packages modified to fit local agricultural regimes, together with agricultural innovations based upon equipment and supplies that may be new to the region, require serious attention from appropriately qualified professionals. The RFP requires three positions to be filled immediately, with two more that may be filled later, but production agronomists are nowhere in evidence. Until that capacity is added to the project, karez and road construction will continue to outpace direct contributions to agricultural production. For this reason, we have proposed as an alternative to the positions outlined in the RFP the addition of one expatriate agronomist and one U.S.-trained Afghan agriculturist.

The requirements of keeping the project afloat in treacherous waters have not permitted time for serious future planning. Nor has it permitted structured field observations or more formal surveys on project accomplishments. This absence was understandable in the project's early years, but will become critically necessary as the project starts to expand. The staffing proposed for the MAP unit has no qualified professional who can supervise field data-collection operations. It is not the specification of what should be collected that constitutes the problem, or the statistical requirements of sampling frames and sizes. Rather it is the discipline to collect what is needed in a consistent and objective manner. To redress this deficiency, we have proposed as an alternative to the positions outlined in the RFP the addition of one data-collection specialist to provide oversight to field teams, as detailed in Chapter Six, below.

Reaching the Objectives of ASSP

There can be many different scenarios detailing what the project might achieve by December 1992. We have provided one version. Others could be equally valid. But the establishment of desired endpoints and the agreement between the Office of the A.I.D. Representative and the contractor are critical within the first 60 days of contract signing. We cannot intelligently determine the way to take our first steps if the distant target is not specified. One thing we are certain about: that target must be more than "rehabilitation" to a situation that existed 10 years ago. When those targets become clear, we can work with the present staff and the ongoing program to make the changes required to reach the objectives of an expanded project.

CHAPTER THREE

INTEGRATING THE COMPONENTS OF THE PROJECT

Integrating or Separating the Components

An analysis of the way in which the project should be managed strongly suggests that the ARR component should be an integral part of the total project. The component needs to be managed, supported, and administered by one prime contractor. The ARR is the left hand; the PSA component is the right; MAP helps both do their job better. All three need common targets and common priorities, set by the same team of people working together.

There are many reasons that substantiate this conclusion, and a dozen ways to show the interlinkages of each project component. For example, the previous agribusiness component used many of the official stamps and certifications of the Kabul government to facilitate the distribution of equipment to areas outside of ARS structures. Times and circumstances have changed. The new agribusiness component will need to work directly with the ARSs to ensure high returns from imported commodities and equipment. Fertilizer in the absence of improved seed returns far less than when the two are used together. Farmers will generally not buy fertilizer at prices above its marginal contribution to output. This means in the abstract that they will pay less for fertilizer if it is not coupled with other necessary inputs. ASSP might need to increase its level of subsidy to fertilizer distributors whenever there are missing pieces of the agricultural production chain. If the project increases the subsidy level, given a fixed budget, it reduces its potential scope and coverage.[1] The ARSs provide the basis that will allow the private sector to deliver a full package of appropriate agricultural services and inputs.

Based upon our understanding of the expanded project, we believe that the ARS unit should have the following attached to it:

- **Agricultural testing and demonstrations** that help determine decisions on which agribusiness commodities should be included in the ASSP program;
- **Warehousing** for the private distributor's goods (certifying the arrival of the shipments either under ASSP or wholesaler title);
- **Commission salesmen** for agricultural products that have been established by the demonstration farms to yield returns that justify the expenditures; and
- **Data collection** on agricultural commodities. This implies the need to look at both availability and prices, together with the potential for new components that could be added to the project. Data collection should also assess the progress of ongoing activities and the impact of completed project activities.

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[1] This issue, along with the reasoning behind the subsidy and distribution of agribusiness commodities, is considered in greater detail in Chapter Five.

These are not entirely independent activities that should be handled by two separate contractors. Rather they are the "core" for the entire project. In the absence of integration, the prime contractor might need to re-arrange the implementation strategies. Rather than having the ARR and the PSA being fully integrated components of one project, it might be necessary to make them separate components. This, in our opinion, would significantly reduce the potential benefits of increased project resources.[2]

To capture the complementarities that we have identified between public and private sector action in the interest of agricultural redevelopment of war-torn Afghanistan, our proposals for the management and implementation of the project show all activities as integrated, and all leadership united under the prime contractor as of April 1990.

Organizational Requirements for Integrated Project Management

Taking the targets of Chapter Two, or other targets to be generated and confirmed as the contract begins, there is a need to relate the activities inside Afghanistan to those outside, within the framework of a comprehensive management plan. In the chapters that follow, we expand upon our proposed organizational model that we are suggesting for the implementation of an augmented ASSP. The positions called for in the RFP are shown in solid lines in Figure 4; those suggested as an alternative by the DAI Consortium are shown in dotted lines. If we were asked to staff the "to-be-filled" positions (when ARR joins the prime contract), Figure 4 would be the result.

Adding Financial, Administrative, and Legal Support to the Contract

As this ambitious project expands and becomes ever more complex, the financial, administrative, and legal support necessary for a new contractor has been reduced. Appropriate technical assistance to ensure that financial controls are established and maintained, that legal requirements are fulfilled, and that the administration of all activities is smoothly organized have not been included in the RFP. In short, there is no position for the critical services now provided to the current PVO by the incumbent serving in the role of controller, John Soden.

Switching from a PVO to a prime contractor does not eliminate the need for financial controls. Rather it is likely to increase the need for precision and accuracy in financial reporting and end-use accounting. A contractor may live with a different set of rules than a PVO. Afghan staff working with the project are dedicated to the rehabilitation of their country and the provision of timely and

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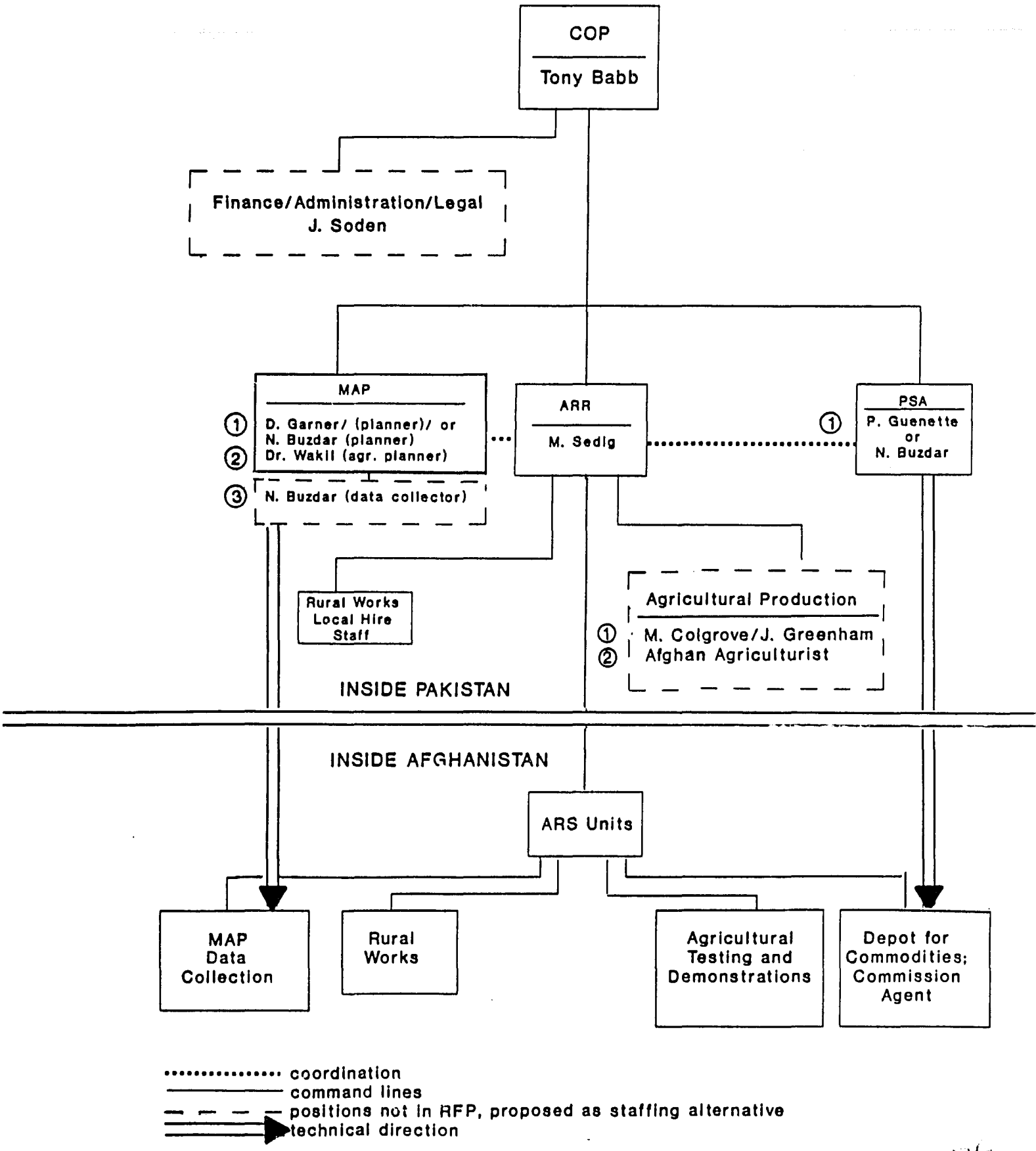
[2] This issue has nothing to do with the ability of DAI to coordinate with and respond to the leadership of Engineer Mohammad Sediq, now heading the ARR component of the project. As our organization chart shows, we believe he is a key critical player in the management of the expanded project. Engineer Sediq has agreed to remain with the project, as head of all field operations and the ARR component under a DAI prime contract. But it is a fact of organizational life that few complex situations are well served by two different chains of responsibility, authority, funding, and contracting mechanisms.

Figure 4
Management and Staffiing of an Integrated ASSP Contract



necessary support inside Afghanistan. In getting the job done, they may be less concerned than the A.I.D. audit staff about demands of accountability by the contractor. In the environment of this project, with millions of dollars flowing over a border that staff members of the prime contractor cannot cross, with high potential for leakage along the way, it is hard to imagine a responsible contractor who would not call for professional oversight of the financial reporting system. DAI has added a financial controller's position to support contract management as its first proposal for alternative staffing of ASSP. This position would be filled by John Soden.

CHAPTER FOUR

THE AGRICULTURAL AND RURAL REHABILITATION COMPONENT

Area development schemes (ADSs), renamed to area rehabilitation schemes (ARSs), have been the heart of the first phase of ASSP. Eighty four percent of the 1988 program budget flowed through the ARS units, roughly in the percentages shown in Table 2.

TABLE 2

ASSP 1988 PROGRAM EXPENSE ANALYSIS ESTIMATES
(excluding staff, operating expenses, and technical assistance)

ARS Expended or Distributed	$	% of Total
Agricultural Supplies	600,000	24%
Road Reconstruction	400,000	16%
Karez Rehabilitation	1,200,000	47%
Commercial Channel Distribution		
Agricultural Machinery	340,000	13%
Total	2,540,000	100%

From a beginning in fall 1987 through the first quarter of 1989, the ARS component moved from virtually zero staff to more than 225, with each of the new hires being "vetted" for acceptability as well as competence, in the volatile environment of rural Afghanistan. The building of an ARS capacity, creating an institution where none had existed, is a remarkable feat of accomplishment and reflects the wide-ranging contacts and leadership of Engineer Sediq, who heads the ARR component.

Given the environment, the new staff, the absence of government, and the presence of many commanders competing for authority, the first obligation of the ARS staff was to get things started. Two opportunities were seized that required no equipment, consumable supplies, or extensive designs. These were arrangements to clean karezes, long neglected during the war, and to initiate road rehabilitation and, in some cases, new road construction.

Through the birth pangs of the start-up period, agricultural activities have been secondary. Often agricultural assistance has involved the project in custom tillage and distribution of goods and commodities provided by the project in negotiation with shuras or local commanders. There has also been an occasional auction of relevant commodities to local farmers as well as work in horticulture and radio broadcasts on subjects related to agricultural production. Some pilot work has been done in Kandahar with the distribution of packages of improved wheat seed and

fertilizer. Although the Rural Development Department in the prior Afghan government, headed by Engineer Sediq, had numerous engineers who have joined the program, qualified agricultural specialists -- who could quickly come together in a functioning organization -- have been scarce.

To date, the exigencies of the situation, together with the need to get started and produce results, have prevented long-range plans from being developed. Although the ARR component is the responsibility of the present PVO contractor through March 1989, the following suggestions are provided for the way the ARS units could become the central focus of activities inside Afghanistan, within the strategic framework of ASSP.

Tasks for the Reorganized ARS Units

In the concepts presented in Chapters Two and Three, we have proposed that the ARS units should become the centers for activities inside Afghanistan, directly responsible for rural works and agricultural extension, supporting activities of the MAP and PSA components. There are good reasons for proposing this integrated approach. Our vision of the interrelated tasks and fundamental design principles for the expanded ARS units is explained below.

Rural Works

Rural works should be conducted under a plan for rehabilitating a geographic region. This should be at least a district or preferably, as the program expands, province-wide. Although the ARS unit may have one home location, elements of the team can work throughout the district or province, extending coverage out from the obvious headquarters area. One task of the rural works component of the ARS is to generate information needed for an infrastructure rehabilitation plan. This plan will not only provide priorities for the karez and road rehabilitation now consuming most of the efforts of the rural works units. It will also offer new insights into potentially higher return infrastructure in surface irrigation, bridges, and other basic structures that link ARS and other settlements together back into an interdependent economic system. By identifying these infrastructure requirements at a district, provincial, or regional level, ASSP could become able to approach other donors for additional funding, to assume responsibility for selected subprojects, thus helping to rationalize the use of donor's funds not otherwise attached to a development plan.

Second, rural works subprojects, as conducted to date, result in income generation for the local population. Karez cleaning goes forth with a few highly skilled specialists and a cadre of local unskilled labor. Much of this is actually arranged by and with the Mirab, the local head of the Karez Owner's Association. Work is often divided into tranches, with payment for cleaning as each portion is completed. Approximately $1 million has gone into karez cleaning through 1988, representing nearly 1,000 karezes. This activity increases cash availability in the areas surrounding the ARS units and helps make them appropriate clients for private agribusiness sales of agricultural commodities. Road rehabilitation provides even more concentrated cash payment, as up to 500 workers per day may be employed on a road at one time in agreement with the local leaders along particular stretches of each road. This concentration of cash payments suggests that full farming systems

including various kinds of agricultural machinery might be purchased from pooled resources earned by working on rural works construction activities. There may be some interesting potential to be explored in co-locating rural works activities with agribusiness sales depots, to ensure appropriate cross fertilization of the two components -- that is, effective demand coupled with the supply of appropriate agricultural inputs.

Third, rural works produces far more than completed karezes and roads. They mobilize communities to work on their own behalf, help organize a rural population divided by war, and sometimes catalyze rebuilding efforts in devastated areas that might otherwise appear hopeless to refugees considering returning to their pre-war homes. Rural works becomes the first phase of an effort to rehabilitate agriculture, leading naturally into the demonstration of agricultural technology and to the availability of agricultural equipment and commodities through private sector sales. There is a natural progression from rural works to agricultural revitalization, and the program should be purposefully integrated and planned to capture this complementarity.

Agricultural Demonstrations

This will be a new task for the ARS units, one they are not now ready to assume. There are two preconditions. First, appropriate agricultural technologies must be identified for each ARS, based upon past agriculture activities, market potential, and a knowledge of the possibilities of production agriculture based upon the present socioeconomic realities of post-Soviet Afghanistan. Such technology packages, in turn, must be demonstrable. In some areas this will merely require re-introducing high-yielding seed and fertilizer, perhaps coupled with tractor tillage and harvesting capacity. In others, new technologies not previously used -- for example, tractor tillage, seed drills, and threshing -- will be necessary to overcome the loss of bullock power and the need for expanded productivity on a smaller irrigated land base.

We have proposed the addition of a professional production agriculturalist to the technical assistance team, a person familiar with grain production in both irrigated and rainfed conditions similar to Afghanistan. This professional's primary responsibility would be to:

- Generate the data requirements for field staff to collect that would allow the identification of new technological packages;
- Create demonstration packages for the principal crops in each ARS;
- Define the equipment and commodities needed to conduct the full farm demonstrations, including tractors, implements, and consumables;
- Set the specifications for high-yielding seed reproduction, which should be one output of the demonstration farms; and
- Monitor the results of the work from field reports and make corrections in the packages after assessing the results, costs, and benefits of the technologies.

We have also proposed the addition of a Western-trained Afghan production agriculturalist, to interact directly with the agricultural field staff. This individual would also carry out training under the guidance of the senior agricultural specialist and, when possible, provide direct guidance to the demonstration programs being conducted.

We would expect that one outcome of the demonstrations may be to increase the demand for custom tractor services. According to almost all reports, Afghanistan has a severe farm labor shortage. Although small farmers are not themselves candidates to own expensive mechanized farm equipment, custom tractor entrepreneurs are well suited to this task. When the land to be worked is contiguous, as it can be when crops are grown under irrigated conditions, mechanized tillage, seeding and harvesting can be very cost effective. One task of the PSA component -- working with the MAP unit -- will be to determine how much cash exists within local communities for purchase of custom tractor units.

Supporting the MAP Component

The ARS unit needs to provide field guidance and support to the staff deputed from the MAP component of the project to work with each ARS. We are recommending two such Afghan MAP staff with specific data collection and reporting responsibilities. Although their tasks are described in Chapter Six, the nature of the MAP staff's interaction with the ARS unit is important for the smooth functioning of all project activities inside Afghanistan.

We envision the ARR component directing all field activities inside Afghanistan, ensuring that the project fits into the often difficult rural environment. Thus, the head of the ARS would provide field oversight for the MAP staff, obtain clearance for movement, and keep the shura and local commanders informed as appropriate of ongoing activities. The ARS head would need to authorize video recording as well as approving survey and interview teams to carry out their assignments. Although the technical content of the MAP program would be generated in Peshawar, field operations should be integrated and carefully coordinated to obtain the broadest possible coverage of the program's impact.

Supporting the Agribusiness Component

A major new activity of ASSP will be a greatly expanded and revised private sector agribusiness component, detailed in Chapter Five. One concept advanced in that chapter is to have ARS units serve as depots for equipment and commodities to be sold within the region. In addition, we suggest in Chapter Five nominating some agricultural staff of the ARS to act as commission agents for the dealer (or dealers) whose commodities are in the depot, subject to necessary discussions and agreements with the Office of the A.I.D. Representative and other interested parties. The project might pay the basic salary for the commission agents, while their main income would be derived from the sales of equipment and commodities. In programs around the world, this system has served as a much more effective extension program than paid government agents with little stake in the adoption of new technologies by their farmer clients. Although this proposal must still be field tested, if it were

successful, it would add another oversight responsibility to the tasks of the ARS unit leader (the ADO) to ensure that this aspect of the program remains in conformity with the local political structure.

Moving from the First to the Second Phase of ARR Activities

As discussed in Chapter Six, ARR as well as other components need to expand their strategies for rehabilitation over the course of the next three years. The revised strategies need to be written and agreed to shortly after the new contract is signed. We believe the following aspects will be important in shifting from what has been happening under the ARS units to what should be the operational mode of a new and expanded program.

- Rural works will need to expand its capacity beyond karez and simple road rehabilitation to carefully selected surface irrigation structures and perhaps an occasional bridge, when these installations are critical to the completion of an area rehabilitation plan. There is no reason to tackle difficult engineering assignments unless the payoff is high.[1]

- Training of the rural works staff during the coming winter season should concentrate on two aspects: the information needed to develop the infrastructure rehabilitation strategy and work plans, and the technical skills needed to increase the complexity of rural works activities. The MAP component will provide much of the information requirements for infrastructure planning.

- The agricultural field staff needs to be reoriented away from a PVO perspective of short-term relief and high visibility to a more mercantile and commercial perspective. There are two aspects to this: demonstrating improved agricultural technology (growing high-value seed in the process) and helping sell the right commodities and equipment to farmers through the PSA component.

- The tractors and equipment previously purchased for the agricultural activities under the ARS, placed under the nominal jurisdiction of the shuras, should be sold. New equipment should be purchased that is clearly reserved for agricultural demonstrations, under the full control of the ARS agricultural staff. The current arrangements were intended to facilitate the introduction of tractor and equipment use under project auspices. This is now an appropriate time to switch concepts, allowing others to take responsibility for commercial mechanized services while, in the future, the ARS concentrates on introducing and testing new technologies while it delivers seed stock materials to farmers within the ARS jurisdiction.

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[1] During the first phase, payoffs were not calculated on individual subprojects. The rule of reasonableness applied. This was entirely appropriate for a program getting under way, but it will not be sufficient for an expanded and higher profile effort.

- The possibilities for sales of private commodities need to continue to be tested. To proceed with a pilot test of a proposed auction or lottery of fertilizer in summer 1989, for example, will help determine the limits of subsidies required in specific ARS areas. It would also help to test the utility of the auction mode, which apparently worked reasonably well when used for bullocks at an earlier period but may not be feasible for non-distinguishable consumable commodities, as discussed in Chapter Five.

Rationalizing and Justifying the ARR Component

Given the dedication of ARR leadership to the rehabilitation of Afghanistan and the competence of the staff, there is every reason to believe that resources expended and results achieved have been an overwhelming value for the money expended. But the atmosphere in rural Afghanistan has -- like the famous Dutch boy -- required all available fingers in the dike. The environment has not provided time or incentive to rationalize decisions based upon a long-term strategy and plan, or to examine the impact of ongoing or completed project activities. Adjusting this state of affairs is one major responsibility of the MAP component. But there are revised actions that will need to be taken by the ARR component to make the planning, monitoring, and evaluation tasks possible. The ARR field staff will need to:

- **Collect data** and then work with the MAP unit to generate an infrastructure rehabilitation strategy that includes irrigation and roads and bridges. There are tradeoffs between surface and karez irrigation, the design capacity required for various structures, subcontracting possibilities, quality control, material options, and the like, and the priorities and criteria that resolve these tradeoffs need to be reflected in an agreed implementation strategy.

- **Generate a work plan** from the strategy with tasks for each ARS unit, with both a schedule and sufficient flexibility to respond to local requirements, and make changes as circumstances evolve.

- **Establish a monitoring and reporting program** that provides monthly progress reports against plans from each ARS, aggregated by the ARR component in Peshawar. This would be a good opportunity to use project tracking software that was created to deal with construction projects.

- **Revise the accounting system** for the ARR component into one that allocates costs for each subproject, allocating, for example, $1,000 for karez #1, $50,000 for road #2, and so forth. Such cost allocations form one basis for economic evaluation of the benefits of project activities. At the moment, under the existing accounting system, it is not possible to assign costs to a specific rural works subproject, which means no subproject cost/benefit calculations are currently possible. Even rule-of-thumb guidance on selecting

one karez rather than another for cleaning has no decision mechanism at present that can relate the costs of cleaning to the potential benefits of increased irrigation.[2]

- **Cooperate** to document the impact of ASSP by providing insights and indicators of change and progress in the areas covered by the ARS units.

Training

In the expanded project, an upgraded training program should be planned for all ARR field and headquarters staff. Major training traditionally takes place in the winter, when access to Afghanistan is restricted and agricultural activities are minimal. The project has both facilities and a training staff on retainer that has been used for prior year's sessions. For the future, the project should commission, through a grant or subcontract, with the Academy for Rural Development, or one of our collaborating organizations, Development Research and Management Services (DRMS) (explained in Chapter Eleven), for training programs that will increase their contributions to development. This will assist all staff in working in complex environments and provide guidelines for the building of cooperation with shuras. In addition, the project should request assistance from the engineer attached to the Office of the A.I.D. Representative to put together a training program for the rural works staff on advanced engineering concepts. We would also propose to utilize short-term technical assistance to create an agricultural training program that explains the way to initiate the field test and demonstration component of the project.

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[2] In a traditional surface-flow irrigation system, in which all land is irrigated, the command area is easily calculated and the benefits of water are not difficult to relate to the costs of the irrigation system. In karez irrigation, there is inevitably more land available than is irrigated, making the definition of the command area not directly obtainable. If it is important enough, the water flow through the karez could be measured to obtain water volume and selected karez command areas could be surveyed. This would provide a useful approximation relating the volume of water increased by karez cleaning to changes in the size of the command area. Information, however, costs money. The question is the value of the information in providing an economic basis for the rural works activities of the project. Similar issues arise in setting priorities for surface irrigation and road and bridge reconstruction. All these raise the question, When has sufficient information been collected to allow a decision to go forward? The determination of the appropriate quantity and quality of information is a responsibility of the MAP component of the project.

CHAPTER FIVE

THE PRIVATE SECTOR AGRIBUSINESS COMPONENT

In size, complexity, and the potential for immediate wide-spread impact, the agribusiness component is the heart of the expanded ASSP. If the economic conditions inside Afghanistan were such that private agribusiness exports from Pakistan were routinely profitable, there would be little need for the PSA component because Afghans are natural traders and entrepreneurs. At some time in the future, that may come to pass. Over the next four primary wheat-growing seasons, however, ASSP can make a significant contribution to creating linkages between the private sectors of the two countries. With appropriate support from the project, these links will grow with economic prosperity while contributing to resettlement and rehabilitation of war-torn areas.

The description of the PSA component is deceptively simple: restore the productivity of a rich agricultural region and introduce an agricultural marketing system for intra- and interregional trade in agricultural products. In this context, the immediate task will be to open commercial channels from Pakistan and move necessary agricultural equipment and inputs into rural Afghanistan to regenerate agricultural production to pre-war levels with a minimum of subsidy.

The challenge is to design a system that accommodates immediate production requirements without detracting from the long-term set of objectives aimed at building a vital agricultural economy. Any such plan requires certain basic organizational procedures including but not limited to the following:

- Inventorying fixed cost items -- that is, farm equipment, storage facilities, and other infrastructure;
- Inventorying the availability of farm inputs -- that is, fertilizer, pesticides, and seeds;
- Determining the immediate requirements for the 1989-1990 crop year to be satisfied by ASSP;
- Identifying available or immediate potential distribution options for agricultural commodities, for the 1989 planting season within ARSs and outside ARSs and for cross-border transactions from Pakistan;
- Introducing a system of data collection at the outset, modified after the preliminary inventorying phase; and
- Organizing field demonstrations and testing with systematic reporting procedures to determine appropriate equipment and input selections for subsequent growing seasons.

An Immediate Strategy for Delivering Consumable Agricultural Inputs for the 1989 Growing Season

Farm Equipment

There have been successful farm equipment arrangements made under the first phase of the project. These have taught some important lessons and provide a basis for expansion in the future. The resulting increase in mechanized capacity has also aided the rehabilitation efforts. But the channels that have been established are limited in their capacity to accept the proposed levels of commodities and equipment of the expanded project.

In the first phase, the quantities moving across the border were small (approximately $2 million, mostly in pumps and wheat threshers). The subsidy levels were set arbitrarily between 20 and 30 percent of cost to allow certification under official Kabul-government import regulations. The distributors were few and in most cases, operating by special arrangements outside of the public eye. Since those arrangements were made, access to Kabul from Peshawar has closed and the requirement for government customs clearance has greatly diminished. New subsidy levels should reflect the economic realities of Afghanistan's agricultural potential, which varies by region and area and is largely unknown.

By the start of the expanded project later this summer, the strategy for equipment distributions for the 1989 planting season will have been set, since production lead times generally preclude off-the-shelf purchases of large quantities of farm equipment. The early days of the new contract will call for a review of the details of what has gone before, as well as what is in the pipeline, and a revised strategy for the project, with specific details for the next six months.

Agricultural Inputs

This is a new area of involvement for ASSP. No commercial distribution of agricultural inputs has taken place. A consultancy study on fertilizer distribution offered no implementable solutions for a commodity export program, since the consultants seemingly had a different system in mind.[1] In late May 1989, no plans were available from VITA's Peshawar office to dispatch a reported 9,000 tons of DAP and urea being made available by A.I.D. The new contractor may inherit much of this tonnage and may need to use immediate short-term consultant assistance to make arrangements to deliver it to Afghanistan. Since this responsibility may fall upon the DAI Consortium, the following suggestions are tentatively offered, in the absence of full knowledge of the program, as an interim solution that serves to transform a problem into what we believe to be an opportunity:

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[1] Chemonics International Consulting Division, "Agricultural Input Mobilization for Afghanistan--Final Report of Assignment," November 4, 1988. The report seemed to call for the provisional re-creation of the Afghan Fertilizer Company with the project taking title to and responsibility for fertilizer distribution and sales.

1. Set aside a portion of the fertilizer and the applicable amount of high-yielding seed to be used in each ARS for demonstrations and field testing for this growing season. Use the tractors previously provided by the project and now under the jurisdiction of the shuras to grow as much wheat seed as the tractor can till and harvest. Use the agricultural staff at the ARS to oversee the proper application of fertilizer. Begin the testing and demonstrations this fall, and generate locally available seed stock that will be repurchased or exchanged at harvest. Keep records of all expenses of the demonstration farms, and measure the yields against both fertilized (at selected percentages of the recommended applications) and non-fertilized traditional wheat seed.[2]

2. Establish minimum distribution quotas or preliminary allocations for fertilizer, based on past utilization levels determined from informal polling of senior officers in each ARS (the ADO), private sector handlers, and representative growers for estimates of the fertilizer utilization levels and cash availability.

3. Establish a price for the minimum distribution quotas for each ARS, somewhere between the Kabul government subsidized price of Afs 600 per 50-kilogram bag of urea and Afs 800 per 50-kilogram of DAP, and the price prevailing in Pakistan which in May 1989 was approximately 2.5 times the subsidized Kabul government price.[3] If the fertilizer is to be made available to regions under the influence of the ARS (and local shuras), the price is likely to be set so that there will be greater demand than supply. This will call for some variety of rationing system.[4]

4. Allow private entrepreneurs to bid on any supplies above minimum quotas. Every effort would be made to have participation from all ARSs so that the private sector would serve as the ultimate allocation channel for distribution beyond those selected within an ARS. Prices would need to be set so that reflows from Afghanistan, being transported at low prices to prevent empty backhauling, would not make incentives for the fertilizer to be sent for sale in Pakistan. Exactly what the minimum bid price will be depends upon transportation costs and can be calculated for each ARS.

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[2] The MAP component, which is described in the following chapter, details a training program for ARS agricultural staff and MAP field staff that will make the collection of this data feasible.

[3] For most of the project's life, Afs converted to Pakistani rupees at 10 Afs to 1 rupee. Since January 1989, the exchange rate for Afs has deteriorated, and was approximately 14 Afs to 1 rupee in May.

[4] Fertilizer is most valuable to those growing cash crops such as grapes and vegetables. The lower the fertilizer price, the more likely farmers will use it on the wheat crop. In situations in which subsidies are involved, the most influential (and, likely, the least needy) will petition to received subsidized goods -- an analogous situation to the distribution of subsidized credit. Heavy demands will be placed upon both the ARS and the shura to affect equitable distribution of a scarce, valuable, and likely underpriced agricultural input.

This system, if correctly executed, would accomplish two objectives. First, it would provide fertilizer for growers operating in areas where the ARS units are attempting to establish influence with local councils. Second, the auction will provide the data for the MAP unit to establish a relatively good approximation to a market demand for fertilizer under the conditions that prevail in each ARS.

There are no easy answers. However, a few things are known: the project should not be in the fertilizer ownership, distribution, and sales business. For 1989, there seems to be no option, as dealership arrangements have not yet been established and the time frame and staff resources suggest that these arrangements may not be possible by September.

Initiating the Fertilizer Distribution Program

If the contract is signed in July or August, there will be little time to prepare for the distribution required prior to the 1989 growing season. DAI would propose to capitalize on contacts and arrangements already made. ASSP senior staff have been working with Mr. Ajruddin Wais for several months to prepare the way for a fertilizer supply and distribution program. Mr. Wais is a senior Afghan agriculturalist whose resume is included in the consultant's roster in Volume II. He attended the American University of Beirut on an A.I.D. scholarship and worked for approximately 20 years with the Ministry of Agriculture, holding senior positions, including Director of Locust Control and General Director of Plant Protection. He was also Sales Manager with Bayer Agro-Chemicals in Kabul from 1969 to 1975 and then General Director of their Agro-Chemical Marketing Division for five years from 1975 to 1980.

Because of the breadth of his connections throughout the agricultural community, Mr. Wais has helped assemble a prospective nucleus of Afghans who have previously worked with the Afghan Fertilizer Corporation. In his own way, Mr. Wais holds a position similar to that of Engineer Sediq in rural works activities, as a catalytic figure who might help to re-generate a capacity to deliver fertilizer and related agricultural commodities to free Afghanistan.

Mr. Wais has prepared a list of 12 potential Afghan core staff who could help launch a fertilizer program.[5] In addition to this nucleus group, he has also identified a further 70 subsidiary staff who could be available to help with an appropriately designed program, working through commercial channels. In addition, he has identified more than 20 dealers in Kabul who could take on sales distribution responsibilities. Eight of these 20 have been contacted directly and have expressed their willingness to buy fertilizer and other related agricultural commodities, and retail them to farmers. In addition to those in Kabul, dealers have been identified in Ghazni, Nangarhar, Kandahar, and Helmand provinces.

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[5] Because some of the individuals remain in Kabul at this writing, the listing remains with DAI in Washington.

The proposed core staff have all previously worked together, and could be reconstituted as a team without friction or loss of efficiency. All are believed to be fully acceptable to the jihad and the mujidadeen. Most are in their early forties, an appropriate age for the work that would be required.

In Chapter Nine, where we present our work plan, knowledgeable expatriates available to begin immediately in August to implement a fertilizer distribution program have been named. Mr. Wais and his associates could complement this team and provide the linkages inside Afghanistan. The existing ASSP project also employs Mr. Mir Mohammad Ayoob, a former senior agriculturalist with the Ministry and USAID in Kabul prior to the war, with experience in the selection and distribution of certified wheat seeds. Together, those from the first phase of the project could be added to a special commodity distribution program and can build a capacity to deliver fertilizer and seedstock rapidly to growers inside Afghanistan.

Linking the Private Sector to Afghanistan's Requirements -- the Long Run

This is a complex subject and one requiring serious on-the-ground study. The comments below are intended to point toward areas to be investigated further as the project proceeds and do not pretend to do justice to the complexities of the current situation.

To make the commercial distribution system work correctly, distributors need local dealers and commission agents who handle products, make sales, and operate as part of a private supply chain. The following considerations should be included as a new strategy is being developed for the agribusiness component of the expanded project.

1. Give priority to the demonstrations of the appropriate agricultural technology associated with each ARS. These demonstrations will not only test the most appropriate farm equipment for the local areas, but will allow serious economic calculations of the benefits of agricultural equipment.

2. Use the knowledge from the demonstrations to specify the necessary agricultural equipment, creating a demand, and then arrange with suppliers and producers guaranteeing quantity and bulk purchases. (This is similar to the way in which the project staff in Phase I approached pump dealers and thresher manufacturers.)

3. Decide upon the volume of agricultural consumable inputs to be included in the annual program, and make arrangements to have those available in time for the required planting seasons.[6]

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[6] In 1988, the Government of Pakistan had a 17-percent subsidy on phosphate fertilizer, and none on nitrogen. At a recommended ratio of 2:1 nitrogen to phosphate, the project would need to compensate Pakistan approximately 7 percent of the total value of the fertilizer purchased (considering the difference in price of the two fertilizer varieties), to prevent the Government of Pakistan from subsidizing deliveries to Afghanistan.

4. Establish depots at each ARS to store the equipment and commodities as they are delivered to the area. Train members of each ARS to serve as commission agents for a local dealer (or dealers) to be selected by the ARS and shura. Make available to the local dealers all ARS information on pricing and quantities of commodities and equipment sold in the local area.

5. Select qualified and reputable distributors who are interested in establishing cross-border channels for agricultural commodities. Bring the local dealers vetted by the shuras to Peshawar where they would meet with potential distributors. Provide dealers with the best possible estimates of local demand and prices for the commodities to be supplied.

6. Hold a bidding process or auction in which potential distributors bid to take on specific areas, with the project supplying transportation, field storage, and base pay for commission agents.[7] Make subsidy payments to buy down the suppliers or manufacturer's prices so that the project does not take direct title to the commodities. Distributors and dealers will be free to set their own local prices to clear the market for the equipment and commodities they agree to purchase at subsidized levels.

7. Give responsibility to the ARS agricultural staff to inventory the commodities that arrive at each location, certifying arrival in good condition.

8. Build a distribution plan for regions not served by ARS units, with shipments that fill critical niches in the agricultural production system.

In the first year, the project can expect to pay the price of establishing a distribution system that is not yet in place. In the second year, the subsidy should be reduced, as a functioning system more closely targeted to the needs of each rural area begins to emerge. By the third year, it is possible that only the cost of transportation would remain a project-borne subsidy.

There are many potential complications to these suggestions. Serious study must be undertaken of the relationships between prices in Afghanistan and Pakistan, and the exchange mechanisms that will be required. The project may need to extend credit to commercial suppliers for 90 days for large shipments of consumables, or provide guarantees to private financial institutions in Pakistan that would make short-term loans available. Although consumable inputs will be sold to individual farmers, the market for larger equipment will probably be to custom-tractor enterprises that specialize in providing tillage, seeding, reaping, and threshing services.

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[7] There is always the danger that the ARS units will become fiefdoms restricting the free flow of trade to and from Pakistan. In the early years of ASSP, this has not been a problem but one to be considered and reviewed during the second phase of the project. If and when commercial linkages can be established outside the ARS structure, Afghanistan will be well along the way to rehabilitation.

Making the Arrangements: Providing Deal Making or Honest Broker Services

There are two possible ways to implement the recommendations proposed above. One is to have the project make arrangements with Pakistan suppliers, including the price and specifications of commodities to be procured. A second set of arrangements would be made with the distributors and dealers that will ship and sell the equipment and commodities in Afghanistan. The project would buy down the difference between the costs of procurement and the estimations of costs of transportation and selling price in Afghanistan. In this instance, the head of the PSA component should be an experienced deal maker, since he will be responsible for obtaining the best prices on both ends of the supply and distribution channels.

The alternative is to place the Afghan entrepreneurs in direct contact with the Pakistani suppliers, and make positive incentives for the Afghan to negotiate the best possible price for the equipment and commodities to be procured. That incentive might be a percentage of the price below some figure set by the PSA office, determined by research on sales of comparable supplies. In this instance, the head of the PSA component should be an honest broker, providing information on past costs and specifications to the Afghan buyer, ensuring purchase contracts (if necessary) with the Pakistani supplier -- that is, making the deal work correctly but not directly intervening in the bargaining between the two.

We have a strong preference for the second option, utilizing the many generations of trading and smuggling experience of the Afghans to bargain for the best possible prices, delivery dates, specifications, and the like. The Afghans have been doing this for centuries. We believe that a PSA unit functioning as an honest broker is the correct operational mode, with serious attention to the incentive package required to get the best possible price negotiations from Afghan distributors and dealers. We have staffed our the technical assistance for the PSA with this strategy in mind.

Special Considerations: Reflows from A.I.D-purchased Equipment and Commodity Sales

In the early years of a crisis program dealing with resettlement and rehabilitation, the normal rules of doing business can be waived. It is DAI's experience that as time goes by and programs expand and become more visible, however, the inexorable hand of the legal staff and General Accounting Office reach into project activities. Whenever the project takes title to goods and sells them, financial reflows occur that can present the legal office of A.I.D. with nearly insurmountable problems.[8]

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[8] DAI is providing technical assistance to a large private sector agribusiness project in the Eastern Caribbean, a project predicated on the provision of equity capital to entrepreneurs. Implementation arrangements made during project design were rejected in Washington because the reflows would occur to a private for-profit entity. Eventually a trust fund was established that was at arms' length from A.I.D., meaning that there was no effective control over the original equity purchase or use of funds from the sale of equity shares.

With an expanded project getting under way in Afghanistan, we strongly recommend that the project generally not take title to commodities. Since this advice does not appear to be possible for the 1989 growing season, the project should not take title to equipment or commodities after this period of emergency distribution by operating as suggested in the previous sections.

Special Studies on Agricultural Inputs and Output Pricing

As soon as there is some data available, we recommend that Dr. Rick Gilmore and/or Cary Viktor of GIC, a partner in the DAI Consortium, come to Peshawar to conduct a special study of prices and forecast demand for future agricultural commodities and equipment. This will require continuity over time, as new circumstances generate new information, calling for revisions in the prior season's plans. Both Dr. Gilmore and Mr. Viktor have agreed to be available as needed during the life of the project.

There will be a need for other special studies on:

- Methods of cost-effective transportation;
- The potential for backhaul of Afghan agricultural commodities for sale in Pakistan (or export);
- Revised and improved agricultural equipment for Afghanistan (updating the work provided by Roy Harrington[9]);
- Storage and handling facilities required to improve agricultural marketing system within Afghanistan; and
- Barter as a means of introducing producer liquidity and minimizing distortions in overall economy of the region.

The strategic planning that will be done over the course of the first months during start-up for the next phase of the project will identify additional studies and field data that will be required to improve the cost effectiveness of the PSA component.

Exchange Rates and Barter Possibilities

ASSP is a project funded in dollars, presently converted in rupees and used to procure goods and services destined for Afghanistan. Commodities are sold in Afghanistan will generate Afs, unless sales are restricted to Pakistan currency. The conversion rates between Afs and rupees become critical to the establishment of the prices of commodities and equipment purchased in Pakistan.

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[9] Roy E. Harrington, "Farm Mechanization Strategies for Afghanistan," February 1989.

Kabul has been the center of a currency market for generations. We have been assured that any amount of Afs that the project's activities might generate can be converted into rupees through the activities of well-established money traders. The Afs are provided in Kabul, the rupees appear in Peshawar. The system has continued to function throughout the long years of the war.

As Afghanistan moves from a Kabul regime to a free government, the value of the currency may deteriorate, and "good" rupees may drive out Afs. In this case, the possibility of barter trade should be considered. Barter and countertrade might take the following avenues:

- Producers selling forward future production in exchange for short-term input requirements, including any user fees for existing tractors. Producers might organize and act as cooperatives, pooling their requirements and output, charging members either a user fee for use of tractors under their jurisdiction or discounting a portion of their future profits from their production, payable at harvest.

- Entrepreneurs collateralizing their debt for loans from private financial institutions through buy-back commitments or sale commitments from producers.

- Straight barter deals between producers and transporters and storers of crops.

Getting Started: the Strategic Planning and the Commodity Distribution Teams

The DAI Consortium is ready to begin. We have made arrangements to start the PSA component. If immediate fertilizer distribution is required, we have the resources, both external and internal to Afghanistan, to make the distribution program work. A four-person team of those already working in and around the project has been named in Chapter Nine, with a summary work plan. The addition of Mr. Wais and his cadre of experienced Afghan agriculturists will help ensure broad and efficient distribution, so that, after the immediate needs of each ARS area are served, the remaining fertilizer sales will help identify a demand function for market clearing prices. This will greatly simplify arrangements for commodity distribution in future growing seasons.

We are also ready to undertake the strategic planning required to build an implementation plan for the PSA component. DAI understands the relationship between a strategic plan, an implementation plan, and a work plan, and is prepared to meet the requirements of a 45-day draft and a 60-day final report delivery. Chapter Nine provides the details of the teams and timing for start-up.

CHAPTER SIX

THE MONITORING, ANALYSIS, AND PLANNING COMPONENT

The MAP component must focus on the development of progressive data collection and analytical techniques that can be used to improve the efficiency and impact of the project. Environments and subproject components are interactive. Thus, the MAP component must include within its responsibilities the selection, collection, analysis, and dissemination of information on rural Afghanistan; project interventions; and the interaction between the two. This will generate two categories of overlapping and complementary information that must be regularly collected and analyzed:

- The rural environment in which ARS units operate. This needs to include such data as the status of refugees and their progress toward rehabilitation, the coalescing of political groups, major new opportunities or requirements for foreign assistance, and other subjects that may become important as the security situation evolves; and

- The plans, activities, and progress of the project in the targeted areas.

Within this interactive cycle, the MAP component must begin somewhere. In the paragraphs below we present a starting point with directions for the initiation of planning, monitoring, analysis, and evaluation of ASSP.[1]

Establishing a Rural Resource Inventory of ARS Areas

The only way to determine if rural works construction is hitting the highest priority targets and if agricultural commodities and equipment are appropriate for local circumstances is to inventory the agricultural resource base within each ARS area. There are many different ways of defining the needed information. The RFP, for example, calls for a "User Needs Assessment." What is being sought is the difference between the actual output from the use of water and agricultural land, and the potential output under good but reasonable conditions, using the difference

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[1] In 1988, DAI completed an 18-month study resulting in a Master Plan and the design of two development projects for the barani areas of Punjab Province, Pakistan. This plan examined the resource inventory in agricultural and water resource development; identified a process that brought forward opportunities for development intervention; and proposed the way monitoring, evaluation, and plan revision could move forward in this region inhabited by more than 10 million people. As an indication of the continuity of the DAI staff, five members of the Master Planning effort, including who contributed to this planning process, are available as potential short-term specialists to assist ASSP.

between "actual" and "potential" to define the opportunities for project interventions. When the opportunities can be ranked by some criteria, a priority system (planning model) can be established that helps to define targets for ASSP.[2]

Activating this system requires the MAP unit to establish the kind of data that should be collected in the field, and then to train the ARS staff to collect the data. After this, MAP staff need to process, analyze, and aggregate the data into usable outputs that provide the basis for a planning model. Each ARS should have an agricultural resource inventory that is updated regularly as unused areas are brought into production and rural infrastructure goes in or out of use.

Maps with overlays depicting various kinds of data are one useful way of consolidating information for an agricultural resource inventory. A provincial ARS program will have the benefit of some limited data from prior years as well as base mapping on a regional level to begin the exercise.[3] The current project has had consultants working to create profiles on five districts, with map overlays of the irrigation systems, ARS rural works projects, and agricultural activity. This represents a first step toward a resource inventory system. Although this study is just getting under way, Dr. Kerry Connor and Dr. Lynn Carter, as consultants for the project, have made significant progress in assembling that data that are available for compiling profiles of two districts in Logar Province. An Atlas of Afghanistan prepared in Poland has provided good data from the late 1970s and early 1980s on soils, climate, and temperature. It has less usable information on infrastructure, communications, transportation systems, and agricultural production. To a limited extent, these scattered data from various sources help to provide the base for changes that have occurred in the last 10 years.[4]

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[2] We understand that many non-economic considerations must also help set priorities for ASSP in rural Afghanistan. The MAP unit should be charged with getting the most benefit from the resources expended within the allowable and available options that are politically feasible.

[3] In completing the five-month design for the North West Frontier Area Development Project, DAI made major use of maps with overlays to mark the location and use of all infrastructure, social services, agricultural production, communications, and power facilities. The exercise proved invaluable in defining new opportunities and siting new programs.

[4] In 1976, DAI prepared the design for an integrated area development project in Logar Province of Afghanistan. All four DAI team members from that assignment have been nominated as candidates for short-term work under the project to incorporate the methodology and knowledge resulting from this previous work.

The missing element in the ongoing work is any direct linkage back into Afghanistan. Field staff currently lack the time and training to collect significant amounts of planning data, which are not available outside.[5] This critical link will be supplied under the expanded project by adding two field staff from the MAP unit to each ARS. In addition, rural works and agricultural staff will be incorporated into the data collection process. The agriculture and rural works field staff will carry out data collection responsibilities under the guidance and direction of the two new MAP staff in each ARS unit. This is a proposed increase from the current staff complement of 14 persons for each ARS to 16 persons. The new MAP field staff will receive special training and have a wide range of data collection responsibilities, both with respect to supervising the work of other ARS staff and in collecting information themselves.

Once the field information had been collected, it will be synthesized and analyzed in Peshawar, providing the basis for a rehabilitation plan for the ARS area. Regular reporting from the field will update the agricultural resource inventory, which would permit revision of the plan.

Establishing the Commercial Dynamic in Rural Afghanistan

The base inventory for the PSA component will consist of data on the availability, quality, quantity, and price of agricultural equipment, commodities, and services in each ARS area, together with the production system currently in use. While long lists can be generated of data to "be collected and updated continually," it is important to determine the way additional information will make a difference to the PSA component.[6] Since collecting data is not an end in itself, and there are high opportunity costs using ARS staff as data collectors, the utility of the end use

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[5] Under the current project, various field data collection tools have been designed, but there has been limited success in getting field staff to fill these out accurately. The only areas where appropriate data gathering currently happens is with construction surveys, and for certain aspects of agricultural machinery usage. Other forms that have been designed include agricultural survey forms, socioeconomic and general background forms, and forms to gather political and ethnic information. Opinions on the reasons why the forms have not been used more intensively include insufficient emphasis from the headquarters of the project as a result of the press of other business, insufficient training in data gathering procedures, and the absence of an experienced field supervisor for the data collection effort.

[6] The RFP contains a list of 30 "Market Price and Wage Information" data points that, when collected monthly from 25 ARS sites, will present a good-sized matrix for manipulation. During the first phase of the project, over the past 18 months, ASSP has collected wheat prices by month by province from interviews of those crossing over into Pakistan. This kind of information is generally accurate: rural dwellers generally know prices of primary commodities and have little reason to inflate or deflate the numbers. As a guiding principle, the most important and the smallest number of data points, together with the most easily collectable information, should direct requests to the field MAP staff.

must be clearly established before making field requests for information. One important use, for example, could be to relate the "before" costs of agricultural services and returns to the "after" costs and returns to be gained from higher technology production, such as exchanging mechanized equipment for bullock and manual labor.

Being very clear about the potential uses of information collected by MAP staff will aid in determining appropriate methodologies. Input and output prices may require monthly collection. Cost of production data may require a few typical farm sites with more detailed records, collected across the cropping season. With such data, the MAP unit should be able to generate simple farm budgets for primary crops. These, in turn, could be compared to the costs and returns from using cash inputs and payments for the recommended technology. With basic information on farm costs, yields, and farm-gate output prices, it is not a complicated task to provide parameters of the potential returns to alternative agricultural inputs. This assumes that demonstration farms in each ARS can provide appropriate ground truth with well-documented instances of the returns from higher technology agricultural packages.

Basic pricing information will come from the agricultural staff of the ARS under the guidance of the MAP field staff. Both the demonstration farm workers and the commercial sales staff have clear and important reasons to know local prices of commodities, services, inputs, and outputs. It will be the responsibility of the MAP data collectors -- both in Peshawar and in each ARS -- to structure the data collection instruments and ensure the reliability of the results.

To be useful in making PSA decisions, the information collected on agricultural prices will need to include the origin of agricultural products and reasons for rapid price changes. The closing of a road, the opening of a new route, or alternative production from a new source may affect input and output prices. Rapid price changes, in some instances, might call for immediate action by the PSA unit engaged in brokering commodities into or from ARS areas.

This type of data and information needs can be best supported by computerization. Using data base programs or modified data spreadsheet programs, the information could be readily updated, compared with information from any period in the past or with that from other ARS districts or provinces. The MAP unit would need to analyze these data to provide insights into demand for agricultural equipment and inputs, costs of alternative supply sources, and subsidies necessary to move various quantities of ASSP private sector commodities into use.[7] Simple, interactive modeling will permit rapid analysis of the effect of changed variables, assumptions, and unintended side effects.

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[7] The Office of the A.I.D. Representative is shown as responsible for computer and peripheral equipment for the project. Serious data analysis calls for more than average computer availability. DAI ordered, installed, and then trained the original staff of the Planning and Development Department in North West Frontier Province on IBM-type equipment. Our home office is fully networked with 70 stations. It will be a matter of importance to the MAP unit to have standardized high-performance computer capacity. We have budgeted for appropriate software for either stand-alone or networked IBM-specification microcomputers.

Building a Strategy and Plan for ASSP

ASSP will provide only part of the total funding required to rehabilitate rural Afghanistan. Based upon the funding available and the opportunities that are presented by the resource inventory, a strategy for deployment of resources and interventions should be formulated. We have suggested one such strategy in Chapters Two and Three. Others can be equally valid. But whatever the strategy, it must relate the opportunities in the rural areas to the funding available in the project to allow a plan to be structured. The plan will relate activities, money, staff, commodities, equipment, time, and objectives to each component of ASSP.

The prime contractor will need to develop a plan for the PSA component in the absence of previously collected knowledge of rural economic dynamics. Also, the new contractor may not initially be able to relate the needs of the agribusiness component to ongoing ARS field activities, since they may be operating on an independent strategy. It will take some time to integrate the activities of all project components and to obtain the information necessary for the establishment of a plan for each ARS area. These plans should be for a period of 12 months, updated every six months as current information is matched against the early targets. Such rolling plans provide the basis for a monitoring system for project activities.

Monitoring Project Activities

There have been regular attempts to institute monitoring systems during the first phase of ASSP. Dr. Lynn Carter has improved the rural works forms, which were drawn mainly from the archives of the Rural Development Department of pre-war Kabul. A computer program for tracking rural works has been partially generated, but like many things field related, it ran into difficulties with implementation. Much of the tracking that is being done appears to be hand written in unaggregated form. But the foundation has been laid for a monitoring system for this aspect of the project.[8]

One primary innovation in monitoring will be the inclusion of two MAP staff who will be attached to each ARS to help prepare the necessary reports and ensure comprehensive coverage. These MAP staff must be carefully integrated into the ARS, or their co-workers may become suspicious of them (as evaluators) and deny access. Correctly handled, field monitoring could become an important management tool for the ADO in each ARS, providing him with the information he needs to deploy his resources and staff more efficiently.

Currently, reports from the agricultural activities of the ARS include the use and payments for tractor and thresher services, and the distribution or sale of agricultural commodities. Formal agricultural demonstrations as such have not started and will be added to the current monitoring requirements. As yet, there is

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[8] Gathering field data in conservative Islamic cultures is always difficult. Gathering data today in rural Afghanistan is much more difficult. This is an issue with which the MAP unit in Peshawar and MAP staff in the field will always have to contend.

no call for information on agricultural activities or technologies, a subject to be added in the expanded project. During the next phase of ASSP, issues of the comparative advantage of alternative cropping patterns will require a broader range of agricultural data from each ARS.

Monthly field reports that monitor progress against established plans should be sent to the Peshawar office and be entered in an automated tracking program that can easily be updated and distributed to USAID, with printouts sent back to each ARS. Targets and priorities will be revised as plans are modified, so that progress is chartered against the most current set of planning objectives. This, of course, is fully consistent with the Mission's efforts to track project progress against quantifiable indices, as indicated in their guidelines for revised quarterly reports.

Special Studies and Analysis from the MAP Unit

The RFP places heavy emphasis on economists. Nine out of 16 suggested specialists have the word "economist" in their description. This figure increases from 9 to 13 out of 19 if those with the word "marketing" in their title are included. DAI believes in the perspective provided by economics. We have a full complement of economists on our staff and provide economic consulting services under three separate IQCs: macro-economic, enterprise/credit, and rural resources. For economists to be truly productive, however, there must be models to build as well as data to manipulate or identify. At the present time in the project's life, there are few opportunities for serious economic analysis based upon the available information.[9]

The MAP unit will help change this state of affairs. It can deliver information to the economists, allowing special studies to be completed that may influence the direction and pace of the project These studies can go beyond the project and help USAID and other donors navigate through the quagmire of reconstruction as well. Since there are many subjects that might be given special attention, it will be important to specify priorities of general concern to the rehabilitation effort. For example, economic calculations of the relative prices of agricultural inputs and outputs in Afghanistan, compared with Pakistan under actual exchange conditions, will be necessary to help ensure the efficient functioning of the PSA component. Other studies of the context in which resettlement is taking place may not be directly connected to project management decisions.[10] Shortly after a contract is signed, DAI will solicit a better understanding of special analyses and studies that could be most useful in analyzing the rehabilitation and resettlement effort in order to help establish priorities for field data collection.

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[9] One important use for economists early in the project would be to specify the data required for analysis of the subjects important for project management, particularly in the PSA component. Also special studies of the overall resettlement situation, or those of special interest to other programs of the Office of the Representative for Afghanistan, should receive attention.

[10] RFP Afg.-89-0204-019, page C-7.

Some general studies on rehabilitation and resettlement may be carried out by specialists under the Afghan Studies contract. The MAP unit could help draft the scopes of work and review the output for these special studies, as appropriate.

Remote Sensing Possibilities

Under the best of circumstances, satellite imagery analyses could provide useful information on the extent of agriculture and related land use activities in selected regions of Afghanistan. VITA requested that the University of Nebraska at Omaha (not to be confused with the University of Nebraska at Lincoln where there is satellite imagery capacity) undertake pilot studies on the utility of imagery readouts. There has been some suggestion that the initial efforts were not well received, and a request for proposal was generated and submitted to four organizations that have satellite imagery-processing capacity. Although no winner has been selected, at least to our knowledge, as of early June, there is the possibility that this effort will be funded by VITA during the concluding months of its contract for the first phase of ASSP.

There are some reasons to be wary of the utility of remote sensing unless thoughtfully implemented. We understand that Landsat coverage of eastern Afghanistan is only available from the ground station now coming on line in Islamabad, although French satellite coverage is available for the entire country. It may be six months before this station is fully operational. Landsat is reported to be providing imagery in 28-square-meter resolution, useful for some analysis, not so valuable for others. The French satellite coverage, available commercially, has much greater resolution but also costs much more to acquire. The use of this technology needs to be proceeded by careful specification of what is expected, and how the results can be used.[11]

DAI has ongoing agreements with and great respect for the capacity of EarthSat, the organization sought by VITA to propose satellite imagery analysis. If VITA's current proposal goes forward with EarthSat, DAI would find it very easy to continue, as the first requirement is a test of the technology in relation to the needs of rehabilitation planning. In addition, DAI would propose that EarthSat establish an imagery center in Pakistan to train Afghans to use and interpret the digital Landsat TM images, in preparation for the re-establishment of this capacity in a free Kabul government.

In the program activities portion of the budget, DAI has included $300,000 for remote sensing technology and related training and involvement of Afghans in satellite imagery processing and interpretation.

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[11] In 1983, DAI utilized satellite imagery with a 10-year time span for the Gadoon mounting in North West Frontier Province. The imagery was very valuable in showing the destruction of the forest cover but had no utility in analyzing past or current agricultural activities. Although there have been great strides in the technology in the last few years, the intended use of the readouts remains the first requirement in determine what should be done.

Alternative Data Collection Methodologies

Rural data collection in support of development programs is a DAI specialization. DAI pioneered indicators of development progress in the 1970s, cutting our teeth on informal rural surveys in the Logar Valley. We also sampled dozens of alternative data collection options for a major AID report.[12] The MAP unit should be organized to test information alternatives, complete with cost and benefit assessments of the utility of "more" versus "less" information. It also needs to be able to assess statistical validity to enable generalizations from a subset of observations.

One set of alternative methods concerns the information needed by the PSA component. Some of the price data can be obtained easily; other information is much more difficult and costly to collect. Coverage can be narrow or broad. For example, if prices are found to increase consistently by the cost of transportation from the market town, then obtaining prices in a central location and estimating the increases in more remote locations will be both accurate and inexpensive.

A second set of alternative methods concerns the assessment of the benefits of rural works. This can be done several ways. For example, it could be done with precision for all construction. Or it could be done with precision for a few examples that allow reasoned extrapolation to the larger set. Or it could be done through sweeping assumptions of the benefits. At this time, we do not know how important it might be to have a cost/benefit analysis of each individual subproject. The RFP suggests that the ARR component should consider the tradeoffs between karez and surface irrigation rehabilitation. The resulting analysis could be done on the "back of the envelope," or it could be done through dedicated data collection for individual sites. DAI understands the tradeoffs among the validity, precision, generalizability, and the cost of information. We would accept the challenge of defining alternative data collection methodologies for the MAP unit. This is an area in which we have a high degree of interest, and where we believe that we could make a contribution based on past experience in this field.

A third set of alternative approaches concerns the progress of refugee resettlement. A favorite technique to capture data on rural conditions has been the use of structured sample surveys. There have been several completed. Perhaps the most comprehensive to date is the agricultural survey produced by the Swedish Committee. Survey research is not a well-established profession or science in Afghanistan, and few Afghans are experienced in survey techniques. With small sample sizes for each district or province, the outcome of those formal surveys is almost totally dependent upon who the respondent happens to be and how closely the respondent's profile fits the population being sampled. A rapidly changing, fluid situation is not particularly amenable to the requirements of random, unbiased sample selection. This calls for dedicated professional oversight on both the sampling frame and the field data collection.

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[12] Development Alternatives, Inc., "Information for Decisionmaking in Rural Development," 2 vols., Donald R. Mickelwait et al., May 1978.

Because of the restrictions preventing professional survey designers and field supervisors from going into rural areas in Afghanistan, there are serious limitations to the conclusions that can be drawn from these past surveys. Before ASSP funds structured sample surveys, the level of confidence required should be well established, as should the purposes of the information that will be generated. In short, formal surveys in the rural Afghan environment are potentially expensive and disappointing. Alternative methods are more likely to deliver information the project needs.

Training and Supervising the Field Data Collectors

To obtain critical field information, a special cadre of MAP field staff should be selected and formally trained in data collection techniques. DAI is fortunate to have the services of Dr. Kerry Connor, a specialist in information systems, who is resident in Peshawar, with three years of experience teaching Afghan refugees field survey and data collection techniques. She was also resident in Afghanistan for some time before the war.

After the strategies for the PSA component have been completed and plans generated so that information needs can be clearly identified, Dr. Connor will establish a training course for MAP staff. The course will last for four weeks and will consist of both classroom and field exercises. She would monitor the results of collection for the first two months, and undertake a second more advanced training course after the third month, based upon the results to date. Over the course of the next year, Dr. Connor would progressively introduce the field staff to more sophisticated techniques for obtaining accurate data, as well as verification and consistency. The MAP field staff in turn will need to learn the way to train other ARS staff from rural works and agriculture in collection requirements. In this way, the MAP unit can leverage its own resources and will add to its network of information collectors.

To support the professional consultancy of Dr. Connor, we have proposed the addition to the long-term technical assistance staff an experienced field data collector as an alternative staffing arrangement. We have nominated two alternatives, Dr. Nek Buzdar, a Baluchi American with appropriate language and experience, who has worked with the project, and Mr. Qasim Yusufi, an Afghan American who was trained by Dr. Connor in data collection methodologies. Qasim holds an M.A. degree in agriculture and would be a valuable member of the MAP unit, providing continuity and direct supervision of the field staff and the capacity to visit ARS sites inside Afghanistan when restrictions are lifted and travel allowed.

When the strategies and plans for the initial PSA component are completed and coordination has been established with the leadership of the ARR component, DAI will ask Dr. Connor to formulate an overall data collection and training program for the MAP staff in conjunction with the newly defined reporting responsibilities of the ARS field units.

Informal Donor Planning Possibilities

Many donors are operating in rural Afghanistan. Some of these have objectives that are potentially at odds with the PSA component of ASSP. At an informal level, it might be possible to bring together donors working in agriculture to share the information and opportunities uncovered by the MAP data collection systems. There will be far more opportunities than donor funding. But in the absence of knowledge about the way to proceed, many smaller donors are engaged in donations with a singular short-term welfare objective. These activities could support resettlement and rehabilitation, or they could be potentially destructive, depending upon the way they are implemented.

We propose that the head of the MAP component quietly arrange for informal meetings with those groups amenable to more thoughtful and self-sustaining interventions in the agricultural sector. As the ARS units expand their activities to district and eventually to provincial levels, it may be possible for ASSP to play a planning and coordinating role by identifying specific subprojects that could be funded by other donors. In particular, it will be difficult to arrange private sector sales of agriculture inputs in areas where free inputs are being distributed. At the very least, it may be possible to partition rural Afghanistan, so that the PSA component could work in those areas where there is sufficient cash available to pay for inputs, leaving other donors to provide assistance where cash purchases are not possible. This model is particularly relevant where the rural works component (ARS) helps to generate cash-for-work programs, putting discretionary Afs and rupees into consumers' pockets.

Conclusion

The MAP component offers a formidable challenge to a new prime contractor entering an ongoing process with existing ARS field staff reporting through a separate chain of authority. The starting point must begin with a strategy based upon available documentation. The focus during the early months will be to collet data that will permit the formulation of more integrated and comprehensive planning models.

In conjunction with the other ASSP components, the MAP unit will need to specify the decisions to be taken on the basis of improved data and begin the collection process. After the MAP staff have been given initial training, the following outputs will begin to emerge:

- **Rural resource inventories** for each ARS that identify high priority opportunities for ASSP intervention;
- **Regular data** on the commercial dynamics of agricultural production for each ARS;

- **A strategy** for each ARS for rural works, agricultural demonstrations and testing, and private sector agribusiness;[13]
- **Plans** for all ASSP operations in each ARS and for the MAP unit's special studies;
- **Monitoring reports** of field activities against plan targets;
- **Special studies** on resettlement progress; and
- **Conclusions** to be drawn based on the results of ARS and other related activities in rural Afghanistan.

The DAI Consortium can do justice to this task and provide timely, accurate, and cost-effective data on which to base the operations of ASSP and the assessment of the pace and progress of resettlement in Afghanistan.

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[13] The ARR component is assumed to merge with other components of the expanded project on or before 1 April 1990.

CHAPTER SEVEN

STAFFING THE CONTRACT[1]

This chapter presents the long-term and complementary short-term staff for each component of the contract. The chapter is divided into three sections:

- Responses to the positions defined in the RFP;
- Alternative One, the addition of an expatriate financial, administrative, and legal specialist; and
- Alternative Two, the further addition of a professional expatriate agricultural production specialist, a professional Afghan agricultural specialist hired offshore, and a professional data collection and analysis specialist hired offshore.

For the long-term positions, with the exception of those related to overall management of the project (that is, the Chief of Party and the Financial Controller), we have proposed alternative candidates, when candidates are known. The position of Afghan agricultural specialist has been under discussion in the current project for some months, and a candidate has been tentatively selected for a short-term assignment. All Afghan candidates must be vetted through Engineer Sideq to ensure that the past involvement in Afghanistan will allow those proposed to be positive contributors to the project.

For two positions in the RFP, the alternate is the same individual: that is, the alternate candidate proposed for the MAP component head and the PSA component head, is Dr. Nek Buzdar.[2] Thus, for three positions in the RFP to be filled immediately, we have proposed four individuals. We know from past experience our staff can do the job and have not taken chances on those who might be capable but are not proven in our own projects, or through the "fires" of the first phase of ASSP implementation.

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[1] DAI undertook a considered search for Afghans living in the United States who would be willing to return and contribute to the rehabilitation of their country. Dr. Richard English, an anthropologist who has lived in Peshawar, worked with Afghan refugees and speaks Pushtu, traveled to Boston, New York, Washington, D.C., Kansas City, Omaha, San Francisco, and Los Angeles for DAI, tracking the Afghan community. We received records of more than 300 individuals. A few have been submitted directly as candidates for work under ASSP. For the vast majority, DAI maintains their records, and they could be called upon if there is a call for an even greater expanded program. Because of the complexity of Afghan relations during the war period, those proposed for ASSP must be cleared by Engineer Sediq in a process that may take some weeks if the individuals are not readily known to those working in the Peshawar community. We have an as-yet lightly tapped data base that could be used to further the project's long-term goals.

[2] In addition, Dr. Buzdar is the primary candidate for the data collection and analysis position proposed in Alternative Two.

Long-term staff have been selected to implement the strategies defined in Chapters Four, Five, and Six for the three components of the project.[3] Short-term specialists are proposed who directly complement and fill selective highly technical gaps in the capabilities of the long-term candidates. DAI sees technical assistance as a team, and we would expect the team to function across all components of the project. For example, Dr. Abdul Wakil, although scheduled for the MAP unit, has a major contribution to make to the PSA component. And there will need to be regular and continual interaction between the data collection of the MAP component and the requirements of the ARR and PSA activities. As explained in some detail in Chapter Nine, our field teams are indeed teams, directed and coordinated by the Chief of Party, working together to make the project successful.

STAFFING THE POSITIONS DEFINED IN THE RFP

Staffing the Project Management Function

DAI proposes long-term senior staff member **Eugene (Tony) Babb** as Team Leader and Chief of Party for ASSP.

Tony Babb, currently residing in Manila, is a well-known contributor to agricultural development and agribusiness projects throughout the world. His full resume follows. A brief review of his background shows:

- Proven leadership capacity with strong skills in obtaining full participation, "getting the best" from staff members in Washington and team members in the field;
- Field-level experience in directing development projects in Laos, Jordan, and Afghanistan;
- Policy-level experience in A.I.D.;
- Knowledge of Afghanistan and the relationships and perspectives required to make projects work in the rural environment;

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[3] We have argued that without an implementation strategy based upon agreed objectives for the expanded project, it is not only very difficult to begin in the right direction, but also nearly impossible to select the right skill specialties for the long-term staff. All of us have strengths and weaknesses. We use the implementation strategy to select the strengths most required for the position, using short-term consultants to bolster skill areas as needed. For example, we have argued that the PSA components requires an honest broker, rather than a flamboyant or aggressive deal maker. We employ both, and have found the two capacities to be generally mutually exclusive. Thus, our selection for long-term staff is based upon and should be judged by this criterion. If the Office of the A.I.D. Representative desires a deal maker, we would propose alternative staffing.

- Direct responsibility for the design, evaluation, and implementation of private sector agribusiness projects, including a private sector fruit and vegetable project for the North West Frontier Province of Pakistan and personal investment in agribusiness enterprises in the Philippines;

- Consistent relationships with DAI for eight years, as agricultural and agribusiness division director, senior manager, Chief of Party of an overseas project, Asian region representative, and major stockholder.

Mr. Babb holds an MPA degree from the Maxwell School at Syracuse University and a B.S. in agriculture from California Polytechnic State University.

He is available beginning in August 1989 to play a major role in the strategic planning required to begin the new project phase. His family would reside in the Philippines until summer 1990. Although well ensconced in Manila, Tony Babb was captured by the promise of Afghanistan during his years working there and is ready to accept the challenge of returning to help rebuild the country.

Other DAI Short-term Assistance for the Management Function[4]

DAI President, **Donald R. Mickelwait,** is an operational development strategist who provides direct support to the design and management of overseas projects. From years working on the Pakistan side of the Afghan border with tribal groups in North West Frontier Province, and two team leader assignments supporting Engineer Sediq and the Rural Development Department in pre-war Kabul, Don Mickelwait is equipped to assist in the development of strategy, setting of priorities, and arrangements for implementation of ASSP. He would be available to launch the project, as the initial strategy is being prepared. Mr. Mickelwait was the principal author of this proposal, and historically has visited Islamabad and Peshawar four or five times each year.

Dr. Elliot J. Berg, is a macroeconomist, structural adjustment specialist, author of numerous books, articles, and studies on the macroeconomic policies required for development. Dr. Berg has been among the few economists to specialize in development strategy and has been a principal consultant to A.I.D. and the World Bank. He will join the staff of DAI as Vice President for Economic Policy in July 1989. Should the situation in Afghanistan allow a government to emerge that can address issues of economic policy and structural adjustment, Dr. Berg will be a major contributor to those dialogues.

Dr. Eric R. Nelson, a staff member of DAI, is a macroeconomist specializing in development, including financial intermediation and policy reform. He has extensive experience living and working on long-term

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[4] All resumes of short-term specialists proposed for ASSP will be found in Volume Two of this proposal.

assignments in Africa (Côte d'Ivoire) and Asia (Philippines and Indonesia), as well as extensive short-term experience in both regions. He provided economic policy analysis from 1986 to 1988 to the ANE Bureau under an IQC with Harvard Institute for International Development, and currently provides analysis to S&T Bureau under the Employment and Enterprise Policy Analysis Project; he further has experience as an analyst at the microeconomic level. Dr. Nelson is skilled in the design, implementation, and analysis of large-scale surveys -- including statistical methods and econometric modelling -- with policy implications and in the use of micro- and other computers in analysis.

Benjamin Stauss, Vice President for Finance and Administration, supervises support services and accounting for all overseas projects. A certified public accountant, he has been with DAI for nine years. The Office of Overseas Project Support, described in the Home Office Backstopping Arrangements, Chapter Ten, is under his direct responsibility. He assists in overseas projects start-up and regularly visits the projects to ensure that the accounting and administrative systems, both in the field and in Washington, provide accurate, rapid, appropriate service to the project.

Supporting the Responsibilities of the Chief of Party with Local-Hire Staff

DAI would propose the following staffing for the Chief of Party's office under a consolidated project, that is, when the ARR component is added to the contract.

Office Manager	1 (local dependent hire)
Accounting Staff	5
Secretary	1
Driver	1

Staffing the MAP Component

To lead the MAP component, DAI proposes **David Garner**, until May 1989, the originator and team leader of the first phase of ASSP.

David Garner, whose full resume follows, brings to the project:

- Continuity of knowledge, history, and the wisdom gained from successes and failures during the project early years;
- Proven leadership of the disparate elements of the project;
- Long and successful working relationships with Engineer Sediq and other key members of the current project team, some going back 15 years;
- In-depth knowledge of the ebbs and flows of Afghanistan politics and personalities, to help ASSP avoid potential pitfalls;

- Over 20 years of experience in the design, planning, and implementation of area development projects to make contributions to the planning of rural works and agricultural rehabilitation in rural Afghanistan.

Mr. Garner speaks Farsi.

As an alternate for the position of head of the MAP component, DAI proposes **Dr. Nek Buzdar.**

Dr. Nek Buzdar, an economist with recent experience working under the first phase of ASSP, is originally from Baluchistan Province, Pakistan, now a permanent resident of the United States. He speaks Pushtu, along with many other languages, and has been a regular contributor to USAID/Pakistan programs in the North West Frontier and Baluchistan provinces. His work is well known to DAI and to the team managing ASSP. His full resume follows.

In the position identified as to-be-filled in the MAP component when the existing contract expires, DAI would propose **Dr. Abdul Wakil,** currently the senior agriculturalist working with ASSP, previously Minister of Agriculture in the pre-war Government of Afghanistan. We believe he has made and can continue to make critical contributions to the project. Dr. Wakil is a practicing horticulturalist and will provide major inputs to planning for agricultural rehabilitation of Afghanistan.

As major short-term contributors to the MAP component, DAI proposes the following key specialists[5]:

Dr. Kerry Connor, geographer and survey researcher inside Afghanistan and among the Afghan refugees in the tribal areas of Pakistan, is a specialist in rural data collection and analysis. Dr. Connor would prepare the training materials and oversee field-data collection under the MAP component. She resides in Peshawar, and has written, with Dr. Lynn Carter, profiles of ARS districts and studies on the shuras emerging as quasi-local governmental councils in the rural areas.

Dr. Thomas Barfield, eminent anthropologist and Afghanistan expert, has an in-depth knowledge of pre-war Afghan society and its internal and external linkages. He was a member of the team that provided the evaluation and redesign of the project in late fall 1988. Dr. Barfield would assist the MAP component by relating the possibilities of resettlement and rehabilitation to traditional Afghan society.

Dr. Richard English is an anthropologist and analyst of Afghan refugees living in Pakistan. Dr. English has written several studies on the status of the refugees, their survival potential upon returning, and the issues involved in resettlement. He served on the evaluation of the

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[5] DAI has proposed candidates for each category of specialist listed in the RFP, shown in the tables that follow. For each component, we have highlighted those who we believe can make a continuing contribution over the life of the project.

USAID/Pakistan Tribal Areas Development Project, and has resided almost four years in Peshawar under the auspices of United Nations High Commission for Refugees. Dr. English would assist the MAP component by providing forecasts of the agricultural requirements of Afghan refugees moving back into their homes and their likely return schedules.

Dr. Gerhard Lindauer is an economist with a background in Afghanistan that extends for 19 years. Most recently, he was resident in Paktia Province, eastern Afghanistan, and leader of a 10-person team for the United Nations High Commission for Refugees on the status of Paktia Province and the scope for a rehabilitation and resettlement program for Afghan refugees. Dr. Lindauer has studied the economic relations that have emerged from the resistance and war, and can provide first-hand knowledge of the rehabilitation assistance most likely to have major agricultural impact. He will assist the MAP component by adding economic analysis to the design of rehabilitation programs and defining the data needed to test the benefits derived from these programs.

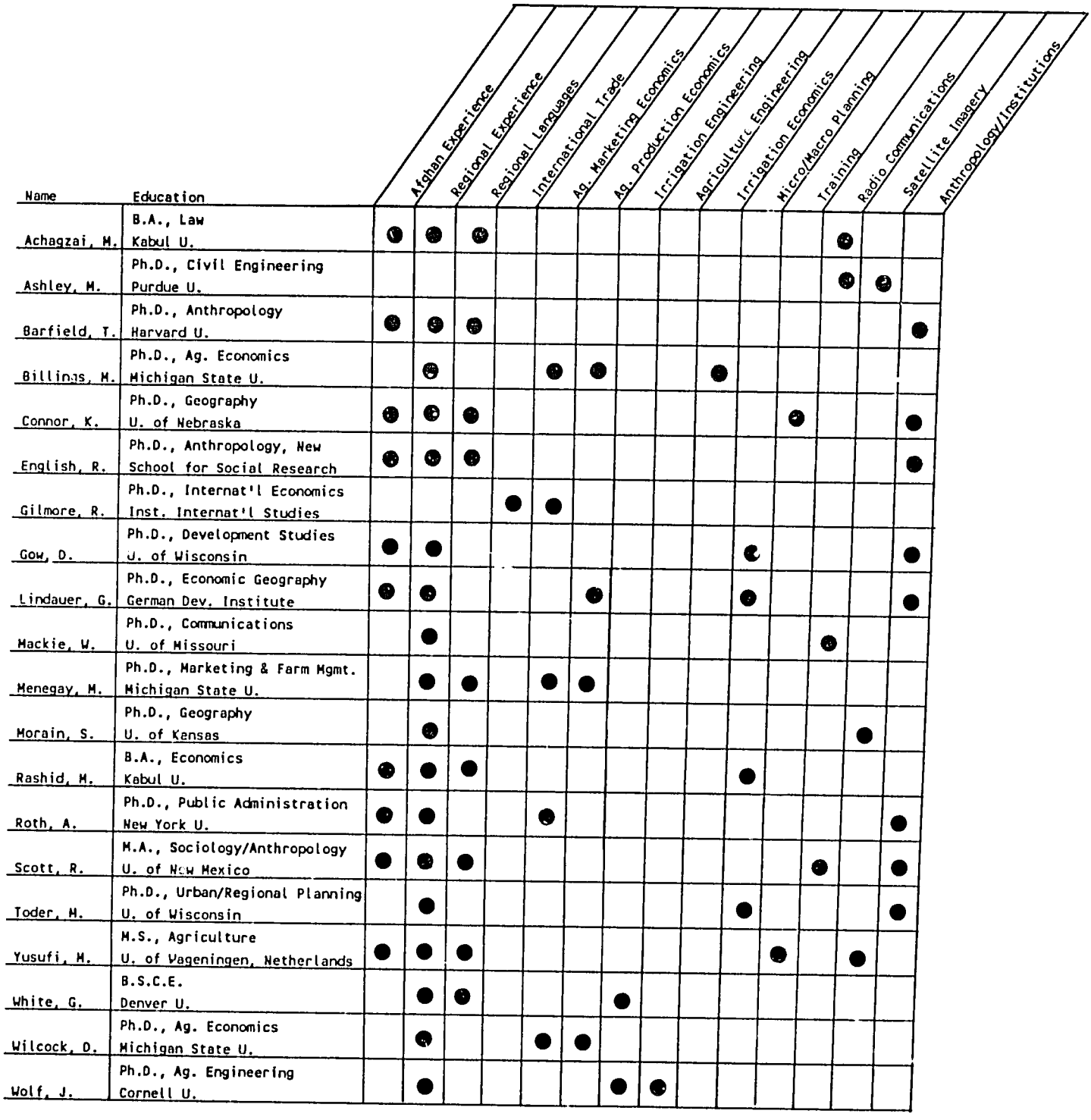
Dr. Richard Gilmore, trade and agribusiness economist, is President of GIC, a subcontractor to DAI for international agricultural marketing and trade analysis. Dr. Gilmore is both an analyst of agribusiness opportunities in trade and a practitioner of agribusiness development. He has completed studies on the appropriate pricing of commodities offered in trade, when the free-market system is inoperative. Dr. Gilmore will provide economic analytical skills to the MAP component on the appropriate levels of trade, commodity subsidies, pricing options, and rehabilitation programs.

Dr. Miles Toder, regional planner, is a DAI staff member and contributor to the 18-month Master Plan for Barani Development project in Punjab Province, Pakistan. Dr. Toder lived for two years in western Sudan, providing technical assistance to a rural planning project and is generally familiar with strictures of traditional Islamic societies. He will provide formal micro- and macro-planning skills and expertise to the MAP component as well as expertise in the computerized storage, analysis, and retrieval of project-related development information.

Mohammad Qasim Yusufi, an Afghan agriculturalist trained in data collection by Dr. Connor, is employed by the remote-sensing project at the University of Nebraska. We have proposed Qasim as a candidate for a long-term position under Alternative II presented below. If he is not selected, or if the position is not funded, DAI would propose that he be assigned to work with EarthSat to establish a remote-sensing capacity among Afghans based in Pakistan, directly supporting ASSP, but able to relocate to Kabul to support all geographic monitoring when a new government is empowered. Qasim would be a key member of the subcontract group providing remote-sensing capacity to ASSP.

FIGURE 5

PROPOSED SHORT-TERM SPECIALISTS: THE MAP COMPONENT



Name	Education
Achagzai, M.	B.A., Law Kabul U.
Ashley, M.	Ph.D., Civil Engineering Purdue U.
Barfield, T.	Ph.D., Anthropology Harvard U.
Billings, M.	Ph.D., Ag. Economics Michigan State U.
Connor, K.	Ph.D., Geography U. of Nebraska
English, R.	Ph.D., Anthropology, New School for Social Research
Gilmore, R.	Ph.D., Internat'l Economics Inst. Internat'l Studies
Gow, D.	Ph.D., Development Studies U. of Wisconsin
Lindauer, G.	Ph.D., Economic Geography German Dev. Institute
Mackie, W.	Ph.D., Communications U. of Missouri
Menegay, M.	Ph.D., Marketing & Farm Mgmt. Michigan State U.
Morain, S.	Ph.D., Geography U. of Kansas
Rashid, M.	B.A., Economics Kabul U.
Roth, A.	Ph.D., Public Administration New York U.
Scott, R.	M.A., Sociology/Anthropology U. of New Mexico
Toder, M.	Ph.D., Urban/Regional Planning U. of Wisconsin
Yusufi, M.	M.S., Agriculture U. of Wageningen, Netherlands
White, G.	B.S.C.E. Denver U.
Wilcock, D.	Ph.D., Ag. Economics Michigan State U.
Wolf, J.	Ph.D., Ag. Engineering Cornell U.

Supporting the MAP Component with Local-Hire Staff

Under a consolidated project, DAI would propose local staff as follows:

Social Scientist	1
Economic Analyst	1
Computer Operators	4
Secretary	1
Drivers	2

Staffing the PSA Component

DAI proposes **Paul Guenette**, DAI staff member and private sector agribusiness specialist as the head of the PSA component.

Currently DAI's Deputy Chief of Party of the $40 million High Impact Marketing and Agricultural Production Project in the Eastern Caribbean, **Paul Guenette** has also served overseas in enterprise development projects in Indonesia and in Mauritania. He would bring to the project:

- Proven skills at supporting and managing A.I.D.-funded projects in complex and challenging environments;
- Experience in providing technical assistance to private sector development projects;
- Economic capacity in marketing, finance, investment, and trade analysis; and
- Established broker credentials in arranging successful deals between buyers and sellers, investors and bankers, and suppliers and users in private transactions around the world.

Mr. Guenette holds an MBA degree from Graduate School of Business at Stanford University. His full resume follows.

As an alternative candidate to Paul Guenette, DAI proposes **Dr. Nek Buzdar** for a position as the head of the PSA component. Dr. Buzdar, described above, is a well-known, easily integrated, economist with both analytical skills and implementation capabilities. His full resume was included in the MAP component.

As key short-term specialists to the support the PSA component, DAI proposes:[6]

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[6] In the tables in this section, we have provided one or more specialists for each named short-term requirement in the RFP. It has been our experience that a few, repeat short-term consultants contribute more than a smattering of many different highly technical individuals. But we have the technicians should they be needed.

FIGURE 6

PROPOSED SHORT-TERM SPECIALIST: THE PSA COMPONENT

Name	Education	Afghan Experience	Regional Experience	Macro Economics	International Marketing	Agricultural Economics	Livestock Marketing	Macro/Micro with Survey Skills	Irrigation Economics	Agribusiness	Commodity Distribution	Dari
Billings, Martin	Ph.D., Agricultural Economics Michigan State U.	●	●			●	●	●	●			
Duncan, Brian	M.Sc., Agricultural Economics London U.		●		●	●						
Fletcher, Lehman	Ph.D., Economics U. of California (Berkeley)		●	●	●	●						
Freed, Dennis	M.A. Eastern Montana College		●							●		
Gilmore, Richard	Ph.D., Internat'l Economics Inst. of Internat'l Studies, Geneva			●	◎				●			
Hansen, Alec	Ph.D., Economics Boston U.		●	●	●		●					
Hughes, David	Ph.D., Agribusiness U.of Newcastle-upon-Tyne, U.K.				●	●			●			
Lindauer, Gerhard	Ph.D., Economic Geography German Development Institute	●	●					●	●			
Masody, Moosa	M.Sc., Animal Breeding U. of Wyoming	●	●				●					●
Menegay, Merle	Ph.D., Marketing & Farm Mgmt. Michigan State U.		●		●			●		●		
Miller, Bradford	M.A., International Admin. School for Internat'l Training	●	●							●		
Neese, Harvy	M.A., Livestock U. of Idaho	●	●		●		●			●		
Nelson, Eric R.	Ph.D., Economics Yale U.			●				●				
Naimi, Khan Aga	Certificate Federal Aviation Academy, USA	●	●							◎		●
Tacon, John M.	B.A., Agriculture Massey U. New Zealand	●	●					●		◎	◎	
Viktor, Cary	MBA Drake U.				●					●		
Wilcock, David	Ph.D., Agricultural Economics Michigan State U.		●		●	●		●				

Cary Viktor, agribusiness marketing and trade specialist, has countertrade, barter, and negotiation experience working for major U.S. corporations engaged in international trade. He is the head of the agribusiness export arm of GIC, a major subcontractor to DAI for the project. He has agreed to be available on a regular basis to the PSA component.

Dr. Richard Gilmore, marketing and trade economist, is also proposed as key consultant under the MAP component.

Harvey Neese is a marketing and livestock specialist with experience directing a cross-border development program in southern Laos. He was the DAI agriculturalist on the team supporting the Rural Development Department in Afghanistan in 1975, where he made the acquaintance of Dr. Abdul Wakil, senior member of ASSP, then a practicing horticulturist. Harvey Neese has completed numerous marketing assignments in Asia and has worked with Tony Babb, our candidate for Chief of Party. He is willing to take time from his position as the Director of the Post Harvest Institute for Perishables (PIP), located at the University of Idaho, to contribute to ASSP.

Dr. David Hughes, agricultural marketing economist, is a DAI staff member and former Chief of Party of DAI's High Impact Agricultural Marketing and Production Project in Barbados. Dr. Hughes is a food-marketing specialist and a practicing agribusiness manager, with a major interest in hydroponics herb production and sales in southern Florida. He would be especially valuable in determining a strategy for the export of Afghan horticulture crops to or through Pakistan.

Brian Duncan has served as agricultural economist, team leader for studies of the export potential of non-traditional crops from Sri Lanka, and marketing specialist for agricultural products. He presently works from Thailand. Mr. Duncan is an experienced development practitioner with strong skills in agricultural marketing, production, and the implementation of development projects.

Supporting the PSA Component with Local-Hire Staff

Under a consolidated project, DAI would propose:

Senior Expeditor	1	
Commodity Distributor	1	(Ex-Afghan Fertilizer Company)
Junior Expeditor	1	
Computer Operator	1	
Secretary	1	
Drivers	2	

Staffing the ARR Component

As head of the ARR component, DAI would nominate **Engineer Mohammad Sediq**, presently Chief of Party of the VITA contract to provide technical services to the first phase of ASSP.[7] Engineer Sediq is well known to DAI President Donald Mickelwait, and has agreed to be part of the merged contract, should it be awarded to DAI.

Although not specified in the RFP, DAI is proposing 30 months of short-term technical assistance to the ARR component, as the ARS units expand and take on increased responsibilities. The key consultants for this assignment would be:

Dr. James Wolf, irrigation engineer and agronomist, is the senior water-resource development professional on the staff of DAI. Dr. Wolf was most recently head of the International Irrigation Management Institute (IIMI) branch in Pakistan, based three years in Lahore. The broad program in water resources development at Cornell University has equipped Dr. Wolf to examine the engineering of irrigation structures as input to the development of agriculture.

Ahmad Farid Issaq, irrigation engineer and former Deputy Minister, Ministry of Water and Power in the pre-war Kabul government, now provides irrigation consulting services in California. He has experience in both Afghanistan and Pakistan reviewing water resource development potential and designing irrigation programs.

Gene White, an engineer with both civil and irrigation structure experience, learned Pushtu as a Peace Corps volunteer in North West Frontier Province. He has undertaken six assignments for DAI in Pakistan, and his knowledge of the Pathan and language skills have proven exceedingly useful. He is a small system engineer, ideally suited for work in rural Afghanistan.

Richard Gibson is an engineer with extensive experience working in Afghanistan, Indonesia, and Somalia over 13 years. He was Chief of Party of the Nebraska team working in Kabul from 1974 to 1977, at the Faculty of Engineering, Kabul University.

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[7] This position was not specified in the RFP to be filled with a named candidate, but DAI would propose that Engineer Mohammed Sideq should continue to direct this component of the project. We believe he is a vital contributory factor to the success of the cross border operations, working with David Garner and John Soden. In slightly altered roles, under the overall coordination of Tony Babb, we believe that Messrs. Sediq, Garner, and Guenette will bring desired qualities of both continuity and new energy and ideas to ASSP.

FIGURE 7

PROPOSED SHORT-TERM SPECIALISTS: THE ARR COMPONENT

Name	Education	Afghan Experience	Regional Experience	Regional Languages	Civil Engineering	Irrigation	Agronomy	Horticulture	Agribusiness
Colegrove, Mike	Ph.D., Agronomy Penn State U.		●				●		●
Dixie, Grahame	M.S., Horticulture U. of Bath, England		●				●	●	
Gibson, Richard	Ph.D., Structural Engineering U. of Colorado	●	●	●	●				
Greenham, Jonathan	M.Sc., Plant Breeding Cornell U.		●				●		
Issaq, Ahmad Farid	M.S., Civil Engineering U. of Southampton	●	●	●		●			
Khaleeq, Babrak	Ph.D., Plant Breeding U. of Nebraska	●	●	●			●	●	
Knowles, Thaddeus	M.A., Urban Planning U. of Kansas; MBA Cornell U.		●		●				
Phillips, Denzil	Ph.D., Agriculture London U.		●				●	●	●
White, Gene	B.S.C.E. Denver U.		●	●	●	●			
Wolf, James	Ph.D., Agricultural Engineering Cornell U.		●		●	●			

Dr. Michael Colegrove, an agronomist and seed multiplication expert, has years of experience in private sector assignments working for the international arm of Pioneer Seed Company. Dr. Colegrove could contribute to the development of seed multiplication trials and experiments, while replicating the new seedstock required for increased agricultural production. He has been head of the Agriculture and Natural Resources Division of DAI.

Jonathan Greenham, agriculturist for DAI's North West Frontier Area Development Project, lived for two years near Tarbela Dam, where wheat was the principal crop. He has worked in Asia, Africa, and the Caribbean and has been employed by private agribusiness firms to grow high-value crops and distribute agricultural commodities. A staff member of DAI, he is in the final stages of a dissertation in agronomy for the Wye College Campus of the University of London.

Denzil Phillips, horticulturalist, is active in private sector agribusiness investments in Pakistan and Sri Lanka for high-value crops. He has particular strengths in the financing, standards, shipping, and export of horticulture crops, seeking increased market value from exotic and highly specialized crop lines.

Grahame Dixie, a horticulturalist with marketing and commercialization experience, also has extended country experience in Pakistan providing improved technology to small growers. He has experience working in Saudi Arabia, North Yemen, Kuwait, United Arab Emirates, Bahrain, and Qatar, gaining knowledge of the markets available in the Persian Gulf states for horticulture crops.

Babrak Khaleeq, agronomist, is presently conducting research at Kansas State University in breeding programs. His specialties include wheat, millet, maize, oats, and barley. Dr. Khaleeq was Assistant Dean of the College of Agriculture, University of Kabul, 1974-1976.

Supporting the ARR Component with Local Hire Staff

Under a consolidated project, DAI would propose:[8]

Design Engineer	1
Agricultural Production Expert	1
Secretaries	2
Drivers	2

[8] As explained in the Work Plan detailed in Chapter Nine, the vast majority of ARR activities are staffed and funded from Program Accounts. This reflects the informal status of the ARR component as a shadow governmental institution.

Resumes and References for the Long-Term Staff

Proposed Specialist	Reference
Tony Babb, Chief of Party	USAID/Philippines: Malcolm Butler, Director Robert Resseguie, Project Officer, Rainfed Resources Development
David Garner, MAP	Office of the A.I.D. Representative for Afghanistan
Paul Guenette, PSA	Regional Development Office/Caribbean (Barbados): Chuck Patalive, Private Sector Development Officer Charles Oberbeck, Project Officer, High Impact Agricultural Marketing and Production
Nek Buzdar, Alternate MAP and/or PSA	Agriculture Development Office, USAID/Pakistan

Development Alternatives, Inc.

EUGENE N. (Tony) BABB

Tony Babb has more than 25 years of experience in a wide range of management positions in public and private sector organizations involved in international economic development and agribusiness. During this time, he has been a technical adviser in agriculture and rural development, a project and program manager, and a senior executive with major policy and organizational management responsibility. Mr. Babb has held long-term positions overseas, in Laos with the U.S. Agency for International Development, in Afghanistan and Jordan with the Food and Agriculture Organization of the United Nations, and in the Philippines with Development Alternatives, Inc. (DAI). He has done short-term consulting in over 20 countries in all regions of the world, primarily in policy analysis, program and project design, and private agribusiness feasibility studies. Mr. Babb has a B.S. degree in agriculture from California Polytechnic State University and an M.P.A. degree from Syracuse University with a major in development economics and management.

PROFESSIONAL EXPERIENCE

Partner of Babb and Associates (November 1987-present)

Consultant on development policy, program planning, project design, and private sector agribusiness feasibility studies. Represents DAI and several other U.S. development organizations with the Asian Development Bank. Establishing new private companies engaged in aquaculture and forestry.

A founder and Chairman of Board of Directors of the Soil and Water Conservation Foundation in the Philippines. The foundation has raised approximately $1.5 million for four agroforestry projects.

Provides DAI management oversight to the second phase of the ongoing Rainfed Resources Development Project.

Development Alternatives, Inc. (1981-1987)

Chief of Party
Rainfed Resources Development Project, Philippines, Development Alternatives, Inc. (May 1985-October 1987)
This project is testing and promoting new technologies and resource management approaches that improve the net income of rural people and conserve the natural resource base in diverse agroecological zones, ranging from the mangroves to the uplands. In the first phase, Mr. Babb led a large multi-disciplinary team of advisors and trainers in establishing the project activities and advising the Ministries of Agriculture and Natural Resources (now Departments), the Philippine Council on Agriculture and Resource Research and Development (PCARRD), and the National Economic Development Authority on resource planning and management, the supporting research necessary to develop appropriate technologies and organizational arrangements, and the national policy issues that influence development in these areas.

Mr. Babb was the principal author of the second phase project design for RRDP, which was approved by USAID and the GOP in 1987.

Director of the Technical Services Division (1982-1986)
Mr. Babb managed the division responsible for the technical aspects of DAI's long-term projects and short-term studies worldwide in the fields of private sector agribusiness management, rural development, agricultural research and extension, forestry, aquaculture, watershed management, and irrigation. He led teams on short-term studies for policy analysis, strategic planning, project design, and evaluation. He supervised marketing, recruitment, and proposal writing for the division.

Zimbabwe: Sugar-Ethanol Project Feasibility Study (November 1984-May 1985)
Mr. Babb led a team of DAI consultants under a subcontract to the Bechtel Corporation conducting a full-scale feasibility study of a private sector sugar ethanol project. The DAI team was responsible for smallholder production scheme, including farmer resettlement, infrastructure development, a marketing plan, and the overall financial and economic analysis. The proposed project is a combination nucleus estate and smallholder sugarcane scheme to produce ethanol for blending with petrol, and raw sugar for export.

Policy Study: Management of Agricultural Services (July-September 1984)
Mr. Babb was team leader for an analytical paper on the management of agricultural credit, inputs, and marketing with an examination of public, mixed, and private sector delivery systems. The paper was used as the primary resource document for a DAI-organized workshop of experts from AID, the World Bank, and other development organizations. The paper and the conclusions of the workshop were subsequently published by AID.

Grenada: Agricultural Assessment (May-August 1984)
Team leader of a four-person team which conducted an assessment of the agricultural sector. The team produced a plan for revitalizing the rural sector, emphasizing the divestiture of government-owned farm lands and agribusinesses. The team prepared a strategy to rebuild private enterprise and encourage investment. A plan was created for the improvement in the management systems of the commodity export associations for bananas, cacao, and nutmeg. Proposals were also made the institutional reform of the National Marketing and Import Board, and the Ministry of Agriculture. Analysis was conducted on several key agribusinesses and strategies were devised for their rehabilitation.

Fragile Lands Study: AID, Latin America/Caribbean Bureau (January-June 1984)
Study director for analysis of agricultural and agroforestry development on the steeplands and humid tropical lowlands of the Latin America and Caribbean region. A multi-disciplinary team of policy analysts and technical specialists examined the historical record and status of development on the fragile lands in the region and defined the issues for future AID policy consideration and program planning. Subsequent workshops and further planning led to a major AID project, which provides policy and program support to the countries of the region. This project is now managed by a team of DAI experts.

Jamaica: Hillside Development Strategy (1982-1984)
Team leader for an assessment of small farmer agriculture on the hillsides of Jamaica, starting with an intensive evaluation of AID's Second Integrated Rural Development Project. This work involved several trips during the two-year period. The team's analysis, which concentrated on strategies to promote resource-conserving production practices in the hillside areas, formed the basis of a policy dialogue between AID and the government, and was the foundation of a new project for hillside farming and watershed management.

Pakistan: Northwest Frontier Province Fruit and Vegetable Project (1982-1983)
Team leader on three project design missions for a fruit and vegetable production and marketing project involving private sector organizations. The feasibility analysis and design included recommendations for crop research and extension, training, food processing, marketing systems, and organizational development. This work was carried out jointly with the Postharvest Institute for Perishables at the University of Idaho.

Kenya: Western Kenya Development Strategy Study (1981)
Agriculturist on a team that conducted a development strategy study in four districts of western Kenya (Lake Victoria basin). The agricultural recommendations included the adoption of a farming systems approach to research and extension and the introduction of certain cash crops and livestock enterprises that fit the mainly subsistence practices of the majority of the farmers. It included the expansion of the agribusiness enterprises for seed production and distribution, input supply, and marketing systems.

Agency for International Development (1977-1981)

Deputy Assistant Administrator for Food and Nutrition (1978-1981)
Responsible for AID centrally funded programs in agriculture, rural development, and nutrition, including research and technical support contracts and grants totaling over $100 million and a professional staff of over 100. Managed overall program planning, budgeting, project initiation and review, evaluation, and personnel. Coordinated agency policy in agriculture, rural development, and nutrition and testified on behalf of AID at congressional hearings. Represented the agency on inter-agency committees and in several international bodies, including the FAO, World Food Council, CGIAR, and Development Assistance Committee of the OICD. Participated in formulation of policies for international cooperation on the eradication of hunger, the U.S. policy on the voluntary code on infant formula marketing, and food aid. Served as chairman of AID's Technical Program Committee for Agriculture, the coordinating body for policy and programs, and was the principal author of TPCA's major agricultural development policy paper, *A Strategy for Focusing AID's Anti-Hunger Efforts* (1981).

Special Assistant to the Administrator (1977-1978)
As director of a special task force on organization and management, studied the internal management systems of AID to find ways to make the agency more effective and efficient. Changes implemented included a revision in the project design and review process, a reorganization of the central bureaus and offices,

the installation of a new financial management system, increased delegation of management authority to field missions, and revisions in the personnel management system. Published a report, *The Organization and Management of AID* (1977). Conducted an evaluation study of the AID program in the Sahel and made recommendations to the Administrator for a more focused and defined strategy and for a more targeted allocation of resources in the regional assistance program.

Independent Consultant (October 1976-June 1977)

Kenya: World Bank Sugar Industry Rehabilitation Project
Agricultural cooperative specialist on a World Bank team appraising a project for the rehabilitation of the Kenyan sugar industry. Examined smallholder sugar production in three factory zones within the Nyanza sugar belt and one on the south coast, and made recommendations on the utilization of project resources to strengthen the cooperative sector and smallholder production.

Project Manager and Agricultural Adviser: Food and Agriculture Organization, United Nations (1973-1976)

Jordan: Rainfed Agricultural Development Project (1974-1976)
As project manager of a five-person technical assistance team in the Ministry of Agriculture and Directorate of Cooperatives, supervised the design and implementation of an integrated agricultural project for the rainfed areas of Jordan. Introduced soil conservation programs and new farming practices for the wheat areas through a research and extension program in the Ministry of Agriculture. Assisted the organization of farmer cooperatives with the Directorate of Cooperatives. Supervised the establishment of a major distribution program for fertilizer, seed and other inputs. Managed a major procurement of tractors and implements for rainfed wheat farming. Supported private sector farm machinery sales distribution and maintenance programs for farmer associations. Financed R&D start-up costs of local farm machinery manufacturing industry. Initiated food-for-work tree planting and soil conservation program in highland hillsides and a rangeland and livestock improvement component.

Lebanon: Bekaa-Hermel Agricultural Development Project (1974)
Prepared comprehensive development plan for Hermel region including infrastructure, research and extension, training and local organization development.

Afghanistan: PACCA Integrated Agricultural Development Project (1973-1974)
Team leader of an integrated agricultural development project including research; extension; training; cooperative development; credit; and marketing of fresh fruit, raisins, wheat, and vegetables. The project worked in Koh-i-damnn, Kunduz, and Baglan and operated a major training program for extension and cooperative development agents. Developed agribusiness channels for marketing raisins and other products to Pakistan, Europe, and the PRC. Travelled extensively throughout Afghanistan during a redesign exercise.

Agency for International Development (1966-1972)

Assistant Desk Officer for Laos (1970-1972)
Provided technical and logistical support to the agricultural and rural development programs in the Laos mission. Participated in annual program and budget preparation for Congress. Managed the Foreign Exchange Operations Fund and served as contract officer for several private voluntary organizations and other contractors working in Laos.

Executive Manager of Agricultural Development Organization of Laos (1968-1970)
Managed the Agriculture Development Organization of Laos (ADOP), a country-wide parastatal organization with responsibility for the green revolution program for increasing rice production. ADO operated a seed multiplication and distribution sales program of high-yielding varieties, fertilizer, pumps and farm machinery. ADO also had a production credit, and crop marketing program. It coordinated research and training closely with the International Rice Research Institute and organized cooperatives and small-scale pump irrigation schemes for dry season production. ADO had six regional centers and about 300 employees. The program was credited with increasing national rice production by 50 percent and significantly increased farmers' incomes, even in very tense civil war conditions in many areas.

Community Development Advisor, Lahanam, Savannakhet Province, Laos (1966-1968)
Adviser to government officials at district level on community development, including rice, vegetable, and livestock production, pump irrigation schemes, cooperative development, village councils, and credit and marketing programs. Managed self-help construction program for schools, clinics, village centers, roads, and bridges.

International Program Director: U.S. National Student Association (1965-1966)
Wrote successful proposals for Ford Foundation funding of program for international curriculum development at six U.S. universities and initiated on-campus activities. Coordinated student workshops on international education with emphasis on developing country issues.

Western States Regional Representative: People-to-People, University Program (1963-1964)
Organized on-campus international student programs and managed international student exchange program for western states.

Trainer: Peace Corps, Morocco I Agriculture Group (1962)
As member of training team at California Polytechnic State University, coordinated practical training in animal husbandry for first group of agricultural volunteers to Morocco.

Dairy Herdsman: Dammam, Saudi Arabia (1954)
Worked as herdsman on the first experimental dairy in Saudi Arabia as three-month summer job.

EDUCATION

Tony Babb received a Master's degree in public administration from the Maxwell School, Syracuse University. It was an interdisciplinary program including development economics, planning, management, and policy analysis. He holds a B.S. degree in agriculture from California Polytechnic State University, San Luis Obispo, California, where he majored in animal husbandry and farm management. He has also studied tropical agriculture at the University of Hawaii and rice production at the International Rice Research Institute in the Philippines.

6/89

Donald R. Mickelwait
President, DAI
624 Ninth Street, N.W.
Washington, D.C. 20001

Dear Don,

After having considered and discussed, at length, your idea of my serving as Chief of Party for the Afghanistan Agricultural Sector Support Project, I have come to the conclusion that it sounds like an exciting project that I would like to be involved in and I herewith, agree to be the candidate for the COP position in DAI's proposal. This is an exclusive commitment and my name will not appear on any other firm's proposal.

Sincerely,

Eugene N. Babb

Eugene N. Babb

Development Alternatives, Inc.

DAVID ALTUS GARNER

David Garner has more than 20 years of experience in international development, with an emphasis on agriculture, rural development, and organizational development. He has skills in project design, planning, management, and various aspects of rural sociology. Over the last decade, he has designed, packaged, and managed more than $35 million worth of projects in rural development in Asia and the Middle East. For the last two and one-half years, he was Chief of Party of an $11 million USAID-funded agriculture and rural development project working in 16 provinces in Afghanistan. For seven years prior to this assignment, he served as Chief of Operations with TransCentury Corporation, where he was responsible for design, management, and negotiations for projects and proposals. From 1980 to 1985 he had overall management responsibility for a $24-million project in Yemen, constructing village drinking water systems. For USAID, he headed a project paper design team in Baluchistan to design a $40-million rural infrastructure and regional development project. For the State Department, he designed a $5-million integrated rural development project for Malakand Agency, North West Frontier Province, Pakistan. He also worked as a senior advisor to the Rural Development Department in the Prime Ministry of Afghanistan.

PROFESSIONAL EXPERIENCE:

Chief of Party, Afghan Agriculture Sector Support Project (ASSP) (1986-1989)

For the last three years, Mr. Garner was the principal designer, negotiator, and Chief of Party for a cross-border agriculture and rural development project in Afghanistan. Several key components of this position are detailed below:

Design: As principal designer and negotiator for this project, he came to Pakistan under a grant from the Office of the AID Representative in early November 1986 through March 1987. He headed a two-person design and negotiating team, working closely with the Afghan Alliance, the Government of Pakistan, and the Office of the AID Representative, to produce a Phase I project design for the Agriculture Sector Support Project (ASSP). The first phase of this project was designed to be implemented under the auspices of Volunteers in Technical Assistance (VITA). Following this field design work, he presented this document in Washington for AID review.

Staffing: Concurrent with this project design, he also had responsibilities for recruiting, deploying, and supervising VITA's technical assistance team for the execution of this project. (This team consisted of Dr. Abdul Wakil as Chief Technical Advisor, Mr. John Soden as Chief Financial Officer, and Engineer Mir Mohd Sediq as Chief Engineer.) He also assembled 225 local staff and set them to work through the structure of area development schemes (ADSs).

Area Development Schemes: As of the end of April 1989, the project had established 14 functioning ADSs, providing agricultural support and services to an estimated 700,000 people in Afghanistan. During his tenure as Chief of Party, project field staff, working with local people in each area, had cleaned or

rehabilitated approximately 1,000 karezes and had constructed or rehabilitated more than 300 kilometers of secondary and tertiary roads. The project also provided tractors, bullocks, seed, fertilizer, and horticulture stock to these 14 ADS schemes.

Commercial Channels: In addition to work through the ADSs, he also worked with private sector Afghan and Pakistani wholesalers and businessmen to implement a prototype agribusiness promotion component. These activities have now become the basis for AID's new Private Sector Agribusiness Project. These efforts, which were parallel but separate from the ADS activities, were responsible for facilitating the shipment of approximately $2 million worth of agricultural commodities and equipment to Afghanistan. This included the commercial sale of more than 300 wheat threshers, nearly 200 rice huskers, more than 2,000 pumps and engines, and approximately $300,000 worth of spare parts.

Planning and Coordination: As Chief of Party, he also had overall responsibility for supervising project planning and monitoring efforts. He explored possible new avenues for the project under its rolling-design concept. And he had liaison responsibilities for dealing with other groups and organizations working cross-border. This included the provision of technical assistance to various private and voluntary organizations.

Independent Consultant (June 1985-August 1986)

Clients included:

Orkand Corporation
Save the Children (U.S.)
Parson's Engineering
Management Systems International
VITA

- **Afghanistan:** For the Orkand Corporation, he worked as part of a team writing position papers exploring possible future developments in Afghanistan. His involvement was long term, extending from the summer of 1985 until the summer of 1986.

- **Afghanistan:** For Save the Children, in spring 1986, he led a three-person design team to look at a possible cross-border program of assistance to Afghanistan. This proposed project had two principal components: agriculture and health. Save the Children's cross-border project began work in two provinces of Afghanistan in 1988.

- **Baluchistan:** For Parson's Engineering, he wrote part of their proposal to USAID for the Baluchistan Area Development Project.

- **Yemen:** For Management Systems International (MSI), he headed a three-person evaluation team that analyzed the organizational development and institution-building components of five AID projects in the Yemen Arab

Republic and recommended an institution-building strategy for the Mission. After appropriate review and discussion in Sana'a, this strategy was incorporated into the Mission's Country Development Strategy Statement.

- **Somalia:** For VITA, he designed two projects -- a small enterprise development project, and a rural development project for the Lower Juba (Kismayo) Region in Somalia.

Chief of Operations, TransCentury Corporation (1977-1985)

- As Chief of Operations for TransCentury, he had primary responsibility for managing and developing programs for the Middle East, East Africa, and South Asia. Concurrent with this marketing and project development role, he also had day-to-day project responsibilities for managing a $24-million USAID contract with the Ministry of Public Works in the Yemen Arab Republic.

- **Yemen:** TransCentury's Rural Water Project constructed 175 village water systems designed to benefit nearly 200,000 people. In addition to the physical construction, the project improved the operations of the Rural Water Supply Department. He had full responsibility for all aspects of this package, from initial design to staffing to negotiations with the Ministry of Public Works and USAID. (Note: this project went through two phases. He designed and managed the first phase [1980-1984]; and he designed and negotiated a five-year $12 million extension, which became Phase II. Together, this was a nine-year project.) Substantial amounts of this project were implemented in close conjunction with Engineer Moh'd Sediq.

- **Baluchistan:** In winter 1983-1984, he led a five-person team to Baluchistan to survey and design a $40 million USAID project for Makran Division, Baluchistan. This project looked primarily at roads, medium-scale dams, irrigation, crops, and the administrative capabilities of the Government of Baluchistan.

- **Pakistan:** In 1982 he led a five-person team to Malakand Agency in the North West Frontier Province of Pakistan to design a $5-million integrated rural development project. This design for the Department of State had four components: infrastructure, agriculture, reforestation, and project administration.

- **Somalia:** In 1982 in Somalia, he initiated negotiations with the United Nations High Commission for Refugees, the Government of Somalia, and USAID for an assessment of the impact refugees had had on the environment in Somalia. These negotiations led to an AID-funded refugee impact study and a subsequent rural infrastructure project in the northwestern part of the country.

- **Yemen:** In summer 1980, while on leave from TransCentury, he served as senior staff on the Peace Corps in the Yemen Arab Republic, to help act as a bridge during a change of directors.

Related Professional Experience before 1977:

- **Afghanistan:** In 1973, he assisted with the design of a USAID-funded project for a $2-million grant to the Rural Development Department in the Prime Ministry of Afghanistan to build rural infrastructure projects in all provinces of the country.

- **Afghanistan:** Through the middle 1970s, he assisted with the implementation of this grant to the Rural Development Department. He served as a general management advisor to the Department, to help it choose and build appropriate rural infrastructure projects. He also helped to create a planning office for the Department.

- **Afghanistan:** He was one of two principal coauthors for a comprehensive evaluation of the American and Afghan development efforts in the Helmand Valley over a 20-year period, from the early 1950s to 1973. This document was presented by the American Ambassador to the President of Afghanistan for review at the highest levels of government.

- **Nepal and Afghanistan/Peace Corps:** He was a Peace Corps volunteer in Nepal in 1966-1967, where he worked in the Office of Public Information in the Ministry of Agriculture. He was Peace Corps staff in 1968-1970, first in Washington, D.C., and then in Afghanistan. In Afghanistan, he served as a Program Officer, with responsibilities for structuring the Peace Corps program with several key ministries.

EDUCATION

Bachelor's degree in Political Science, University of California at Berkeley, 1965.

LANGUAGES

In order of fluency: Farsi, Nepali, German.

6/89

Mr Donald Mickelwait
President, DAI
624 9th Street, N.W.
Washington, D.C.

Dear Don,

I have discussed with DAI staff the USAID-funded Afghanistan Agriculture Sector Support Project (ASSP). I am aware of the technical and physical requirements to perform this work, and have agreed to the salary level which DAI has offered me to perform this work. I am fully committed to DAI if it is awarded this contract.

Respectfully yours,

David Altus Garner

Date: 7 June, 1989

Development Alternatives, Inc.

PAUL C. GUENETTE

Paul Guenette is a staff member of Development Alternatives, Inc. (DAI) with expertise in agribusiness, the development of private sector enterprises, and project administration. He has worked primarily with agribusiness firms, including both rainfed and irrigated crop production, devising strategic plans for the successful implementation of market-driven production and sales ventures. He is currently Deputy Chief of Party of the High Impact Agricultural Marketing and Production Project, a $7.4-million contract that provides business development assistance to agribusiness enterprises. Mr. Guenette supervises the production of quality business plans for equity financing and manages a commercial marketing fund. He holds an M.B.A. degree and has worked on long-term private sector agriculture projects in Asia, Africa, and the Caribbean during his 14 years in international development.

PROFESSIONAL EXPERIENCE

Professional Staff Member
Development Alternatives, Inc. (July 1985-present)

Deputy Chief of Party
High Impact Agricultural Marketing and Production, Eastern Caribbean
(July 1988-present)
Serves as Deputy Chief of Party to this multi-million dollar A.I.D. regional agricultural diversification project (originally approved for $40 million). The project's goal is to help private enterprises in 11 Eastern Caribbean countries to develop commodities with strong export potential. The project develops business plans that lead to equity funding for agribusinesses through an Agricultural Venture Trust (AVT).

As Deputy Chief of Party, Mr. Guenette is responsible for assembling private sector agribusiness ventures and finalizing detailed business plans, ensuring that the ventures are market driven and that the plans contain adequate and appropriate management and production plans, targeted marketing strategies, and complete financial projections. Ventures include crop and livestock production, agro processing, product distribution and marketing, post-harvest handling, and transportation of inputs and produce. Thirty-seven of these plans have been prepared of which 16 will have received $4 million in AVT equity funding by fall 1989. When including other new equity and new debt funds, this $4 million in project funds reflects approximately $10 million in total new funds to these agribusinesses. Mr. Guenette serves as the broker between the investors and the representatives of the trust, ensuring that successful negotiations take place.

Mr. Guenette also manages the $500,000 Commercialization Fund, a grant facility for individuals, companies, or groups of farmers. The Fund has awarded 64 grants ($465,000) for innovative efforts to overcome agricultural marketing constraints by providing production inputs and market outlets. Funds have been used for planting demonstrations, irrigation system installation and rehabilitation, plant propagation, packaging materials, and market promotion. Many of these seed-capital efforts have led to the commercialization of new products and companies. He screens and evaluates requests, negotiates budgets, and approves the grants.

He is also responsible for coordinating the investment promotion and investor search activities of the project, obtaining profiles of investors wishing to visit the region to investigate investment opportunities, and interviewing and counseling investors. Mr. Guenette has attended numerous international agribusiness conferences as the project's representative. He also developed the project promotional package including the project newsletter, numerous newspaper articles, and country agricultural fact sheets and folders. He co-authors the field team's quarterly reports to the Mission that monitor project progress and provide implementation strategies and work plans.

Central Java Enterprise Development Project, Indonesia

Chief of Party (November 1987-June 1988)
Served as Chief of Party on this $2.6-million AID project to promote small business development by emphasizing private sector initiative and export promotion. As Chief of Party, Mr. Guenette led the implementation team responsible for the design and management of all project activities. Duties included the provision of policy guidance to the host country government and the solicitation and management of host country funding. Administrative duties included program planning and execution, monitoring and reporting, financial management of the project's four funding sources, and selection and management of short-term consultants.

Project activities were organized into three subprojects: shrimp production and marketing, light-manufactured exports, and metal and engineering. Specific activities included provision of technical assistance to shrimp hatcheries; planning, implementation, and supervision of a model private-sector shrimp hatchery; design and management of a demonstration shrimp pond program; development and testing of a locally formulated shrimp feed; export market development and producer assistance programs for wood, rattan, and brass products from Central Java; and design and commercialization of prototypes of 50 agro-processing machines by 30 small manufacturers.

Business Management Advisor (November 1986-November 1987)
Served as business management advisor, providing assistance to over 20 target firms and client institutions in the areas of financial and strategic planning and marketing. Managed firm-to-firm and institutional technology transfer in the metal and engineering industry, mariculture, and the manufacture of rattan furniture. Handled export-market relations, facilitating international transactions and coaching client firms in export strategies and procedures. Worked with team members and short-term consultants to plan and implement commercial marketing strategies for private sector businesses. Had responsibility for the project's financial management, including invoice preparation and documentation.

Director, Overseas Project Support Office
Development Alternatives, Inc. (July 1985-November 1986)
Directed a four-person staff, monitoring 12 long-term overseas projects, comprising 39 professionals; this support included commodity procurement and shipping as well as communication, and financial and administrative support. In addition, was responsible for the start-up of DAI's new overseas projects. Also provided short-term technical assistance to DAI's private sector development projects.

Business Advisor
Central Java Enterprise Development Project, Indonesia (April-May 1986)
Evaluated business constraints on several manufacturing and exporting companies of rattan products and developed accounting and inventory control systems and financial reporting. Devised projected operating budget and made financial projections for commercial shrimp hatchery.

Financial Analyst
Overseas Private Investment Corporation, Washington, D.C. (Summer 1984)
Evaluated private investment projects in Belize (game ranch), Guatemala (truck farming), Dominica (exotic flower exports), Dominican Republic (soybean production, tree seed multiplication, and pork production), Grenada (resort hotel and sugar production), and Jamaica (truck farming). Analysis of these investments included:

- An examination of the experience and equity arrangement of the project sponsors;
- The anticipated project costs and financial plan, including cost breakdowns, project financing sources, and terms;
- Technical and market aspects;
- Management capability and employees;
- Host country developmental effects such as foreign exchange, local duties and taxes, existing industry tariff structure, industry linkages, and technology transfer; and
- Balance of payments and employment effects.

Conducted dialogues with investing firms, their financial institutions, and other firms in the industry to garner sufficient information to conduct these analyses. Drafted executive summary memorandums and made oral presentations to the Executive Committee, where he defended his recommendations.

Project Administrator
Experience Inc., Nouakchott, Mauritania (January 1979-February 1983)
Served as administrator of the $6.2 million AID-financed Guidimaka Integrated Rural Development Project. As this was AID/Mauritania's first field project, established project accounting and reporting systems through AID. Established international communication networks and commodity procurement operations within AID guidelines. Set up a personnel support system for more than 200 host country nationals as well as six expatriate staff. Negotiated project policy with host government officials, the U.S. Embassy, and AID. Generated national support for a project situated in a particularly neglected region of the country. Administered a sizable project budget in direct AID allocations, a local currency account, and home office contract funds. Monitored and adjusted the project's work plan, consulting with AID and host country authorities as required. Coordinated the visits of numerous technical consultants, matching their qualifications to the needs of the project.

Peace Corps/Senegal

Associate Director, Integrated Youth Development Services (YMCA), Urban and Rural Development Program, Dakar (September 1977-September 1978)
Involved in project administration and implementation as well as negotiating policy at the ministerial level. Field projects included poultry production, sheep and rabbit raising, and women's textile production and sales. Helped plan and construct a vocational training center for high school dropouts. Coordinated a conference on development involving top executives from U.S. and European multinational enterprises and ministers from 10 African countries.

English Professor, St. Louis (July 1976-August 1977)
Taught English as a foreign language.

Rural Development Agent, Pete (April 1975-June 1976)
Planned and managed field projects, including well, latrine, and school construction; vegetable gardening; and fencing.

RELATED PROFESSIONAL SKILLS

Mr. Guenette speaks, reads, and writes excellent French (tested at the FSI-4 level). He has a working knowledge of Indonesian. He also speaks some Wolof, Toucouleur, and Hassaniyan Arabic.

He has knowledge of basic statistical analysis and has performed cost-benefit analyses, constructed pro-forma financial statements on various spreadsheet software packages, and worked with several database management systems.

EDUCATION

Stanford Graduate School of Business (1983-1985)
Mr. Guenette holds an M.B.A. degree with a concentration in international development and economic policy from Stanford University's Graduate School of Business. His paper and presentation evaluating the future of Hong Kong in light of the recent British-Chinese Treaty won honors. As a member of the Public Management Program, an interview with him was published in the 1986 *Public Management Program* brochure. He helped organize the 1984 "Conference on Entrepreneurship," attended by 1,000 small businesses.

Kalamazoo College (1970-1974)
Mr. Guenette was awarded a B.A. degree from Kalamazoo College, majoring in communications, with minors in psychology and education. He was the recipient of Ford Foundation and Michigan Competitive Scholarships.

Institute for American Universities, Aix-en-Province, France
(September 1972-January 1973)

Continuing Education: Dun & Bradstreet Seminar, "Effective Interviewing"
(March 1986)

Development Alternatives, Inc.

NEK M. BUZDAR

Nek Buzdar, a long-time associate of Development Alternatives, Inc. (DAI), has been involved in agricultural and rural development for 20 years. He is particularly knowledgeable about tribal societies and their problems with agricultural and rural development. A well-respected agricultural and natural resource economist, Dr. Buzdar has spent much of his professional life researching the socioeconomic issues and proposing recommendations and guidelines for economic development activities. His work with local and provincial governments has provided him with a thorough understanding of the rural institutions involved in development. Having worked with the U.S. Agency for International Development in Islamabad for two years as rural development advisor, he participated in more than a dozen projects in agriculture, rural development, and irrigation. Most recently, he has conducted studies for the United Nations High Commission on Refugees to aid in the resettlement of Afghan refugees and has been a short-term consultant to ASSP. Dr. Buzdar has led several research teams and has trained enumerators on his frequent missions to isolated and difficult areas in Pakistan.

As a native Pakistani, now naturalized American citizen, Dr. Buzdar speaks several of the local languages including Pashto and Urdu, Baluchi, and Dari, and has an excellent command of English. He holds a Ph.D. degree in agricultural and natural resource economics from the University of Hawaii.

PROFESSIONAL EXPERIENCE

Socioeconomist
United Nations High Commission for Refugees (UNHCR), Geneva, Switzerland, Islamabad, Pakistan (March-April 1989)

Performed a socioeconomic study to determine the feasibility of a U.N. humanitarian assistance and rehabilitation project. The project consisted of food and agricultural inputs distribution and was undertaken in connection with the Afghan refugees repatriation program.

Agricultural Economist
United States Agency for International Development (USAID), Islamabad, Pakistan (January-July 1988)

Collected and analyzed data for the USAID-funded irrigation and roads projects, the Bolan Dam, and 255-kilometer Awaran-Turbat Road, and wrote social and economic assessment reports to be used for project identification and design documents. Performed statistical and socioeconomic analyses of the Makran base-line survey data on agricultural and fisheries and interpreted the results.

Economist
Louis Berger International, Inc., East Orange, New Jersey (April-August 1987)

Directed and supervised the collection of field data for socioeconomic survey in remote and traditional Tribal Areas of Baluchistan. Compiled and analyzed data, interpreted results, and provided recommendations and guidelines for future economic development activities by USAID and the provincial government.

Program Coordinator
Academy for Educational Development, Washington, D.C. (January-March 1987)

Coordinated the Makran Scholarship selection-orientation program under the USAID-Pakistan Development Support Training Project. Also performed cross-cultural training, remedial math and science teaching, and career counseling.

Social Scientist
Louis Berger International, Inc., East Orange, New Jersey (August-December 1986)

Designed a socioeconomic survey for the USAID-funded Baluchistan Area Development Project in Pakistan. Framed the questionnaire, selected enumerators and supervisors, pretested the questionnaire in the field, and trained the data-collection staff.

Research Fellow
East West Center, Honolulu, Hawaii and International Center for Integrated Mountain Development, Kathmandu, Nepal (April-July 1986)

Collected and analyzed data and wrote a report on the socioeconomic conditions of farmers and pastoralists living in the high altitude (over 9,000 feet) mountainous areas of northern Pakistan. The study concentrated on the availability of natural resources, property rights, and social organization as they affect agro-pastoral development.

Activities During 1985

- Development Alternatives, Inc., Washington, D.C. -- assisted in the writing of a proposal for a USAID-funded roads and irrigation project.
- USAID, Islamabad, Pakistan -- conducted a study to assess regional educational standards and the need for U.S. scholarship program.
- Taught economics in several Southern California community colleges.

Rural Development Specialist
USAID Islamabad, Pakistan (February 1982-December 1984)

Participated in the identification, appraisal, and design of more than a dozen agricultural, rural development, and irrigation projects. Designed and conducted socioeconomic research, collected and analyzed field data, and wrote social and economic analyses reports for the following USAID-funded development programs:

- $45 million Baluchistan Area Development Project;
- On-farm Water Management and Command Water Management components of the $90 million Irrigation Systems Management Project; and
- Arid Zone Research Institute/ICARDA component of the multi-million dollar Agricultural Research and Technology Project.

Research Intern
East West Center and University of Hawaii, Honolulu, Hawaii
(August 1976-October 1982)

As research intern, worked on various resource systems and food institute projects related to the development of the Asia and Pacific region. Completed doctoral studies and dissertation work.

Planning and Development Officer
University of Baluchistan, Quetta, Pakistan (December-August 1976)

Performed identification, preparation, appraisal, implementation, and evaluation of projects concerned with the infrastructural and academic development of the university.

Instructor in Economics and Rural Development
Rural Development Academy, Quetta, Pakistan (August 1974-December 1975)

Developed curriculum and taught courses in agricultural economics and rural development, agronomy, and horticulture to rural development and extension workers of the provincial local government departments.

Research Officer
Planning and Development Department, Government of Baluchistan, Quetta, Pakistan (October 1972-August 1974)

Prepared annual provincial and regional economic development plans; reviewed development projects submitted by government departments; and participated in the appraisal, monitoring, and evaluation of agricultural, rural development, and irrigation projects.

Research Assistant and Agricultural Officer
Agricultural Research Station, Quetta, Pakistan (August 1968-October 1972)

Conducted research on the production of vegetables, fruit, and cereal crops and disseminated the results among farmers in the rural areas of Baluchistan.

EDUCATION

Nek Buzdar was awarded a Ph.D. degree in agricultural and resource economics in 1982 by the University of Hawaii from which he also received a Master's degree in resource economics two years earlier. Dr. Buzdar earned a postgraduate diploma from the Institute of Social Studies in The Hague, Holland (1973-1974). In addition, Dr. Buzdar holds a Master of Science degree in rural sociology and agriculture (1969) as well as a B.S. degree in agriculture (1967), both from the University of Sind, Pakistan.

LANGUAGES

Dr. Buzdar speaks excellent English in addition to his native Baluchi, Persian/Dari, Pashto, Urdu/Hindi, and Sindhi. He also has a good command of Brahvi, fair ability in Arabic, and some ability in Spanish.

PUBLICATIONS AND RESEARCH WORK

"Economic and Social Factors Effecting the Use and Productivity of Commonly Owned Rangeland Resources in the Semi-Nomadic Tribal Areas of Baluchistan Province of Pakistan," Ph.D. dissertation, 1982.

"Common Property rights and Resource Use Problems in Baluchistan, Pakistan," *Development Anthropology Network*, Binghamton, New York, May 1984.

"Range Management and Shepherds in Baluchistan, Pakistan," *Rangelands*, Denver, Colorado, December 1984.

"Social Organization, Property Rights, and Resource Management in Northern Pakistan," East West Center, Honolulu, Hawaii, April 1988.

"Socio-Economic Survey of the Makran Division of Baluchistan," USAID, Islamabad, Pakistan, November 1988.

6/89

Mr Donald Mickelwait
President, DAI
624 9th Street, N.W.
Washington, D.C.

Dear Don,

I have discussed with DAI staff the USAID funded Afghanistan Agriculture Sector Support Project. I am aware of the technical and physical requirements to perform this work, and have agreed to the salary level which DAI has offered me to perform this work. I am fully committed to DAI if it is awarded the contract, and am willing to accept any of three assignments under the project for which I am proposed.

Sincerely,

Nek Buzdar

Date: May 25, 1989

ALTERNATIVE ONE

The Additional of a Financial Controller

In earlier chapters, we made an argument for maintaining within the expanded project an expatriate financial controller. The complexity of the project is compounded when there can be no end-use inspection. The ARR component passes hundreds of thousands of dollars each month to units inside Afghanistan, with hand-written receipts in Dari drifting in as long as five or six months later. Perhaps most important, the Afghans in the project are dedicated to freeing Afghanistan and are at war with the current regime. This gives them minimal concern for the legal requirements of A.I.D. contracts. All these reasons justify the existence of expatriate professional oversight of the contract's financial systems. This oversight has been available during the first phases of ASSP. A field review of the accounting capacity suggested no systems are in place that would call for the removal of this capacity; rather, there is good reason to increase demands upon accounting.[9] Chapter Eight describes the accounting systems and financial controls required for ASSP.

For this alternative, DAI proposes to place the incumbent, John Soden, into the Management component of the expanded project. John Soden has been with the project since its early years, and has the respect and trust of the expatriate and Afghan staff. He is a qualified certified public accountant and lawyer, and has kept the project -- and with rationalized home office management, will keep the new contract -- out of serious financial difficulties. In the absence of John Soden, either one of the existing professionals on the project must be assigned oversight responsibilities for the financial and legal requirements of the project, or oversight must be completed by local-hire staff. In ASSP, as it expands and multiplies, continuity and financial oversight, with attention to A.I.D. requirements, would seem to be a very good investment.

John Soden would be assigned to direct the accounting staff under the responsibility of Chief of Party Tony Babb. In our concept of project management, described in the following chapter, Mr. Soden would be an important member of the Project Coordination Committee.

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[9] As described in Chapter Six, within the MAP component, the attribution of costs to individual subprojects would allow one base for a cost/benefit calculation that might be valuable in directing project resources to high return targets.

Development Alternatives, Inc.

JOHN E. SODEN

John Soden is financial manager with extensive experience working in developing countries. He has undertaken a number of short-term and long-term advisory and consulting assignments in Africa and Asia. He has also held a senior financial management position in Africa as an Operations Expert (OPEX). He holds a degree in accounting and is a Certified Public Accountant. He also has a law degree and has practiced law. He speaks Dari.

PROFESSIONAL EXPERIENCE

VITA (August 1987-present)

Financial Advisor
Agriculture Sector Support Project, Pakistan/Afghanistan
Serves as chief financial, legal, administrative officer on this USAID cross-border agriculture project for Afghanistan. The project is designed to provide assistance to farmers and the rural areas of Afghanistan that have been liberated. The project provides agricultural inputs and rehabilitates irrigation and other rural infrastructure. Duties include management of field office finances, financial reporting to USAID, personnel and other administrative matters, as well as handling project contractual and legal affairs.

University of Nebraska, Omaha (August 1987-July 1988)

Financial Officer
Education Sector Support Project, Pakistan/Afghanistan
Served as half-time finance officer on this USAID cross-border education project for Afghanistan. The project supports over 1,000 primary schools operated inside Afghanistan by the seven parties of the Afghan Mujahideen Alliance. The project also helped set up and supports the Alliance education arm, the Education Center for Afghanistan. Duties included management of the field financial systems.

Government of Lesotho (April 1983-August 1987)

Financial Controller, Roads Department
Chief financial officer of the largest-spending department in the Government of Lesotho. Held a line position in the Civil Service; was supported by a USAID contractor (TransCentury). Responsible for the supervision of the accounting staff and all accounting and budgeting in the department. Represented the department in the financial aspects of negotiations with donors such as USAID, World Bank, African Development Bank, and others for financing roads projects in addition to contract negotiations for road construction.

TransCentury Corporation (1986)

Consultant
Served as consultant to the Minister of Finance, Government of Swaziland on the establishment of professional accounting body and the training of accountants to reach professional qualification. Developed a training plan for the newly established Swaziland Institute of Accountants and a proposal for USAID assistance through its Manpower Development Project.

Public Administration Service (1972-1975, 1978-1979, 1982)

Consultant in Financial Management

Ethiopia: Ethiopian Water Works Construction Authority
Assisted the newly established authority in setting up its financial management systems, including writing its accounting manual and budgeting guidelines.

Ethiopia: Addis Ababa Water & Sewerage Authority
Conducted a study of the authority's financial management. Updated the accounting and budgeting manuals. Developed an implementation plan for financial management improvements. Carried out a water-rate tariff study and recommended a tiered tariff system that was subsequently adopted.

Philippines: Ministry of Finance
Assisted the Local Government Finance Department in the design of a project monitoring system for its USAID-funded real property tax administration project.

Afghanistan: Ministry of Finance
Served as the provincial revenue advisor on the USAID revenue administration project. The project was designed to increase government revenues through improved and uniform assessment, collection, and enforcement procedures. Was advisor in Kandahar and Helmund provinces and field tested proposed procedures for refinement before general implementation by the Ministry of Finance.

Participated in a number of domestic consulting assignments including developing a computer-based program accounting system for the East-West Center at the University of Hawaii; an organization and management study of the business office at Fayetteville State University, North Carolina; and a management study for the Lakes of the Four Seasons, Indiana Property Owners Association.

Longo & Soden (1979-1982)

Partner in a joint legal and accounting practice. Partners were CPA/Attorneys and provided legal and accounting advice to small business clients.

U.S. Agency for International Development (1971-1972)

International Controller Intern in the Office of Financial Management in Washington, D.C.

Bartlett, Pringle & Wolfe (1970)

Staff Accountant doing auditing and income tax work with the largest CPA firm in Santa Barbara, California.

Peace Corps (1967-1969)

Volunteer accountant at the Ministry of Finance, Kabul, Afghanistan.
Trained Afghan accountants in a new accounting system adopted by the Government of Afghanistan by a USAID contractor. Assisted with the installation of the system at other Ministries.

Arthur Andersen & Co. (1966-1967)

Audit staff accountant with this international accounting firm in their San Francisco office. Participated in the audits of major corporate clients.

EDUCATION

John Soden received a B.S. degree in accounting from the School of Business Administration of the University of California, Berkeley (1966); he is a California Certified Public Accountant. He also earned a J.D. degree from Hastings College of Law, University of California, San Francisco (1977) and is a member of the State Bar of California. He speaks Dari.

6/89

Mr Donald Mickekwait
President, DAI
624 9th Street, N.W.
Washington, D.C.

Dear Don:

I have discussed with DAI staff the USAID-funded Afghanistan Agriculture Sector Support Project (ASSP). I am aware of the technical and physical requirements to perform this work, and have agreed to the salary level which DAI has offered me to perform this work. I am fully committed to DAI if it is awarded the contract.

Sincerely,

John Soden

Date: 29 I 84

ALTERNATIVE TWO

The Addition of Professional Production Agriculturalists and a Data Collection and Analysis Specialist

Bolstering Agricultural Development in Afghanistan

DAI believes the staffing proposed for the expanded ASSP is not in harmony with the attainment of the full set of project objectives. Although there are major new directions to be achieved in agriculture, there are no professional staff working in the ARR component with production agriculture (as distinct from agricultural planning) as their prime responsibility.

If there are to be farm-level trials and demonstrations, some professional must define the trials, make them appropriate to the eco-climates and environments of local ARS units, and provide the technical specifications and training to the ARS staff. These trials must then be evaluated and the next generation of trials established. Further, if there is to be a serious seed multiplication program, particularly in wheat, someone must set forth the specifications of that program and then regularly monitor the results, adapting and changing as circumstances make some activities more successful than others.

The ARR component is directed by an engineer, and the primary focus, understandably, is on infrastructure creation. To balance the technical assistance input, DAI would propose the addition of two positions to the ARR Component:

- An expatriate agronomist and production specialist with experience in wheat production; and
- An Afghan production agriculturalist hired offshore who can provide the direct training and interface with the ARS field teams.

DAI nominates two of its current or former staff members for the agronomist position:

> **Dr. Michael Colegrove**, an agronomist and seed multiplication specialist with extensive experience in field crops, including wheat production; and
>
> **Jonathan Greenham**, an agronomist with three years of experience in Pakistan, two in North West Frontier Province, and a solid background in wheat production and agricultural input distribution in the North West Frontier Province Area Development Project.[10]

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[10] In NWFADP, wheat yields of various certified seeds were tested and Pak 81 selected as the best producer. The project delivered to each grower packets of certified seed and fertilizer sufficient for one year, purchased by DAI from sources in Pakistan. The program moved up the Gadoon mountain in stages until all areas had been covered. By the end of the four years, the entire mountain was covered with high-yielding wheat, averaging four time the pre-project yields. Jonathan Greenham made the arrangements for and oversaw the field trials and the distribution program for the final years of this project.

Staffing the Afghan position will require negotiations, clearance, and agreement with Engineer Sediq and Dr. Wakil. Discussions have taken place, and a candidate has been tentatively selected but has not yet been accepted for short-term work under the project. Once a long-term position has been defined, a candidate should be selected acceptable to the existing managers of technical assistance to the project.

The full resumes of both expatriate agriculturalists are provided below.

Staffing a Data Collection and Analysis Position within MAP

Our analysis of the failings of the present monitoring and planning effort within the project revolve upon the lack of an experienced data collection specialist who can oversee, train, monitor, and give technical direction to field staff within the ARS units. Past local-hire consultants to the project have been academically qualified, but with little field experience and no easy way to work directly with field staff. The results are a data collection and analysis effort that requires major modifications if it is to deliver the information identified in the RFP.

We believe that short-term consultants can create the training programs for new MAP staff and provide the theoretical direction for a field data collection effort. But without the continuing presence of an experienced language-qualified specialist the field teams know will read and judge their products, the results will be less than required.

DAI proposes for this new position, two candidates:

Dr. Nek Buzdar, previously introduced as alternate candidates for the MAP and/or PSA positions. It is obvious that DAI believes Nek Buzdar can be a powerful contributor to this project and should be placed in some position on the technical assistance team. Since he is from the area, and professionally trained and since resettled in the United States, he brings some of the best of both local and expatriate qualifications. Nek Buzdar knows his way around the tribal groups in Peshawar and Quette, and has the economic skills and field data collection experience to supervise a major new effort within the project. He can also contribute, as would other team members, to the PSA component of the project.

In the event that Dr. Buzdar is selected to fill one of the core contract positions, as an alternate DAI proposes **Qasim Yusufi**, an Afghan with an advanced degree in agriculture, previously trained by Dr. Kerry Connor in data collection methodology. He is presently with the University of Nebraska remote-sensing program in Omaha. Qasim has been proposed previously to support the MAP program, and we believe that he could make a major contribution either in a data collection supervisory role or in a remote sensing unit based in Peshawar, in anticipation of movement back to Kabul.

The full resume of Qasim Yusufi follows. Dr. Buzdar's resume appeared earlier.

Development Alternatives, Inc.

MICHAEL L. COLEGROVE

Michael Colegrove, an associate of Development Alternatives, Inc. and former staff member, is an agronomist with more than 20 years of experience in the seed industry and agricultural research. He has organized private and public seed production and marketing companies, particularly for hybrid cereals, in Africa, Asia, Europe, the Far and Near East, and Latin America. He has evaluated the performance of agricultural production systems; appraised agricultural research programs; and advised clients on methods to improve seed production, processing, and marketing efficiencies. Dr. Colegrove also has worked as a maize researcher and research program director for CIMMYT and the Ford Foundation in Mexico and Tanzania. He has extensive experience in managing technology transfers between different geographic and cultural environments. Dr. Colegrove holds a Ph.D. degree in agronomy and soil chemistry. He speaks Spanish and Swahili.

PROFESSIONAL EXPERIENCE

Principal
International Development Services, Ltd. (1988-present)
Serves as Principal in an international consulting firm whose primary activities include evaluating performance of agricultural systems and providing advice on methods to improve production, processing, and marketing efficiencies; appraising agricultural research programs and structuring integrated systems; organizing seed production companies, particularly for hybrids, in the public and private sectors; and implementing technology transfers between different geographic and cultural environments.

Ethiopia: World Bank, Washington D.C. (1989)
Conducted a five-week survey of the Ethiopia seed industry. Analyzed the Ethiopian Seed Corporation (ESC) and its relationships to other governmental agencies and international donor programs. Reviewed a Basic Seed Farm Project involving three international donors. Carried out a survey and analysis of seed distribution problems involving estimates of national seed demand, transport, and warehousing facilities. Reviewed the field production and quality-control programs and proposed procedures for the ESC to develop its own distribution and marketing programs.

Côte d'Ivoire: Cereal Food Products (1989-present)
Developed a research trial program to systematically test cultivars of maize, sorghum, millet, sunflower, rice, and vegetable crops for commercial introduction. Coordinated the production of 1,000 hectares of maize to be sold to local flour millers and animal feed suppliers. Served as technical and administrative liaison between Cereal Food Products, governmental programs, international cooperators, and local firms.

Kenya: World Bank, Washington D.C. (1988)
Carried out a four-week survey of the Kenya seed industry. Studied the demand, production, distribution, and pricing structures. Evaluated the financial performance of the Kenya Seed Company. Made recommendations to the World Bank on the improvement of seed distribution to the small landholder sector, pricing and marketing strategies, and the development of the National Strategic Seed Reserve.

Iowa, USA: Acres Research Inc., Cedar Falls, Ia. (1988)
Developed a business plan and organizational structure that allowed the firm to grow from a family business to a company employing four senior scientists and a support staff of six technicians. More than 40 separate research projects were designed and successfully completed for 25 U.S. and 5 foreign companies on the 80-acre research farm.

Soviet Union: Genetics International, Modesto, Ca. (1988)
Provided technical advice to company officials during negotiations with Soviet agricultural officials in Moscow. Reviewed government research protocol procedures and provided information on the way to test imported crop cultivars properly.

Senegal: Chemonics Inc., Washington D.C. (1988)
Reviewed the scope of work for an agricultural production project. Developed proposals for the subsections dealing with research, seed production, and distribution schemes. The firm successfully won the five-year, USAID-sponsored project.

Nigeria: Pioneer Overseas Corporation, Des Moines, Ia. (1988)
Reviewed the producer/distributor agreement between Pioneer and its Nigerian associate. Developed an alternative seed contracting, production, and condition program. The plan saved the company more than $1 million in equipment and financing costs.

Codirector, Agriculture and Natural Resources (ANR) Division
Development Alternatives, Inc. (February-November 1988)
Managed efforts to identify, track, and obtain short- and long-term consulting business in agricultural and natural resources development. Ensured delivery of high-quality consulting services on a timely basis to bilateral and multilateral clients in the public sector as well as to private sector entities. Specialized in agricultural research, seed production and multiplication, agribusiness, agricultural marketing, and project design and evaluation.

Pioneer Overseas Corporation, Iowa

Regional Manager for Sub-Saharan Africa (1984-1987)
Explored the potential of introducing and marketing Pioneer products in sub-Saharan Africa. Surveyed the research programs and the seed markets in 11 countries of West, East, and Southern Africa over an 18-month period.

Yamoussoukro, Côte d'Ivoire and Harare, Zimbabwe: Implemented all aspects of organizing and staffing two regional research programs. Administered a full support program for 16 employees. The combined operational budget was in excess of $250,000, and the capital expenditure totaled more than $1 million. Represented Pioneer's African interests at international functions in Botswana, Côte d'Ivoire, Kenya, Nigeria, Washington D.C., and Zaire.

Cameroon, Ghana, and **Zaire:** Assessed the national seed programs at the request of USAID.

Botswana: U.S. State Department/Bureau of African Affairs
Represented the U.S. private sector as part of the official delegation at the SADCC Conference in Gabarone. Served as panel member during the biennial meeting of U.S. ambassadors to Africa. Presented the experiences, problems, and successes of conducting business in Africa.

Zaire: U.S. State Department (1985)
Member of the Presidential Agricultural Task Force, a two-week in-depth study of the country's agricultural sector. Assessed the seed supply and potential for privatization of parastatal companies.

Technical Services Manager for European Subsidiaries (1982-1984)
Assumed responsibility for the Engineering Department. Improved and standardized the seed production between the European operations and the United States.

Austria: Developed the first designs and engineering specifications for the $4-million seed plant. Also organized the first hybrid seed production in Austria. Assisted in the organization of the first Pioneer EXPOS.

Italy and **Spain:** Initiated the upgrading of the seed plant facilities. Conducted the first seed production and quality control seminar for the European plant managers. Also co-authored the *Pioneer EXPO Manual*, a 76-page manual on all facets of setting up and executing successful field days.

Algeria, Egypt, Morocco, and **Tunisia:** American Seed Trade Association (1983)
Toured four countries in North Africa to review the seed market and the potential for member companies of ASTA to do business. Reported on the market for field grain seed.

Technical Services Manager for Latin America (1981-1982)
Responsible for developing better techniques in hybrid maize and sorghum seed production in 11 countries.

Weslaco, Texas:
Managed a newly acquired seed plant and its 40 employees. Developed and initiated a $3-million expansion and renovation program.

Rio Grande Valley:
Organized the first Pioneer EXPOS for foreign visitors. These became known as the "Pan Am Days."

Dekalb Ag'Research, Inc. Illinois

International Agronomist (1980-1981)

Agronomic: Tested, evaluated, and interpreted performance of DEKALB hybrids in countries served by DEKALB affiliates. Developed data evaluation and reporting systems between domestic and international cooperators. Drew up technical information sheets and brochures for DEKALB affiliates to use. Traveled to countries not served by DEKALB to evaluate hybrid performance and obtained data on DEKALB product performance in areas not serviced by DEKALB research efforts.

International Agricultural Projects: Assisted in the evaluation of potential and ongoing agricultural projects in which DEKALB, its subsidiaries, or foreign affiliates were involved.

Licensees: Coordinated export and technical agronomic activities with DEKALB licensees. Assisted licensees with the initiation of research trials, demonstration plots, and foundation and hybrid seed production.

World Seed Survey: Established and maintained records of world seed markets, covering national agricultural statistics that influence introduction, marketing, and utilization of hybrid seed. Assessed the political climate and business potential in areas not covered by DEKALB.

International Agronomist
Guadalajara, Mexico (1976-1980)
Coordinated information among U.S. and Mexican research, production, and sales programs. Organized and supervised maize and sorghum trials, demonstration plots, seed production of inbreds and single crosses, and maintained inventories. Responsible for quality control of hybrid maize and sorghum seed. Served as agronomic advisor to LINDSAY irrigation programs. Performed soil tests of production fields and trial sites. Trained and supervised four Mexican personnel in research and demonstration work. Responsible for $87,000 budget.

International: Evaluated technical capacities of new and potential hybrid seed operations in foreign countries. Reviewed research, demonstration, and production programs during biannual trips to Central and South America. Organized maize and sorghum trials for African, Asian and Latin American countries. Evaluated the effectiveness of land use under LINDSAY irrigation systems. Responsible for $56,000 budget.

China (1979):
On a team made up of two Americans, three Japanese, and four Chinese, performed a month-long investigation of six sites in Heilonjung Province to be developed into a 10,000-hectare integrated grain-poultry-swine project.

Indonesia/Agribusiness Council of America (1978)
Served as a representative on a five-person team to investigate the prospects for U.S. companies to invest in Indonesian agriculture. Evaluated the research status and the existence of any commercial seed activity.

CIMMYT/Ford Foundation (Project Specialist), Ilonga A.R.I., Kilosa, Tanzania

National Maize Research Program Director (1974-1976)
In first season, developed and allocated an annual budget of $80,000 to cover variety trials conducted at 23 locations and agronomy trials prepared at 42 sites by 45 research officers. In second season, prepared 62 variety trials and 400 agronomy trials. Data collected was used to publish the *Maize Production Handbook* to be used by research and extension officers. Developed a human resources plan with a 10-year projection.

Technical Coordinator/Maize Agronomist (1973-1974)
Coordinated a four-person team in the organization of a National Maize and Grain Legume Research Program. Established and staffed six maize research stations and 10 substations. Developed a unified research program for the country. Conducted follow-up visits to all 16 locations to evaluate the capacity of staff and facilities. Designed and disseminated agronomy trials. Presented trial data to the National Research Coordinating Committee to formulate regional maize production policies and extension recommendations. Assisted in developing a 25-acre sprinkler irrigation system for off-season maize-breeding work.

Maize Agronomist
CIMMYT (International Maize and Wheat Improvement Center), El Batan, Mexico (1972-1973)
Conducted maize agronomy research, focusing primarily on planting density and configurations as well as fertilizer materials, rates, and application methods. Evaluated insecticide and herbicide products and application methods. Conducted cooperative research with Maize Physiology and Maize Entomology sections. Responsible for training foreign agronomists in design and supervision of trials and data evaluation. Developed and taught a course in field plot technique and statistical evaluation.

Land Use Specialist
Spartan Aero Ltd., Ottawa, Canada, Guayas River Basin Project, Guayaquil, Ecuador (1972)
Defined and mapped land use during the wet and dry seasons through observation of cropping cultivation patterns. Defined land use capabilities and recommended cropping cultivation practices; proposed modifications necessary because of soil structure, texture, chemistry and fertility considerations, topography and water problems. Established a laboratory for routine analyses of 10,000 soil and water samples. Wrote sectional reports for final government documents for the Babahoyo and Duale-Peripa irrigation schemes, projects that encompassed an area of 450,000 hectares.

Sorghum and Soil Fertility Researcher
USAID/Pennsylvania State University, Poona, Maharashtra, India (1970-1971)

Crop Production in Tropics
National Science Foundation, University of San Jose, Costa Rica (1968)

U.S. Peace Corps

Agricultural Training Consultant
Tanzania and India Programs (1966-1968)

Agricultural Instructor
Tanzania, East Africa (1964-1966)

RELATED PROFESSIONAL SKILLS

Dr. Colegrove speaks Spanish and Swahili.

He has completed a number of diverse seminars and study courses in areas of finance and accounting, data processing, and management and marketing particularly focusing on the international arena.

EDUCATION

Michael Colegrove received a Ph.D. degree in agronomy/soil science, with a minor in economics, from Pennsylvania State University in 1971. His doctoral dissertation was entitled, *Soil Tests to Relate Responses of Grain Sorghum to Super-Phosphate Treatments on a Calcareous Indian Soil.* He holds an M.Sc. degree in agronomy, also received from Pennsylvania State University in 1969. His Master's thesis was entitled, *Effectiveness of Three Phosphate Fertilizers on Bush Beans (Phaseolus vulgaris) Grown in Acid Soils.* He received his B.Sc. degree in soil science in 1964 from California State Polytechnic University in San Luis Obispo.

Development Alternatives, Inc.

JONATHAN GREENHAM

Jonathan Greenham, an associate of Development Alternatives, Inc. (DAI) and former staff member, is an agriculturist with 14 years of experience in agricultural production and marketing. He has worked overseas in both the public and the private sectors in production, research, planning, and training. His particular focus has been on the agronomic and economic aspects of crop production. Mr. Greenham has resided and worked in Africa, Asia, and the Caribbean.

PROFESSIONAL EXPERIENCE

Development Alternatives, Inc.

Staff Member (January 1985-April 1988)
Associate (May 1988-present)

Doctoral Researcher
Wye College, University of London (January 1988-present)
Designed, set up, and is implementing a graduate research project leading to the Ph.D. degree on the breeding behavior of a semiarid range grass, *Cenchrus ciliaris*, buffel grass. Conducting studies into new breeding methods to facilitate sexual crossing and the production of hybrids in this apomictic species. Developing collaborative programs for field testing of the new types; in northern Nigeria, with ILCA; in Kenya, with the Dryland Research Institute; and in Pakistan, with the Forest Research Institute. Currently cooperating on a book for Cambridge University Press, entitled *Reproductive Versatility of the Grasses.*

Pakistan: Agronomist
Tribal Areas Development Project, DAI/AID (October-December 1988)
Was requested by AID/Pakistan and the Government of Pakistan to evaluate this politically sensitive project, which is installing surface- and ground-water irrigation systems and roads in the tribal areas of Pakistan bordering on Afghanistan. Made recommendations to expand field crop, forage, and tree production.

Pakistan: Agronomist
Master Plan for Barani Area Development, DAI/Asian Development Bank
(December 1986-April 1988)
Conducted the agricultural plan overview for the 3.6-million hectares of cultivated land in the rainfed (barani) areas of the Punjab. Worked with forestry, livestock, and range specialists to assess the status of agricultural development and to project the future needs of the people and livestock of the area. Had major writing responsibility for the volume on Rainfed Agriculture Resources Development of the Master Plan.

Agriculturist on the follow-on design team for two major projects for the barani areas: a crop and livestock production project on 600,000 hectares of irrigated and rainfed land, and the development of irrigated production in the 0.9-million hectares of cultivable riverain land in the old flood plains of the Punjab's rivers.

Pakistan: Agricultural Adviser
North West Frontier Province Area Development Project, DAI/AID
(December 1985-December 1986)
Was responsible for managing agricultural extension, demonstration, research, and production support for this poppy-replacement project. Worked with the agricultural extension service to organize the crop demonstration and production program on up to 20,000 acres of land, and to design and execute crop diversification programs under both rainfed and irrigated conditions. The field crops included cool- and warm-season vegetables, vine and tree fruits, legumes and cereals, and forage crops. Was responsible for the assessment of the financial and agronomic feasibility of the crop diversification program. Coordinated this work with the AID project officer and agricultural staff, as well as the local political administration, the farmers, the Provincial Department of Agriculture, the Faculty of Agriculture, and the agricultural experiment stations.

Mali: Agronomist
African Food Systems Initiative, DAI/Peace Corps (1985)
For the project design, visited three regions of Mali and assessed the viability of recommendations made by a previous assessment team. Examined the Peace Corps programs and, after consultation with the Malian authorities, designed new integrated long-term programs in horticulture, water resources, and forestry and soil conservation. Worked with the other team members to design this 10-year program, with the responsibility for technical issues; also had significant responsibility for determining the resource requirements and the training, management, and budget implications of the proposed strategy. Worked with the government of Mali, Peace Corps, AID, and Africare in designing collaborative arrangements to implement the new program. Presented the strategy at debriefings in Mali and Washington, D.C..

Somalia: Agriculturist
Refugee Settlement, DAI/AID (1984)
After visiting refugee camps and making site surveys, prepared the sections in a discussion report on models of refugee settlement and their technical considerations, a methodology for assessing sites for refugee resettlement, and a list of potential agricultural activities involving refugees that showed promise of being economically viable.

Extension Officer
University of Minnesota, Agricultural Extension Service, Office of Special Programs (1983-1984)
Designed, implemented, and coordinated an extension training program in commercial vegetable production for 30 Hmong refugee families, who were cooperatively operating a 100-acre commercial vegetable production and marketing enterprise. Managed an exchange program that trained and counseled 100 international farm student trainees annually and arranged for their placement on Midwestern farms and ranches.

Vegetable Production Manager
Owatonna Canning Company, Minnesota (1982)
Served as field manager responsible for the production, harvesting, and marketing of a 50-acre crop of irrigated cauliflower and broccoli in southern Minnesota. Performed feasibility studies on the development of cole crop production enterprises for farmers seeking alternative crops.

Research Assistant
Cornell University, Department of Plant Breeding (1980-1982)
Carried out agronomic and physiological research on two dry bean varieties grown in different environments as part of a National Science Foundation study.

Burkina Faso: Agronomist
Euro-Action Acord and Oxfam (1979)
Conducted a midterm evaluation of an integrated rural development project in the Sahel region, examining the technical and social implications of a proposed extension package for livestock. Analyzed the forage production program and the livestock feeding and marketing package and made technical recommendations for the redesign of the project.

Kenya and Zaire: Agribusiness Manager
Edmund Schluter and Co. (1977-1979)
Was responsible for project identification, design, and implementation. New projects included papain production in Kenya and Zaire; the organization of small-holder production of sweet peppers, chilies, and papaya; and the establishment of a production, extension, and marketing system that supported a biweekly flight of vegetables from Kivu in eastern Zaire to Kinshasa. Evaluated the agronomic and economic feasibility of other potential crops including vanilla and pyrethrum. Helped design and establish a deep litter poultry enterprise in Zaire, raising its own stock and formulating its own rations, that currently contains 40,000 layers.

Sudan: Horticulturist
Regional Development Corporation, Juba (1976-1977)
Provided technical assistance to the corporation, a parastatal. Renovated an abandoned irrigated vegetable farm, established a new commercial vegetable farm, introduced new production techniques, and trained local staff.

Ghana, Nigeria, Sierra Leone, and Côte d'Ivoire: Agronomist
Tate and Lyle Enterprises Ltd. (1975)
Carried out field studies in the semi-deciduous forest looking at the agronomic problems arising from the conversion of a promising new source of industrial chemicals, *Thaumatococcus danielli*, from a wild plant to a cultivated crop species.

Algeria: Consultant
University of London (1975)
In the high plateau region of Algeria, collected *Vicia faba, Vicia narbonensis*, and *Vicia pliniana* (broad bean and two wild bean species) for use in the university's disease-resistance breeding program.

Trinidad: Estate Manager (June-September 1972)
After finishing a year of studies in tropical agriculture at the University of the West Indies (September 1971-June 1972), managed the harvest on an estate producing coffee, cocoa, and citrus.

RELATED PROFESSIONAL SKILLS

Mr. Greenham has a good knowledge of written and spoken French. He also has a working knowledge of Swahili and a limited knowledge of Spanish and Arabic.

He has worked extensively with portable microcomputers and is proficient in the use of spreadsheets, graphics, project management, and word processing programs.

EDUCATION

Mr. Greenham is currently working on dissertation research for a Ph.D. degree from the University of London. He holds an M.Sc. degree in plant breeding and vegetable crops from Cornell University (1982). He also holds a B.Sc. in plant sciences from the University of London, Wye College (1975). In addition, he studied tropical agriculture at the University of the West Indies, Trinidad (1971-1972) and horticulture and agricultural economics at the University of Minnesota (1983).

4/89

Development Alternatives, Inc.

MOHAMMAD QASIM YUSUFI

PROFESSIONAL EXPERIENCE:

2/89 to Present — Department of Geography - Geology, University of Nebraska at Omaha.
Agricultural Consultant: Afghan Remote Sensing Project. Responsibilities include analysis of technically detailed maps to discern current status of agriculture in Afghanistan. Specific information examined is irrigation systems, types of agriculture, and significant factors that impact agricultural systems.

10/87 to 7/88 — TLSI Center for Applies Languages; Denver, Colorado.
Curriculum Developer: Developed curriculum, prepared instructional materials, and created diagnostic tests in Pashto-English for English speaking adults.

12/84 to 6/87 — International Rescue Committee; Peshawar, Pakistan.
Deputy Director of Education: Recruited and supervised over two hundred employees including education professionals and program directors, accountants, marketing specialists, administration and academic standards inspectors, print and typesetting technicians, secretarial staff, and janitors. Chaired several educational committees. Prepered and controlled a one million dollar budget. Wrote grant proposals for educational programs. Interfaced with ten instructors regarding secondary and undergraduate curriculum and textbook development.

1/84 to 11/86 — Small Business Consulting; Peshawar, Pakistan.
Private Consultant: Consulted for Afghan refugees resettling in Peshawar and Punjab regions of Pakistan. Taught farmers to adapt agricultural practices to become self-reliant in new geographic surroundings. Designed and set up more than fifteen agricultural projects focusing on:

1. poultry farming
2. kitchen gardening
3. efficient land use practices
4. competition in a free market economy
5. planning better marketing systems for agricultural products

8/85 — U.S.I.S. Washington (Office); Peshawar, Pakistan.
Translator: Worked with Robert W. Butler, Producer, on a documentary film entitled, "The Land On Fire". Translated conversation and written material from interviews with Afghan refugees.

9/84 to 12/84	Swedish Committee for Afghanistan; Peshawar, Pakistan. Curriculum Developer: Developed curriculum and instructional material for the primary schools in the liberated areas (those areas controlled by Freedom Fighters) of Afghanistan. Advised the Committee on administrative matters. Conducted interviews, inspected and monitored the education program.
10/84	U.S.I.S. Washington (Office); Peshawar, Pakistan. Translator: Worked with Robert W. Butler, Producer, on a documentary film entitled, "I Am Afghanistan". Translated conversation and written material from interviews with Afghan refugees.
7/84 to 9/84	U.N.H.C.R. Sponsored "Bellerive Foundation Stove Project for Afghan Refugees"; Peshawar, Pakistan. Center Deputy Manager: Assisted Afghan refugees in adapting to new surroundings with new resources. Planned efficient utilization of environmental energy resources. Advised individuals and small bakery business on how to incorporate new energy resources into existing lifestyles.
1/84 to 12/84	Geography Research Project; Pehsawar, Pakistan, Research Assistant: Worked with Dr. Kerry C. Shroeder, Ph.D., Geography Specialist. Project focused on resettlement of Afghan refugees in the Peshawar, Pakistan area. Conducted interviews, translated conversation and technical material from Pashto and Farsi to English, and completed preliminary data analysis.
7/81 to 12/83	College of Agriculture, Kabul University; Kabul, Afghanistan. Associate Professor; Taught various undergraduate courses on soils, irrigation, and applied mathematics. Conducted research on crop fertility and water requirements. Performed laboratory soils and plant analysis. Chaired student seminar on agriculture.
7/81 to 12/83	College of Veterinary Science, Kabul University; Kabul, Afghanistan. Part-time Lecturer: Taught applied mathematics and biostatistics to undergraduate students.
7/81 to 12/83	Afghan Ministry of Agriculture; Kabul, Afghanistan. Private Consultant: Research topics included soils fertility, crop water requirements, and irrigation.
7/81 to 12/83	Owned and managed private poultry farm in Kabul, Afghanistan. Primarily raised about 1,000 chickens for laying.

9/79 to 6/81	University of Wageningen; Wageningen, The Netherlands. Graduate Student: Research topics for masters theses. 1. The importance of denitrification in rice fields as affected by sources of nitrogen and variations in water management practices. 2. The response of barley to weekly irrigations with differing salinities and leaching fractions.
4/75 to 6/79	College of Agriculture, Kabul University; Kabul, Afghanistan. Assistant Professor: Worked as teaching assistant to the professors on various agronomy courses. Facilitated student agronomy laboratories. Worked as research assistant to the professors conducting research on crop yield trials, soil fertility, and crop water requirements.
4/75 to 6/81	Institute of Higher Acricultural Education; Kabul, Afghanistan. Part-time Lecturer: Taught undergraduate courses in mathematics and physics.
8/77 to 11/77	Ministry of Higher Education; Kabul, Afghanistan. Advisor: Assigned to special mission to spend three months at the Agricultural High School in Farah City to set up the new school curriculum. Developed instructional materials. Advised academic and administrative staff regarding problem areas in operation of the school.
1/75 to 7/77	Private Consultant: Advised more than thirty farmers in Kabul and Jalalabad, Afghanistan, regarding selection of good crop variety, efficient utilization of water, selecting more economical irrigation practices, maintaining soil productivity by applying good agricultural practices and crop rotations, and proper and timely application of animal manure or green manure.

EDUCATION:

1981	Master of Science in Agriculture. Major: Soil Fertility. Minors: Irrigation and Soil Physics. University of Wageningen; Wageningen, The Netherlands.
1977	Completed "English Language Study" program. American Cultural Center; Kabul, Afghanistan.
1975	Bachelor of Science in Agriculture. Major: Plant Science Kabul University; Kabul, Afghanistan.

MOHAMMAD QASIM YUSUFI

PUBLICATIONS AND AWARDS:

1985	Presented research findings entitled The Agricultural Situation of Aghanistan Under War Conditions at "Afghanistan, A Threatened Culture", an international seminar sponsored by the Swedish Institute of International Affairs; Stockholm, Sweden.
1983	Published General Mathematics. A text for freshman veterinary students in the Faculty of Veterinary Science at Kabul University, Afghanistan.
1981	Published two papers in "Tabi-Olum", the Kabul University journal, Afghanistan.
1979-1981	Awarded a two-year scholarship for agricultural graduate studies at the University of Wageningen in The Netherlands.
1978-1979	Published two papers in "Karana", a Ministry of Agriculture journal. Published three papers in "Elm-O-Fan", and "Karan-Pohana", College of Agriculture journals, Afghanistan.
1978	Published Principles of Agronomy. A text for use in the tenth grade in Agricultural Vocational Schools, Afghanistan.

Development Alternatives, Inc.
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Sixth Floor
Washington, D.C. 20001

To whom it may concern:

All the potential short-term consultants mentioned in this proposal have been duly contacted by DAI Staff and have given their agreement to work on short-term assignments for the Afghanistan Agricultural Sector Support Project should the contract be awarded to DAI.

Donald R. Mickelwait, President

7 June 1985
Date

CHAPTER EIGHT

MANAGING THE CONTRACT IN THE FIELD

This chapter addresses the field management of the ASSP contract in forms of:

- Responding to project requirements;
- Coordinating and directing the field effort;
- Setting development strategy;
- Implementing priorities and schedules;
- Reporting;
- Contract management; and
- Financial management.

Relationships between the field team and the home office are detailed separately in Chapter Ten.

Responding to Project Requirements

ASSP is an A.I.D.-funded project to be provided with implementation assistance by a U.S. prime contractor. DAI understands client-contractor relationships. The contract will set parameters for overall contractor performance, with modifications, refinements, and variations provided by technical directions from the A.I.D. Project Officer. When major changes are called for, a contract revision will be negotiated. DAI will be expected to perform, based upon the objectives and requirements of the contract.

As a contractor, rather than a grant-receiving organization or a group of personal service contractors, DAI operates in the field as a unit, with the Chief of Party accepting new requirements or directions from the Project Officer. Direction might also emanate from a host country client should A.I.D. delegate to a new government responsibility for certain program components. The Chief of Party then mobilizes contract resources to perform as directed. DAI supports project implementation through our technical assistance team, with the clear understanding that it is A.I.D.'s project.

Coordinating and Directing the Field Effort

DAI has had success with integrated management of overseas teams. We carefully select and orient our Chief of Party and empower him to manage the contract and make operational decisions. And we charge the Chief of Party to make full use of participatory, involved, and informed team leadership processes. Our

teams meet, discuss, and debate to find the best solutions to complex problems. When decisions are made, "democratic centralism" takes over, and they work as a team to implement the decision.

We favor the concept of a Coordinating Committee, composed of the Chief of Party; the heads of each component; the DAI Controller; the A.I.D. Project Officer (and others from the A.I.D. Representative's Office as would be useful to the project); and, if appropriate (and we would argue that it is important to maintain key liaison communications), representatives of the Government of Pakistan involved in Afghan affairs. Monthly meetings, working from an agenda but with the flexibility to address whatever critical issues arise, with written minutes indicating the disposition of subjects and identifying those responsible to take action, will help keep this widespread project coordinated.

DAI also works with subcommittees directed to find solutions to aggravating problems that have evaded resolution. This is particularly useful when the problems cross project components, and a coordinated attack must be used to come to a solution. Since field operations are, in our concept of ASSP implementation, channeled through the ARS units, directed by ARR, there must be continual coordination between ARR and the other two operation components of the project. Tony Babb will ensure that such coordination and cooperation takes place.

DAI's Chiefs of Party oversee the field staff on each contract, approve their promotion levels, and can remove from the project area those who are not performing to standard, those they deem need to be replaced. The Team is entirely managed in the field. Section III of Volume II presents the DAI Long-term Project Manual, distributed to each Chief of Party before a project begins. It sets the ground rules for the authority he holds to direct and coordinate the field team.

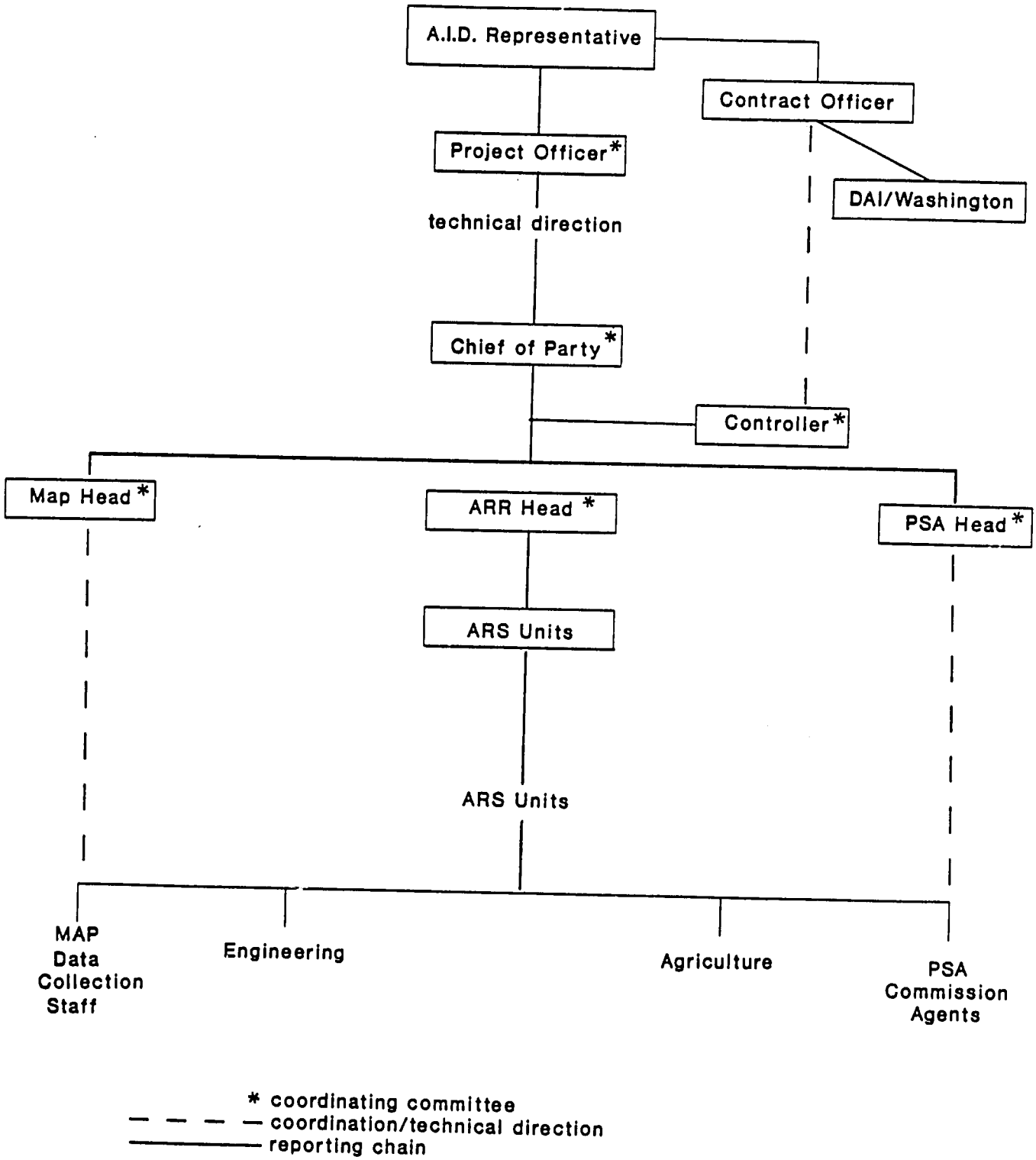
Figure 8 depicts graphically the organization for the field team, indicating lines of reporting, coordination, and technical direction as well as the members of the project Coordinating Committee.

Setting Development Strategy

Each development project needs a strategy. Sometimes in the detailed language of the contract, or in the instructions for the next 12 months of work, this overview and justification for action are neglected. We use the regular visits of DAI's President to review the implicit or explicit strategy, look again to be certain we are operating on the best concepts known, and then obtain general agreement on that strategy from all parties to the project. With that strategy agreed, our field teams can then review operational priorities and schedules.

Each major actor in a project may have a slightly different interpretation of his or her own special interests. Those of the A.I.D. Representative may vary slightly from those of the Interim Government in Peshawar. The first phase of the project will have created momentum that may require some re-adjustment to fit the expanded role conceived for the project's next phases. The conservatism of the early project's early years, when merely establishing that cross-border operations were possible was a major success, will need an infusion of energy and optimism to

Figure 8
Organization Chart of the ASSP Technical Assistance Field Team



move from present levels of activity to those projected by 1992. All these issues need to be reflected in a commonly held strategy, one that will be originally discussed and formulated during the first 90 days of the contract, and then revised as circumstances change.

Implementing Priorities and Schedules

We expect our field teams to be well managed, to have clearly defined work plans and schedules, and to use state-of-the-art project tracking technology to display, update, and revise the timetables on which the project will be based. This is particularly critical when the project must support agriculture with a fairly rigid planting and growing season.

The Chief of Party will maintain a project tracking implementation schedule for the overall project, and for each component. Within the office of the head of each component, that tracking will be available in detail, to show the different lines of activities, their critical dates, and the resources required to make them work.

Such a display sets forth clearly the priorities and the requirements to complete the actions necessary to bring the priorities to fruition. DAI will run an organized, managed field team, helping Tony Babb to institute the systems and procedures that set priorities and schedules, display the decisions on work plans and activities, modify them over time, and report the results for use by the team and by A.I.D.

Reporting

Some standard operational reports are required to manage and coordinate ASSP. These include:

- An agenda for and minutes of the monthly Coordination Committee meetings;
- An operational plan, containing targets and objectives, written to cover 12 months, with a detailed set of activities programmed for the next six months. Although not required in the RFP, this 12-month reporting cycle, with six months of detailed activities, has provided a useful mechanism for managing and documenting project actions in other challenging multicomponent projects;
- Quarterly reports based upon the progress against the operational plan, including details on the state of finances for all project budget items;
- Annual status reports, with summary information on progress to date; and
- Monthly financial reports, specifying the used and remaining funds for each component of the contract (submitted as a part of the monthly voucher).

In addition, some special reports are required to begin the project. These are:

- A strategy for the project, particularly for the PSA component, written in the first 60 days in draft, in final form in the first 90 days that sets forth a plan for the movement and sale of agricultural equipment and commodities into Afghanistan. Since the PSA component directly interacts with the ARR and MAP components of the project, this strategy is tantamount to a project strategy for operations over the life of the project, with details specified for the next 12 months. This document allows the operational plan mentioned above, to be written.

- A monitoring and reporting plan based upon the output expected of the MAP component, delivered in draft in the first 60 days, in final form within 90 days of the beginning of the project.

Contract Management

DAI manages its contracts (as distinct from field operations) from Washington, D.C., asking that all formal contract changes be negotiated through our Contract Administration Office with the A.I.D. Contract Officer assigned to the project. When the changes required are small, we authorized the Chief of Party to sign the contract amendment. When major re-budgeting is required, while drawing on the knowledge of the Chief of Party, we complete the revised budget proposal from DAI/Washington.

This division of responsibility has worked well in the past. It maintains consistency among our projects, allows standardization on items such as fringe benefits and overhead, and ensures that there are not missing pieces of the budget puzzle that are overlooked in the field. At the same time, we rely upon the field teams for the knowledge of local expenses, and an analysis with projections for the costs required through the end of the contract period.

Financial Management

DAI authorizes our Chiefs of Party and Financial Controller direct access to a specially arranged project bank account held in First American Bank in Washington, D.C. Based upon a projected level of expenditures, the Chief of Party signs a dollar check drawn upon the DAI/Washington account, and either deposits the funds in a bank that accepts dollar accounts or converts it into local currency.[1]

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[1] For example, in the Northwest Frontier Area Development Project, Pakistan, (1984-1987) the U.S. Government had excess rupees. The DAI Chief of Party would write a dollar check on the DAI/Washington account and provide it to the cashier in USAID/Islamabad, who would send the check to Bangkok, where it would be converted to rupees. When the rupees were transmitted back to Islamabad, the Chief of Party would deposit them into an account with American Express Bank, drawing out petty cash as needed.

In ASSP, there will likely be two original sources of funding for project activities. One source will be from DAI through the dollar conversion method described above. We ask that Chiefs of Party notify DAI when major checks have been written, as we maintain a zero balance arrangement with our bank. But there is no restriction placed upon the Chiefs of Party on their expenditures in support of the project. Funding decisions are made in the field, not in Washington. DAI/Washington is responsible to provide the funds needed for project expenses.

The second likely source of funding will be directly from the Office of the A.I.D. Representative, for what are called Program Accounts -- for example, the cross-border operations of the ARR component and major commodity arrangements made under the PSA component.[2] These funds would require their own separate accounting system, working under a revolving account from A.I.D. Insofar as there are sales of goods and equipment purchased by the project, there will be additional accounting requirements, and a third source of funds -- the reflows from a previously expended budget. The complexity of maintaining records for these funding sources is one good argument for continuing controller John Soden with the expanded project.

DAI will install within the project a computerized accounting system that can track expenses by source of funds, by project component, and by budget line item. Accounting for the funds provided by A.I.D. directly to the project will not flow back to Washington, but will be managed, recorded, and submitted directly as a field account, that is, as a revolving account provided by A.I.D., used by the project and accounted for to A.I.D. The accounting for the program expenses of the ARR component, for example, will be completed by the contract accountants and returned to A.I.D. for review. Accounting for funds provided by DAI must return to Washington, where the permanent records are kept.

DAI submits financial vouchers monthly from the field, in this instance from the project offices in Peshawar. All field accounting is provided by the project -- that is, all local expenses are recorded and documented by the accounting staff of the contract (John Soden and five accountants proposed under local hire arrangements). DAI will telex or FAX the charges incurred in Washington for the month, mostly relating to salaries, fringe and overhead of the staff hired off-shore. We authorize the Chief of Party to make payments to local hire staff at agreed rates. The Chief of Party's accounting staff prepares all documentation and submits the voucher directly to the Project Officer. In case there are questions on the voucher, the Project Officer can check directly with the Chief of Party on local expenses, and the Chief of Party will trace any home office expenses back to DAI/Washington to obtain an explanation or correction.

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[2] DAI could make arrangements to expend the operating funds -- the Program Accounts -- for the ARR, PSA, and MAP components and then, after three or four months when receipts are available, prepare vouchers for A.I.D. But we would be working on borrowed money at prime plus 1 that can only be recaptured in the fee placed on the contract, since A.I.D. will not fund interest charges. Such an arrangement would significantly increase the total cost of the contract. We have proposed to work from an A.I.D.-provided revolving fund for Program Accounts in ARR, PSA and MAP components.

This system works as described in the six DAI projects presently under way in the Asia Bureau's countries and was used successfully in the three-year project in Pakistan. Our vouchers are out the door by the 10th of each month to the field teams, compiled and sent into A.I.D. by the 20th. Since we pay first, and are re-reimbursed later, there is a strong incentive for us to move quickly to account for and voucher expended funds.

Financial management of the contract occurs from both Washington, where the Office of Overseas Project Support oversees the contract budget, and in the field, where the Chief of Party is responsible to have a detailed forward budget based upon the work plan and the original contract. Each month a new remaining budget is calculated, allowing the field team to know where they stand on each budget item. Using this process, DAI has a double check on variation above 15 percent in line items or the period when obligated funds will reach the 75 percent expended level, calling for notification of the Contract Officer. When there is a requirement for a new set of activities in the project, due to changing circumstances, the field team is able to manipulate the remaining budget to determine how to move funds to accomplish some new task order.

DAI charges our Chief of Party with a command and knowledge of the funds in the contract and empowers him with the right to spend those funds to expeditiously achieve project objectives. Field expenses in support of the project are not a subject for Washington review.

CHAPTER NINE

WORK PLAN AND START-UP STAFFING

ASSP presents unusual circumstances in which to write a work plan for future project activities. It is a continuing project with a major expansion that overlays ongoing programs. In the integrated project concept presented in Chapter Three, both of the next components of the project, the MAP and PSA, and the existing activities to be subsumed under the ARR component must be fully integrated and coordinated. Defining a work plan for only the MAP and PSA components would be, in our opinion, omitting the most important aspects of the entire project -- those that take place inside Afghanistan.

There is one set of circumstances that could separate the ARR component from the immediate requirements of PSA and ARR. That would be to provide agricultural commodities outside the jurisdiction and areas of responsibility of the current ARS units. This might take the form of distribution of fertilizer and high-yielding wheat seed to major population centers through the customs procedures of the present Kabul government. Similar to the pumps and threshers that passed into Kabul for sale, fertilizer and wheat seed might be registered with the government when exported from Pakistan and sold in those cities such as Jalalabad, Kabul, and Kandahar that are still under government control.

If the decision in August were that the PSA component would concentrate on the distribution of fertilizer and seedstock in population centers inside Afghanistan, the work plan for the PSA component would become a commodity storage and transportation problem.[1] Such a program would accomplish certain objectives, but would be far from the best that the project can deliver if agricultural commodity distribution is tied directly to ARS areas of influence, as described in Chapter Five.

The work plan presented below makes the assumption that the project will be integrated, that the ARS units will provide the foundation (although not necessarily an exclusive funnel), for equipment and commodities flowing into Afghanistan. We believe that if the operational decisions on the ARR component can be made in the field by Engineer Sediq, there will be no difficulty in arranging a coordinated, integrated project for the next six months, with three mutually supporting components. That is the basis for our planning.

Starting the Project

There are three immediate requirements. The first is to begin, with all the demands of start-up for a major new undertaking. There is housing to be found;

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[1] We understand the logistic and supply contractor will actually purchase the agricultural inputs. In the event that is not possible, DAI has acquired the services of for the past three years responsible for AMEX's procurement and shipment, to provide services to the early months of ASSP.

office space to be occupied.[2] Accounting systems must be established, bank accounts opened, transportation to be activated, and communications channels tested. Figure 9 provides a guideline for the activities required for start-up of the project. DAI would have on site, within 10 days of contract signing, the Chief of Party and both DAI component heads for PSA and MAP. We also have an excellent Pathan-Pakistani expeditor, office manager, and chief accountant who has worked for five years with DAI on all phases of administrative and financial support. We would assign him to work with the Chief of Party in setting in motion the actions required to establish a new team in Peshawar.

The second requirement is to establish within ASSP a functioning team operating under a strategy agreed with the Project Officer and the Office of the A.I.D. Representative to Afghanistan. We understand how carefully this must be approached, as tremendous effort, energy, and commitment has gone into bringing the project this far. New ideas and concepts must be advanced thoughtfully and with respect for ongoing programs. But to carry ASSP to a new level of impact on rural Afghanistan, there must be a functioning, complementary, cooperating team, with a strategy for the project and, from that, for each project component. Below we discuss the activities necessary to create the working relationships critical to the success of an expanded project.

The third requirement is to move agricultural inputs into Afghanistan, primarily seedstock and fertilizer in time for the 1989 planting season in October or November, depending upon elevation. If the project has other equipment already purchased, that too might require rapid distribution and sale. Since we do not know the magnitude of the movements, nor where they will be required if not to ARS areas of influence, the best planning we can do is to present a team that can be assembled early in August to undertake this task. The team members, all familiar with operations from Peshawar and Quette, are described in the following section.

Start-up Requirements

The DAI Consortium begins well ahead. live in Peshawar and know the support structures available to the ongoing project activities. Years of working in USAID/Pakistan's programs in North West Frontier Province have made the city's resources and its governmental structure familiar to DAI. To begin the project, DAI would send to Peshawar the Technical Backstop for the contract, who lived three years in North West Frontier Province. He will have sent word ahead to , a long-term DAI employee during the North West Frontier Area Development Project and Barani Master Plan projects, 1982-1988, employed temporarily with USAID/Peshawar. With providing local knowledge of facilities and services, both with many years experience supporting overseas projects, will rapidly become familiar with the living and working arrangements required for supporting the project. Figure 9 lists the initial start-up requirements.

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[2] Current offices are not adequate for the new MAP and PSA components, which should be housed together with the Chief of Party.

FIGURE 9

START-UP ACTIONS FOR ASSP

Actions	Timeline: months 0	1	2
U.S. Embassy Registration/Islamabad	x		
Commission Registration			
Health Unit Registration			
Communications Facilities		x	
Telex			
Fax			
Courier			
Bank Accounts and Currency Conversion		x	
Rupee			
Dollar			
Official Transportation		x	
Cars from AID Rep. Office			
Drivers from local company			
Housing			
Housing contracts			x
Furniture			x
Repairs and renovations			x
Household staff			x
Security			x
Electric connections			x
Telephones			x
Air Freight			x
Customs clearance			
Shipment to Peshawar			
Movement to houses			
Multi-entry Visas			x
Staff			
Dependents			
Temporary Computer Capacity		x	
Laptop portables			
Supplies			
Repair facilities			
Private Vehicle Purchase			x
Duty arrangement			

Actions	Timeline: months 0	1	2
New Office Facilities[3]	x		
Telephones			
Furniture			
Repairs and renovations			
Local-Hire Staff		x	
Accountants			
Secretaries			
Professionals			
MAP			
PSA			
Computerized Accounting Systems			
DAI funds			x
A.I.D. funds			x
Staff training			x
Revolving Account from A.I.D. (for Program Activities)			x
Subsidy/Purchase System for PSA Commodities			

[3] In 1982, used a corner room in the Pearl Continental hotel for a six-week assignment designing a fruit and vegetable project. Without ever relinquishing the room, it was taken over by as the office for a six-month design of the North West Frontier Area Development Project. DAI understands how to make the most of temporary offices in Peshawar.

Creating a Functioning Project Team

The end products of the first 90 days are clearly specified: an overall project strategy that allows the generation of an agreed strategy and work plan for the PSA and MAP components. Those are the requirements of our contract; however, we believe the ARR component should be a full partner in the strategy and work plan discussions. We would propose the following process:

1. With all members of the technical assistance team available in August conduct a two-day seminar and team-building exercise in Islamabad, away from the pressures of the ongoing project. DAI would propose to use a qualified cross-cultural organization development team-building trainer to help overcome what will likely be difficulties in adding new and expansive activities to an ongoing program. We believe in two days, operating under a carefully designed program, the team can start to work together, understand where there are common objectives, and know where there are differences that must be resolved in the implementation stage.[4] This meeting should take place in the first three weeks after the contract has been signed.

2. When the team has learned to understand one another and has begun to work together, it is time to begin formulating a revised project strategy by meeting with the Project Officer and other staff from the Office of the A.I.D. Representative. will be available to attend these meetings and to begin the strategy discussions. Within two weeks after these discussions, we would anticipate presenting to the Mission a set of issues to be discussed informally prior to the submission of the first draft of the strategy.

3. There is much for the new team members to absorb, and it will be necessary to have regular after-hours meetings with Engineer to ensure that their knowledge and insights are fed into the strategy. There is also much information to be obtained, and the new strategy may require travel from some ARS ADOs to Peshawar to report on conditions and possibilities in their areas. We see dividing responsibilities so that Chief of Party concentrate on strategic concerns, and ensure that the supporting facilities and services are being put into place.

4. The DAI proposal offers one version of a strategy. Thus, there is a place to begin. Modifications, refinements, improvements can be expected in the scope, coverage, effectiveness, and pace of project expansion, as defined in Chapter Three. Agreement on the overall expanded ASSP goals and objectives should lead the discussions. Then the PSA and MAP strategies and work plans will follow. With the full team in place that will be charged with project implementation, the strategies and work plans will have exceptional value in introducing new directions and activities and committing team members to the tasks that will be defined.

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[4] This rapid transition is possible only because the DAI team includes two members of the old guard who work well with and because both are participatory managers and thoughtful listeners who want to understand the issues involved in this new program.

5. We see no difficulty with meeting the 90-day time frame for an agreed written plan for the project and each component.

Distributing Agricultural Inputs

At this time, without more information, the best we can offer is a team that can accept almost any assignment and carry it out in the immediate period after contract signing. In addition to resources already available to the project, DAI has acquired the services of the following individuals, to arrive in August and work on commodity distribution, as required.

Program Support for the Three Project Components

Beyond technical assistance, ASSP requires program support to carry out project activities. The amount of program support depends upon the strategy proposed, and the scope, coverage, effectiveness, and pace required -- in short, first a strategy, then work plans, then costing of the elements within the work plan. DAI has proposed the following levels of program support, by component, to fit the goals and objectives of an expanded ASSP:

PSA: The RFP provides a figure of $30 million.

MAP: DAI has proposed $1.484 million, primarily to cover program design and training, the placement of two MAP staff in each ARS unit, the

creation of an information aggregation and analysis office in Peshawar, and the establishment of a remote-sensing capacity that could be transported to Kabul when a new government is established.

ARR: DAI has proposed $12.168 million to provide funding for:

Training and staffing 15 ARS units of 14 persons each in 1990, 20 in 1991, 25 in 1992, and the Peshawar headquarters complement;

A full set of agricultural equipment for each ARS with operating funds for consumable supplies and inputs;

Infrastructure construction funds for each ARS; and

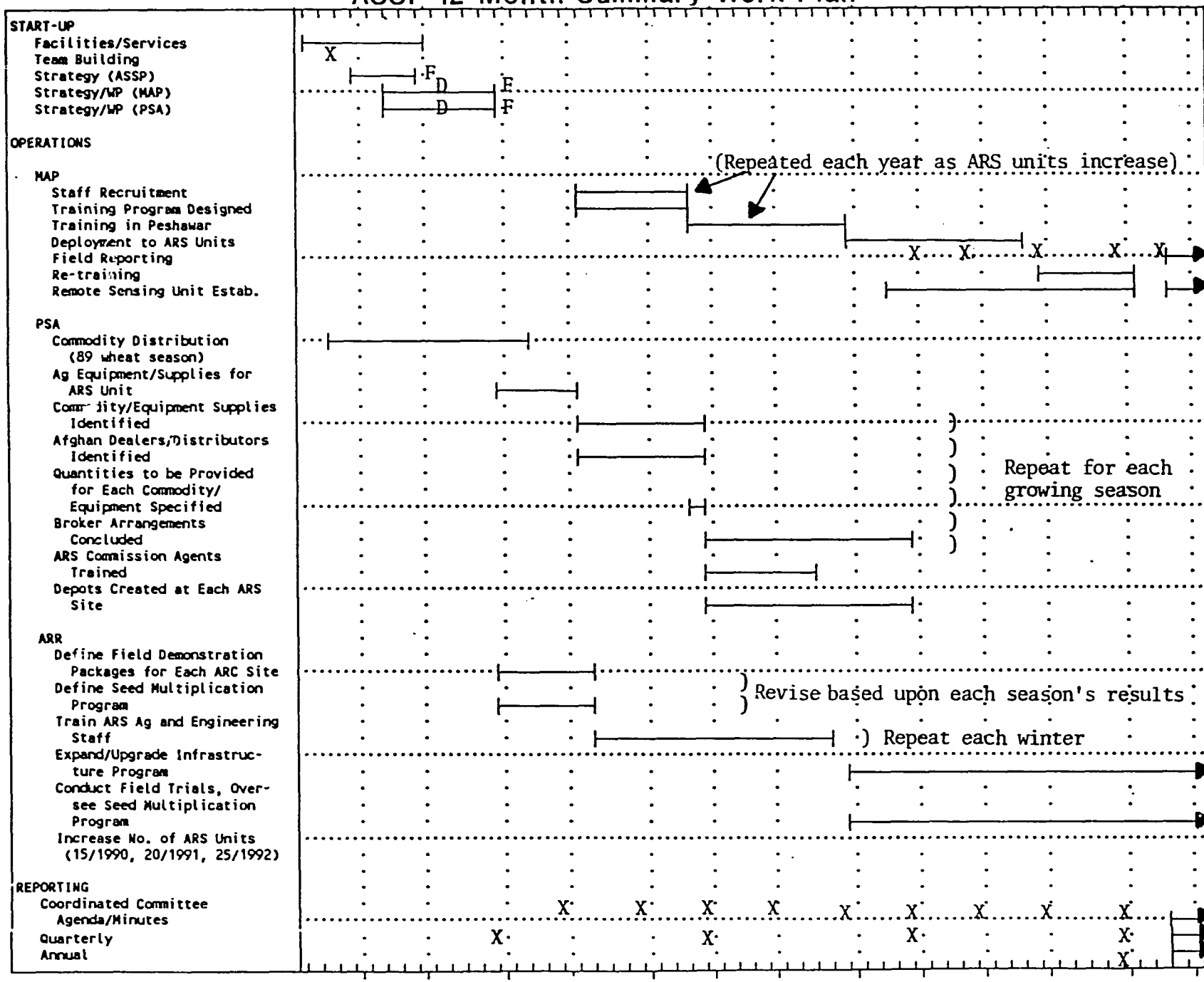
Commodities, equipment and supplies for each ARS.

These funding numbers are only estimates showing the magnitudes involved in an expanded program that reflects the objectives of the RFP. They offer a concrete set of proposals from which to begin negotiations on a strategy for rehabilitation of rural Afghanistan with the constraints of limited project funds.

The Skeleton of a Work Plan for the First Six Months

Figure 10 provides an estimated summary work plan for the project.

Figure 10
ASSP 12-Month Summary Work Plan



CHAPTER TEN

HOME OFFICE BACKSTOPPING ARRANGEMENTS

The RFP calls for the identification of a Home Office Coordinator. The concern for home office backstopping reflects, we expect, the unhappiness with arrangements provided by the PVO asked to manage the first phase of the project. It is tempting to name a Home Office Coordinator and delegate to that person all responsibilities for backstopping ASSP. Although such a designation would be responsive to the RFP, it would not be responsible within the framework of how DAI supports overseas projects.

DAI thrives on its long-term projects. We backstop 11 overseas contracts and 10 Washington-based contracts (IQCs and centrally funded activities) as a regular part of our responsibilities. Over the years, we have designed a system that works. In the following paragraphs, we explain why it works, how to determine that we provide responsive support to our overseas projects, and the incentive structure that makes it all happen.

Chapter Eight laid the groundwork for any home office support capacity by outlining the responsibilities assigned to the Chief of Party and field team. Since DAI does not manage field projects from the home office, prepare monthly vouchers from the home office, do program activity accounting (from A.I.D. funds) from the home office, or place restrictions on the field's expenditure of DAI-provided project funds, home office backstopping is limited to actual support rather than decision making on critical elements of project operation. DAI's home office backstopping has three components:

- **Financial, administration and logistical support:** getting the salary checks correct and on time; providing a computerized field accounting system; preparing the home office portion of the vouchers correctly and rapidly; handling issues of medical insurance, DBA insurance, life insurance, disability insurance, household shipments, education allowances; sending the software packages and computer boards that have been ordered; and consistently responding within three working days to field requests.

- **Technical support:** providing a sounding board to new ideas in project implementation; reading the quarterly reports and offering technical suggestions, for example, on cropping alternatives; and providing nominations for short-term consultants to visit the project at the request of (and with the approval of) the Chief of Party;

- **Management support:** contributions to the strategic directions of the project; senior management oversight of the project and contract; assistance with relations between the field team and major project clients; and review of the performance of the Chief of Party.

Each of these three components of our home office backstopping function is considered in relationship to the requirements of ASSP.

Financial, Administrative, and Logistical Backstopping

In 1985, DAI created the Office of Overseas Project Support (OPS) to backstop long-term overseas projects.[1] Short-term teams sent overseas under DAI's IQCs are supported by a different office. OPS is the central point for all communications to and from the field, and is responsible for action in support of the project being taken by any of the other DAI offices of divisions.

As an example, we receive electronic facsimiles (FAX) from one of our projects in Sri Lanka approximately three times per week. Each FAX of a page or more may contain 10 different subjects, including the specifications and timing for a short-term pickle expert (for an export-crop project); a voucher question raised by the Mission on a DAI/Washington-incurred expense; a contracting issue with Harza (the engineering subcontractor); a request for an update to Sideways, the Lotus printing program; and a request for reimbursement under a DAI medical insurance. The Communications Office will designate the FAX for OPS, where the responsible staff member for that project will assign action and log the FAX into a suspense file. OPS will then distribute action copies to the five different locations responsible to take action: TDY recruitment from the Agriculture and Natural Resources Division (discussed below), finance, contract administration, communications/logistics, and personnel. OPS staff will then ensure that an answer is forthcoming from each action office, and respond to the Chief of Party within three working days.[2]

In the rare event that there is a delay from an office involved, the OPS Director brings the problem to the attention of Senior Management to fix it. If there is a delay from OPS in getting back to the Chief of Party, he communicates directly to the President of DAI (for projects in Asia). Our Chiefs of Party are not hesitant in complaining if their requests are not filled instantaneously, and our backstopping record for field teams is excellent. Don Mickelwait visits the Asian projects approximately four times per year, and problems aired at those meetings are rapidly transmitted into revised procedures or altered home office perceptions.

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[1] The impetus for the creation of this office occurred when DAI's President arrived at a DAI project on Grenada to find the first concern of the Chief of Party was whether he had brought the self-correcting tape for the IBM Selectric typewriter. This incident brought home the need for a single contact point for all administrative, logistical, and financial support, well separated from the activities of management.

[2] As an example, one complaint from the existing ASSP field team was the delay in processing salary increases. At DAI, the OPS staff notifies the Chief of Party whenever a member of the team is a candidate (or eligible) for an annual increase. The Chief of Party determines the level of the increase (generally capped by the contract) and notifies OPS, who fill out a salary change form sent to the payroll officer. The salary change is reflected in next month's paycheck. The same OPS staff send to the President a notification of an increase due the Chief of Party, he marks the box, it goes to finance, and the adjustment is made. We have not missed making a salary adjustment in the month it was due for two years.

Ensuring Rapid and Effective Communications, Coordination, and Record Keeping within the Home Office Staff

DAI employs the latest in communications technology. We receive hard-copy and electronic FAX, telex, MCI, Western Union, and other electronic message carriers and capture it on our computers. We process an average of 50 messages and 150 pages of FAX material per day. In addition to the passage of paper reflecting information or action to be taken, every U.S.-based employee of DAI, including those in North Carolina and California, is in direct communication by electronic mail, both in the office and many from their homes. We have a 70-station Novell network in our Washington office (one at every person's desk) that allows instantaneous message distribution and response. When an immediate action is required from a field team, the OPS staff will alert all action offices on the internal electronic mail network, speeding the response process.

We also use a variety of data-base programs to keep track of our field team's requirements, personnel information, pending action, and the like. These programs help remind the OPS staff to take action before the due date on suspense items, and make clear what prior disposition has been taken on a similar request. OPS maintains a financial record of the funds expended for each project, as a double-check on the financial management of the Chief of Party. For example, OPS notifies the contract officer when expenses have reached 75 percent of the obligated amount in the contract.

We equip and train our field teams so that they use computer-assisted programs to keep track of their schedules, responsibilities, and information. Although this is particularly true for financial records, it is equally true for management and administrative requirements. We make extensive use of the organizational storage and retrieval capacity of computer systems to promote efficiency and free up staff for more creative endeavors.

Nominating the Home Office Coordinator

Technical Backstopping

DAI is organized into two divisions, and all overseas projects are provided technical backstopping by a division staff member. They are assigned to understand the project, are early candidates for a short-term technical assistance visit, read the reports, and provide backstopping on all technical issues.

One of the most critical requirements is the provision of short-term assistance. When the Chief of Party determines there is a requirement for a short-term technical assistant, he obtains the field clearances from the Project Officer and others as the contract specifies. Then he submits a request with a scope of work to DAI/Washington. The request is received by OPS and transmitted to the Division, where it is assigned action by the Technical Backstop. He or she works with the recruiters to find a selection of candidates for the assignment, interview those not known to DAI, and provide oversight for the selection process. Candidate resumes are then sent to the COP for approval.

In a similar manner, requests for information, for example, on technical matters, an A.I.D. study, seed stock materials not available in Pakistan, grafting equipment, etc., that requires a technical input will be coordinated by the Technical Backstop who has no management responsibilities for the project, and is in a supporting role to the field team.

Management Backstopping

The ASSP contract would be signed by . The buck stops there. He will be the responsible Senior Manager for the project, traveling to Islamabad and Peshawar each quarter to review progress and help make the project successful.[3] As there are difficulties with the team, a need for improved interface with the client, requirements to aid in explaining a position to representatives of the Interim Government, he will be available. Don Mickelwait will provide an outside perspective as the project begins, urging new ways of looking at old problems. In other projects, he has contributed to the important questions of scope, coverage, efficiency and pace that ASSP must address.

Why the DAI System Works

The staff of DAI want to make it work. The incentive structures feature cooperation and coordination. There are no profit centers, no rewards for withholding information for personal gain. In 1988, DAI provided bonuses for all employees with more than one year's service. There is a commitment to excellence that remains deeply ingrained in the culture of the organization.

The staff own the company. There are 24 employee stock holders. There are no outside stockholders. . own stock and profit as the corporation is successful.

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[3] Because DAI has seven ongoing projects in the Asia region, travel costs are shared and quarterly visits are not the sole financial responsibility of ASSP.

The management and staff have continuity. started DAI 19 years ago. has 10 years' service. for Finance and Administration, has nine years at DAI. joined in 1976, in 1982. The organization has held its permanent staff.

Overseas development is our only business. Over 90 percent of DAI revenue is from A.I.D. When there is a call from the Office of the A.I.D. Representative for Afghanistan, DAI listens.

Documenting that DAI's Backstopping Works

The proof of the pudding is in the field. Table 3 presents the names and telephone numbers of DAI's Chiefs of Party working in Asia, and the responsible USAID Officers in the relevant Missions. We recommend the Evaluation Committee call them. The Sri Lanka MARD/MDS project is most like ASSP, more than $45 million, seven expatriate technical assistance staff, seven professional Sri Lankans, remote locations near the Tamil-controlled areas of the northeast, a complex project with heavy support demands. DAI designed the project and won the implementation contract. We put our in the field as Chief of Party in the first month after signing. He makes incessant demands on our home office support capacity and will have his own opinion of our responsiveness. It is unlikely there will be a more demanding project or personality. But any of our Chiefs of Party are fair game. DAI will stand by the system and the personnel running its home office backstopping capacity for overseas projects.

TABLE 3

DAI CHIEFS OF PARTY AND RESPONSIBLE USAID OFFICERS IN ASIA

Project	Individual	Country	Years w/ DAI	Phone
MARD/MDS*	John Flynn, ADO			94-1-21271
DARP	John Flynn, ADO			94-1-21271
Uplands	Graham Kerr, PO			62-21-360-360
DSP II	Peter Gajewski Economic Policy Economist			62-21-360-360
FID	Gorden West, Private Sector Officer			62-21-360-360
Rainfed	Robert Resseguie, PO			63-2-521-7116

*MARD: Mahaweli Agriculture and Rural Development Project
MDS: Mahawelil Downstream Support Project
DARP: Diversified Agriculture Research Project
Uplands: Upland Agriculture and Conservation Project
DSP II: Development Studies Project II
FID: Financial Institutions Development Project
Rainfed: Rainfed Resources Development Project

CHAPTER ELEVEN

SUMMARY CORPORATE EXPERIENCE AND QUALIFICATIONS

The DAI Consortium

DAI is proposed as the prime contractor, assisted in this complex project by other organizations with specialties that complement DAI experience and qualifications. These organizations are:

GIC Agricultural Group, a private sector agribusiness firm with government contracting experience, to provide real-world trade and commercial commodity brokering and countertrade experience for the PSA component, headed by Dr. Rick Gilmore, international trade economist.

Earth Satellite Corporation (EarthSat), an international remote sensing and natural resources information firm with experience in agricultural information services and land resource and environmental analyses.

Harza Engineering Company, a Chicago-based U.S. firm with 25 years' experience in water resources development and irrigation planning in Pakistan.

Development Research and Management Services (DRMS), a Pakistani firm engaged in research and technical assistance on economic development issues, headed by Dr. Tariq Husain, economist, from the University of Chicago.

Agrisystems (Overseas) Ltd., a firm, based in the United Kingdom, that was responsible for the Agricultural Survey of Afghanistan, and has continuing contracts to expand, update and analyze the resulting survey data.

Rural Works Inc., a newly created firm specializing in rural infrastructure development that will be added to the subcontracting list when and if the ARR component is added to the prime contract.

The Experience and Qualifications of DAI

Working in Remote, Isolated, Locations

DAI is a major provider of technical assistance services to development projects, with 96 percent of $13.4 million dollars in total revenue in 1988 derived from A.I.D. The first section of Volume II presents the depth and breadth of DAI experience in its 19 years of existence. In June 1989 DAI has 11 long-term projects, five IQCs and five centrally funded projects under contract.

Because DAI began its existence as a rural development firm, most of the locations for our contracts have been in isolated, remote areas. We spent nine years supporting the North Shaba Rural Development Project in Zaire, so removed from regular transportation that the project had its own aircraft and pilot. Other long-

term large, multi-year projects have been based in Juba, southern Sudan; El Obied, western Sudan; Banda Aceh and Semarang in Indonesia; Arusha, Tanzania; Gadoon, North West Frontier Province, Pakistan; Aralaganwila, Sri Lanka; Kandy, Sri Lanka; and Cochabamba, Bolivia. It is a rare DAI project that is based in any location but one in which communications, transportation, and supporting services are problematic.

From these locations, the organization learned to support teams in the far-flung field, to develop the capacity to be independent of A.I.D. support structures. Our home office backstopping system, described in Chapter Ten, is a result of this prior experience in remote project support.

Implementing Large, Complex Projects with Long- and Short-term Technical Assistance Requirements

DAI has provided implementation assistance to some historic and complex projects. In southern Sudan, we built houses and constructed training facilities with supplies brought in by air and overland from Kenya. In the Arusha Regional Planning and Village Development Project, we shipped more than $1 million in supplies by airfreight before the airlines stopped accepting accompanied baggage at minimal charges per footlocker. In NWFADP, Pakistan, money did not flow from A.I.D. through the government for the first 12 months, and the project operated through funds provided in the technical assistance contract for agricultural demonstrations, wheat and fertilizer distributions. In MARD and MDS, our team was in the field and working nine months before there was housing, office space or A.I.D.-provided transportation.

In each of these large projects, DAI has gained experience and gotten better. In our early projects, we did not understand how to replace staff not up to their assignments. Now we review performance annually, and replace as required. Our recruitment capacity to fill overseas positions has gotten progressively stronger, as we have learned to look beyond the resume to the ability to work cooperative in the field.

We now understand the importance of living conditions to families and take the time to have them, particularly wives, talk to those who have lived and worked in the area. We decentralized our management, devolving responsibilities for administrative and technical issues from Senior Management, and placing in offices and divisions with internal leadership and longevity in our own support systems. We learned how to communicate within our own offices, and then with our field teams on a regular timetable. DAI has provided the resources required to bring our staff, offices and field teams into the computer age, to take advantage of the efficiencies in management and analysis this new technology presents.

DAI is a learning organization, deliberately distilling lessons from past experience, made possible by the continuity of management and staff. We have learned from our large, long-term overseas projects. Table 4 provides summary information on the magnitude of the major long-term projects that DAI has implemented, those most closely resembling ASSP. The scope, timing, magnitude, short- and long-term technical assistance requirements are shown in summary form. Volume II provides more extensive details on these projects.

TABLE 4

MAJOR LONG-TERM OVERSEAS PROJECTS IMPLEMENTED BY DAI

Project	Country	Total (000,000)	Contract (000,000)	LTTA (mns)	STTA (mns)	Period
MARD/MDS	Sri Lanka	45	7.8	654	81	7/88-6/93
NWFADP	Pakistan	30	1.6	158	23	1/85-6-87
PDPI	Indonesia	12	6.0	500	80	6/78-6/87
DSP II	Indonesia	5	2.7	60	54	6/87-6/91
FID	Indonesia	15	2.4	190	87	2/86-2/91
CJEDP	Indonesia	3	1.4	166	214	9/85-9/88
Rainfed	Philippines	14	2.8	249	104	3/84-7/90
N. Shaba	Zaire	32	13.0	610	109	7/77-9/86
Arusha	Tanzania	21	5.0	461	207	7/79-3/83
Manpower	Sudan	6	6.0	316	50	7/79-6/83
Niamey	Niger	21	5.0	240	100	1/85-12/88
HIAMP	E. Caribbean	40	7.4	336	82	7/86-7/91
Valleys	Bolivia	17	2.3	144	4	12/88-11/90

Supporting Private Sector Agribusiness Projects

DAI supports A.I.D. in providing assistance to private sector agribusiness projects, but we are not an agribusiness firm. Few organizations, none we would argue, can operate successfully as a government contractor and manage a profitable business in private sector agriculture.[1] After many years trying, DAI separated its agribusiness projects into an affiliated company and concentrated on providing first-rate services to our A.I.D. contracts.

DAI provided the design and the long-term technical assistance to the Central Java Enterprise Development Project in Indonesia, an effort to support export-oriented agribusiness (shrimp) as well as other high-value goods. Our private sector affiliate is importing rattan products created during the project's early days. DAI also designed and is implementing the High Impact Agricultural Marketing and Development Project in the Eastern Caribbean, with an equity window for investors

[1] In the HIAMP project, DAI is in a joint venture with Western Agri-Management Company, a true private sector agribusiness firm that invests in, grows, ships and has marketed fresh produce to the U.S. and Europe from Jamaica, Paraguay, Chile, and Algeria. In its own projects, Western has little interest in development. When the profitability declines, they will pull the plug on an enterprise quickly. We have gained a wealth of experience working in a joint venture with Western, but found they have no tolerance for bureaucratic requirements. A real private sector agribusiness is not bound by A.I.D. salary maximums and U.S. carrier shipping requirements, and does not easily understand the limitations and restrictions placed upon A.I.D. contractors implementing a private sector agribusiness project under specific congressional mandates.

in agribusiness enterprises. This $40 million concept, in its original incarnation, calls for the project to broker investment "deals" between entrepreneurs and an Agricultural Venture Trust with $12 million in A.I.D. equity funds. Paul Guenette has been instrumental in CJEDP and HIAMP, serving as the Deputy or Chief of Party in both projects.

Besides those projects that focus on agribusiness, DAI project designs now feature private sector solutions to agricultural development. The MARD project in Sri Lanka is based upon the export of agricultural produce and the shift of cropping patterns from non-exportable, surplus paddy to higher value crops, including the formation of agricultural export enterprises. The project includes an expatriate marketing specialist to assist in organizing the Colombo buyers and distributors to accept export crops while seeking investors in new enterprises. The design of the Potwar Area Development Project in the Punjab featured the development, through credit and TA, of private sector enterprises in custom tractor services, concentrated animal feed, and milk collection and processing. We believe in the efficacy of the private sector in promoting agricultural development through agribusiness.

In addition to direct agribusiness involvement, DAI also contributes to the development of the private sector enterprises that activate the agricultural sector. We design and implement projects in rural credit, generally used for agricultural enterprises, enterprise development, and micro-enterprise evaluation. We hold the Employment and Enterprise Development IQC, are a subcontractor to the Harvard Institute for International Development in the centrally funded Employment and Enterprise Policy Analysis Project, and most recently completed as 10-country study entitled, "A.I.D. Micro Enterprise Stocktaking." Supporting the PSA component will require more than commodity distribution; it will demand the creation of agricultural enterprises in custom tractor services, transportation, storage, and distribution of agricultural inputs, and export sales. DAI is well equipped to deliver the full range of private sector services in support of ASSP.

Rapid Mobilization of Technical Assistance

Some projects demand immediate mobilization; others, such as the Associated High Valleys of Cochabamba project in Bolivia, delayed the team's arrival until after Christmas, a two-month start-date after the contract was signed. Two projects analogous to ASSP provide some insight into DAI's ability to quickly began, and then continually support overseas projects.

The Northwest Frontier Area Development Project was designed by DAI and awarded on a sole-source basis with a contract signed on August 19, 1983, with an effective date of August 15. In a situation analagous to ASSP, it was important to have an agricultural program initiated during the wheat planting season that began in October. The Chief of Party and the Senior Agriculturalist arrived in Pakistan on August 16. The third member of the technical assistance team arrived in 1984. During the course of the next three years, 24 months of short-term, technical assistance was delivered. Don Mickelwait visited the project seven times during its tenure. Although the project was not conducted under the Agricultural Office at USAID/Pakistan, Pat Peterson, ADO, Peter Davis, Program Officer, and Robert Nachtrieb, PDM, are all knowledgeable of DAI's involvement and contribution.

DAI also designed the MARD and MDS projects in Sri Lanka, and won the implementation contract, awarded on August 1, 1988. The Chief of Party was in the field on August 18, working with a senior Sri Lankan local hire engineer. This five-year project did not have the same immediacy as NWFADP, but a quick start was important to building momentum for the project. The other team members arrived on the following schedule:

Expatriates

Agricultural Research (Oregon State)	9/88
Water Management (Colorado State)	9/88
Farmer Organizer (DAI)	9/88
Engineer (Harza) [TDY]	5/89
Marketing (DAI)	6/89
Local Hire Sri Lankan Professionals:	
Chief Irrigation Engineer	7/88
Irrigation Engineer	9/88
Drainage Engineer	11/88
Farming Systems Advisor	3/89
Marketing/Credit Specialist	4/89

In the first nine months of the project, 14 months of short-term assistance have been provided. A further request for 17 months, 9 individuals, has been received for deployment in the summer of 1989.

Providing Short-term Specialists to ASSP

DAI holds five IQCs with A.I.D., and derives nearly 40 percent of revenue from short-term assignments. There are four full time recruiters, a data base of thousands of specialists, and a system that identified, checks references, obtains background information and salary history, briefs, launches, monitors, pays, and evaluates. In 1988, we put 33 teams in the field under IQC contracts, 16 teams under centrally funded contracts, and 85 individual consultants teams supporting our long-term overseas contracts.

Most of the specialists identified for ASSP are DAI employees, or key employees of the cooperating consortium. DAI's professional staff travels regularly, and will be available when needed for ASSP assignments.

Integrating Cooperating Firms into the Implementation of ASSP

Volume II presents the full capabilities of each of the firms in the DAI consortium. DAI as the prime contractor will manage all subcontracting organizations. The Chief of Party will call for services and DAI/Washington will schedule the subcontractors travel, obtaining clearance from the Chief of Party for travel. The special experience and capacity that calls for the inclusion of each organization in the consortium is shown below.

GIC Agricultural Group

DAI has established a subcontract to provide 10.5 months of services from GIC to the PSA component of ASSP. GIC has both private sector and public sector agribusiness and trading experience, and a capacity to undertake research studies on pricing of agricultural inputs under other than free-market conditions. Two senior GIC personnel will perform the majority of the short-term consultancies to ASSP:

Dr. Rick Gilmore, agricultural consulting with an emphasis on marketing, trade, and investment. President of GI.

Gary Viktor, a private sector broker, commodity trader, agribusiness specialist in counter-trade.

EarthSat

There is an ongoing attempt to use remote sensing technology to understand the changes that have occurred in natural resources and agricultural cropping in Afghanistan, through the University of Nebraska at Omaha. We believe that in addition to providing information, ASSP might help build a remote sensing capacity among Afghan nationals in Pakistan that could be transferred to Kabul and made a part of a re-formed government. EarthSat is an experienced, professional international satellite imagery analysis firm working since 1969 in the remote sensing field. DAI is presently working with EarthSat in a subcontract for remote sensing services for a natural resources project in Latin America.

DRMS

DAI will establish a subcontract for DRMS, an Islamabad-based economic consulting firm, to provide 12 months of short-term assistance to ASSP. This newly created research and consulting firm was assisted early by DAI. Dr. Tariq Husain traveled to Washington, D.C., to visit DAI's offices, and the corporation funded a portion of their first year's expenses. There is a general agreement to work together, and ASSP represents the third cooperative project between the two firms.[2]

DRMS has access to economists from the North West Frontier Province who speak Pushtu and can offer insights and analysis from a knowledge base much closer to the situation in Afghanistan. We believe it is appropriate for Pakistan professionals to make a contribution to ASSP, and have reserved a position for DRMS to organize and direct their involvement.

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[2] In the absence of Tariq Husain from Islamabad, a competitor extracted an "exclusive" agreement for ASSP from the acting DRMS President. The concept of exclusivity is probably not appropriate for a local consulting firm that will clearly work with any prime contractor for ASSP, certainly with DAI as there is a universal agreement with DRMS to work on regional projects.

Harza Engineering Company

Harza has 25 years of experience in water resource development and irrigation planning in Pakistan. When the irrigation issues facing the ARS units become sufficiently large that an engineering firm is required for design assistance, Harza has appropriate experience. DAI is presently working in collaborative relationships with Harza on five A.I.D. projects. No specific time has been set aside for Harza participation, but they are prepared to assist when their services are required.

Agrisystems (UK)

The only agriculture-based survey completed in rural Afghanistan has been compiled and analyzed by Agrisystems, under a contract from the Swedish Committee, with much of the original funding from A.I.D. Although this survey leaves much to be desired, due to the circumstances in which the field data was collected, it is the only data base on agricultural production in the provinces and districts where the ARS units are based. Agrisystems is presently extending its surveys and re-visiting the data base for new insights and new methods of analysis. Their participation in a more extensive and formal agricultural survey, using the resources and the influence of the ARS units might prove extremely valuable as ASSP progresses. Although no specific time has been set aside for Agrisystems, they are prepared to assist in survey research in rural Afghanistan.

Rural Works, Inc.

This newly forming company has capacity in rural works design and implementation. If or when the ARR component is added to DAI's prime contract, a new subcontract will be proposed to incorporate this experience and capability in ASSP.

Afghanistan Agricultural Sector Support Project

Technical Proposal

Volume Two

Submitted to the U.S. Agency for International Development in response to RFP No. Afghanistan-89-0204-019

June 1989

in association with:

GIC Agricultural Group

Earth Satellite Corporation

Harza Engineering Company

Development Research and Management Services (DRMS)

Agrisystems (Overseas) Ltd.

DAI

Development Alternatives, Inc. 624 Ninth Street, N.W. Washington, D.C. 20001

VOLUME TWO

TABLE OF CONTENTS

Page

SECTION I:
CONSORTIUM EXPERIENCE 1

SECTION II:
RESUMES OF SHORT-TERM SPECIALISTS 149

SECTION III:
DAI LONG-TERM PROJECT MANUAL. 357

SECTION I

CORPORATE CAPABILITY STATEMENTS

	Page
DEVELOPMENT ALTERNATIVES, INC.	3
GIC AGRICULTURAL GROUP.	61
EARTH SATELLITE CORPORATION	77
HARZA ENGINEERING COMPANY	93
DEVELOPMENT RESEARCH AND MANAGEMENT SERVICES (DRMS)	135
AGRISYSTEMS (OVERSEAS) LTD.	145

DEVELOPMENT ALTERNATIVES, INC.

CORPORATE CAPABILITIES

As proposed prime contractor for the Afghanistan Agricultural Sector Support Project, it is especially significant that DAI has extensive experience in project implementation, fielding and supporting long-term teams rapidly and supporting them in the field with technical backstopping, the provision of specialized short-term consultants, and logistical and administrative services. Long-term field projects carried out by DAI have often been in isolated areas in which communication and transportation have been exceedingly difficult. On occasion, field teams have worked where sensitivity to shifting political alliances has made understanding of the situation by DAI's management and close communication with USAID through the team leader of utmost importance. This statement of capabilities demonstrates:

- **Experience** in providing prompt, effective for developing countries and effective technical backstopping, including logistical support for field teams;
- **Ability** to manage similar complex projects and quickly and efficiently mobilize resources to begin project implementation; and
- **Home-office backstop capability** to support field staff, establish communications, and properly administer field-team personnel.

INTRODUCTION TO DAI

Since 1970, Development Alternatives Inc. (DAI) has provided development assistance services in 78 countries in Asia, Africa, the Caribbean, Latin America, and the Middle East. We normally expect that our technical staff and close associates will lead teams, both long- and short-term, in the belief that the highest quality of work is found through continuing mutual relationships between professional development experts and DAI. Tony Babb, proposed as Chief of Party for ASSP, is by no means alone in his continued relationship with the company, serving at one time as head of our then Technical Services Division and more recently as Chief of Party for Phase I of the Rainfed Resources Development Project in the Philippines. The Home Office Coordinator, Valerie Beyers, is head of the Office of Overseas Project Support and has been with DAI for five years. The ASSP Technical Backstop, Dr. Richard L. Smith, is Director of the Division of Agriculture and Natural Resources and two-time Chief of Party for DAI (North West Frontier Province, Pakistan; and southern Sudan); he has 13 years of experience with DAI. Management responsibility rests with Donald Mickelwait, President of DAI since shortly after its founding 19 years ago. Through these years, DAI staff and associates have successfully completed more than 500 short-term assignments. Since 1977 DAI has provided 608 person-years of technical assistance to 34 long-term projects. Currently, DAI is implementing 11 long-term overseas projects, works with five centrally funded research and technical assistance projects, and supports A.I.D. missions through five IQCs.

RELEVANT EXPERIENCE IN SIMILAR PROJECTS

DAI has extensive experience in working in remote locations characterized by poor infrastructure, inadequate communications, and difficult living conditions. We pride ourselves on technical excellence, but also realize the importance of creating an environment within which our field staff can do their work without extraneous supply and administrative burdens. Many of the long-term projects that DAI has implemented have been in extremely isolated areas. Dealing with the problems involved in working in remote, lagging regions has created within the firm a capacity to design realistic and effective projects and to establish implementation arrangements, communications systems, and decision-making lines that support technical field teams in their substantive activities. In illustrating our experience, we provide examples of our work in Afghanistan, in the Asian region with special emphasis on Pakistan, and in other parts of the world with projects related to ASSP.

Regional Experience

Afghanistan

Prior to the end of USAID involvement in Afghanistan, DAI had participated in project identification, design, and evaluations in Afghanistan. These have included:

First Evaluation of Basic Health Services Project Phase I (1976)

The evaluation was done early in project implementation to improve project design and increase effectiveness in the light of information that had come to light in the process of implementation. This was a complex project working with the Ministry of Public Health; it included basic health services and alternative health delivery systems.

Evaluation of the Rural Works Project, Phase I (1975)

This evaluation, accomplished by three DAI staff led by Donald Mickelwait, DAI President, focused on the Rural Works Component of the Rural Development Department (RDD). The evaluation attempted to sift through day-to-day difficulties, antiquated administrative procedures, inability to delegate responsibility within the RDD, and lack of coordination to assist USAID in reinforcing the department as a significant force for change and modernization in Afghanistan.

Project Design for the Logar Integrated Rural Development Project in Mohammed Agha District (1976)

Based on suggestions derived from the evaluation of the Rural Works Project, DAI fielded a team to assist USAID/Afghanistan in designing this ambitious integrated rural development project. The team was led by Donald Mickelwait, President of DAI and included Harvey Neese, Dr. David Gow, and Dr. Alan Roth, all of whom appear in this proposal. The project had three components: (1) including joint planning and coordinated implementation of a district development program by

agencies of the Government of Afghanistan; (2) systematic identification, testing, and adaptation of new technology to increase agricultural productivity and production and income; and (3) establishment of viable local institutions to ensure effective participation, sustainable improvements in agricultural production, and equitable distribution of benefits among villagers. LRDP was designed on the basis of extensive field work and surveys of the local area, with DAI staff working closely with local leaders and government officials. It was to be the first of two phases for the project.

Pakistan

Since 1982 DAI has provided technical support services in project design, implementation, and evaluation for a range of development activities in Pakistan, carrying out 24 assignments. This experience includes regional development planning and project design in the Punjab, irrigation systems research for the whole of Pakistan, regional economic transport planning for the city of Lahore, area development in the North West Frontier, and evaluation of tribal area and irrigation projects. DAI permanent staff members have been involved in all of these activities, resulting in an accumulation of corporate experience providing DAI with a strong claim to understanding of the constraints and opportunities to development in an area with close cultural ties to Afghanistan. Some of the directly relevant activities undertaken are discussed below.

Master Plan for Barani Area Development (1986-1988)

In 1986, DAI began to implement a contract with the Asian Development Bank to assist the Agency for Barani Areas Development to prepare a master plan for the rainfed barani areas of the Punjab. Over 18 months, with support from Harza Engineering Company, National Engineering Services (Pakistan), and the Punjab Economic Research Institute, DAI fielded a long-term advisory team supplemented by short-term highly specialized technical assistance personnel to assist in the preparation of the master plan. DAI was solely responsible for fielding the team, establishing lines of communication and funds transfer, arranging for support to long- and short-term staff and maintaining liaison with the United Nations Development Programme, the Asian Development Bank, and the Agency for Barani Development. DAI home office staff were directly involved with management of the project and its technical progress. Results from this work include:

- A natural resource inventory of the barani areas;
- A socioeconomic assessment, based upon field surveys using data collection instruments and rapid reconnaissance techniques;
- A four-volume master plan that described the existing activities and recommended policies, programs, and potential projects; and
- Feasibility studies for two projects in the barani areas.

In the first stage of the plan preparation, the DAI team provided an assessment of the resource potentials and constraints for development in the project area. In-depth studies were conducted by long- and short-term staff in the following sectors:

- Land use sector for forestry, rangeland management, and soil conservation;
- Water resources sector for surface water and groundwater as well as inland fisheries;
- Rainfed agriculture sector for annual and perennial crops;
- Livestock sector;
- Human resource development sector; and
- Rural credit and small-scale industries.

A strategic planning model was employed to formulate in conjunction with key government decision makers a master plan that articulates a long-term development strategy for the agriculture sector in the barani areas in Punjab. The plan suggests guidelines for public investment in the agricultural sector and development strategies for the government's five- and 20-year planning horizons, leading to proposed projects under different investment options. The plan provides a structured process to identify projects to develop barani areas and calls for a new institutional arrangement at the zonal and provincial levels to speed up its modernization and commercialization.

Subsequently, the team prepared two separate feasibility studies, namely, the Potwar Integrated Agricultural Development Project, and the Riverain Development Project, the latter defined as those lands lying along a narrow corridor on the Punjab rivers. For these selected studies, the team carried out a comprehensive assessment covering technical feasibility; economic and financial evaluation; social aspects; managerial and human resources assessment in project implementation; institutional, administrative, and organizational assessment for implementation; environmental assessment; operations and maintenance evaluation and sustainability assessment; costs details; and project benefit and monitoring. These studies were developed to a point where they could serve as an adequate basis for decision making by government and other external financing agencies.

North West Frontier Area Development Project (1982-1987)

From 1982 through 1987, DAI provided long- and short-term assistance to USAID in the design and implementation of the North West Frontier Area Development Project. Activities included the establishment of a Project Coordinating Unit at Topi (Swabi Tehsil, Mardan) and the selection and implementation of number of development interventions in conjunction with USAID and the Government of Pakistan. Project activities occurred in an area with significant poppy production, and the DAI field team was instrumental in developing initiatives in agriculture, forestry, livestock, irrigation, and vocational training. The team's sensitivity to local issues, as well as good relations with government officials and local political leaders, allowed work to continue at times when considerable public hostility was evident toward the project and poppy eradication. DAI's Technical Services Division, now the Division of Agriculture and Natural Resources, provided technical advice, information, and short-term consultants in support of vocational training, livestock, range, and engineering activities.

DAI was particularly involved with the areas of:

- Local government and local organizations, seeking the ways in which the Government of North West Frontier Province and local leaders could come together to implement small-scale infrastructure and training projects;

- Project administration and implementation, planning, and budgeting;

- Agricultural demonstration plots and on-farm testing of technologies implemented through the Department of Agriculture, including arranging for and distributing wheat seed, DAP, and urea to improve the genetic quality of seed stock rapidly;

- Livestock improvement including poultry, sheep, and cattle with the involvement of the Department of Animal Husbandry; and

- Establishment of open-seeding trials for grasses and forage varieties, provision of fruit trees to participating farmers, and establishment of nurseries for a range of economically important tree species.

DAI staff learned many lessons about implementation and support of a project in what was then one of the more isolated parts of the North West Frontier of Pakistan, with a social system similar to that in much of eastern Afghanistan. This has led to the establishment of tested lines of communication by FAX, telex and telephone with DAI's Washington office, as well as experience with technical support available within North West Frontier Province; for example, for computer and automobile repair and maintenance as well as shipment of material into and out of Pakistan. A major wheat distribution managed in 1984, 1985, and 1986 by DAI expatriate and national technical staff has provided a good knowledge of the availability of transportation in the province for the more rugged areas.

Irrigation Systems Management Research Project, Pakistan (1985-1989)

DAI joined the University of Idaho and Washington State University in the design of the research component of the Irrigation Systems Management Project. In 1985, implementation began of this four-year project, which is strengthening the capabilities and activities of Pakistani research institutions and scientists in irrigation management. As a subcontractor, DAI's research and teaching activities through one full-time advisor (1985-1987) included the supervision of three graduate students who conducted field work on irrigation in the central Punjab. This research, which involved village-level studies of the socioeconomic aspects of irrigation in Pakistan, is the first such work on this subject area in more than a decade. DAI also completed a computer needs assessment as well as equipment specifications prepared for the library and documentation center to be established by the project in the Pakistan Council for Research in Water Resources (PCRWR). Assistance has been given to the PCRWR in recruiting and training professional staff for a socioeconomic research project, a competitive grants program, and the documentation center.

Tribal Areas Development Project (1985; 1988)

DAI assisted the mission in two evaluations of the Tribal Areas Development Project in NWFP, which is implemented in Federally Administered Tribal Areas, most of which are along the Afghan border and contain tribal groups which overlap into Afghanistan. In 1985, a midterm evaluation was performed, which led to major revisions in the direction and management of the project. In 1988, a final evaluation was carried out; it focused on ways in which the project could broaden its range of appeal and address critical economic development questions through an enhanced agricultural program. The evaluations were based on extended field visits to the tribal areas in coordination with the approvals of political agents. Table 5 summarizes DAI's experience in Pakistan.

PROJECT IMPLEMENTATION IN ASIA

Mahaweli Agriculture and Rural Development and Mahaweli Downstream Support Project, Sri Lanka (1988-1993)

DAI prepared the design of these complementary projects in 1987 and was chosen by USAID in 1988 to implement them. Goals are to complete the construction of the irrigation infrastructure needed to cultivate the 20,000 acres of the Mahaweli System "B" and to devise and implement an operations and maintenance scheme for this infrastructure that is cost effective, operated by farmers, and locally financed. At the same time, the project will undertake adaptive research and farmer organization and extension. These activities will increase productivity and rural incomes by diversifying agricultural enterprise and encouraging the introduction and the efficient production, processing, storage, and marketing of subsidiary food crops, thus reducing the farmers' dependence on rice. There is a strong private sector orientation to MARD, and the project includes a marketing and private investment component and long-term advisor.

Most of the field team, led by a Vice President of DAI, was fielded shortly after contract signature, well before final housing and transportation arrangements had been made. The rapid initiation of project activities at a time of considerable unrest in Sri Lanka attests to DAI's ability to field and support teams under adverse circumstances. A total of eight short-term technicians are slated to travel to Sri Lanka in support of the project in the next six months, all are DAI staff or well-known associates.

Rainfed Resources Development Project, Philippines (1984-1990)

This project assists the Department of Environment and Natural Resources (DENR) in six principal areas: natural resource policy analysis, agroforestry pilot projects, institutional development and training, management systems, farming systems research and extension for rainfed areas, and fish stock assessment. Several of these components are principally concerned with soil conservation and other natural resource protection activities in watershed areas. DAI's proposed Chief of Party for ASSP, Tony Babb, was Chief of Party for the first stage of this project, which is now implemented by Filipino long-term staff.

TABLE 5

DAI'S EXPERIENCE IN PAKISTAN, 1982-1988

Project Name	Brief Description	Total Person-Months	DAI Staff	DAI Associate	Completion Date	Value	National Agency and/or Contact Person
Research Component: Irrigation Systems Management (subcontract with the University of Idaho)	Work with local investigators conducting research on the sociological aspects of water management	72.0	Reiss		10/89	$1,024,165	WAPDA, Khalid Mohtadullah; Lahore, 213775
Tribal Areas Development Project	Assess project performance and propose new initiatives for FATA development	8.0	Mickelwait Greenham	English Knowles	1/89	$ 125,000	USAID Peshawar; T. Durrani 43211
Command Water Management Project	Provide an engineer and a social scientist to evaluate the project	3.4	Betts	White	9/88	$ 43,194	Ministry of Water Power; Major General A. M. Rauf; ISB 823457
Irrigation System Management Project	Assess the institutional and economic impact of a project on irrigation management and organization	2.5	Wescott	Nobe	3/88	$ 42,258	Major General A. M. Rauf, ISB 823457; USAID, A. Newman; ISB 824071
Planning and Monitoring	PID for possible planning and monitoring project NWFP for Planning and Development and other departments; included computerization and training for NWFP growth	3.5	Smith		7/87		Planning and Development Department, NWFP
Barani Area Development Project	Assist the Agency for Barani Area Development to prepare a master plan to develop the barani areas of the Punjab	86.7	Greenham Greenwood Mickelwait Tzavaras Toder	Ahmed Billings Polenske Synnott	2/88	$1,170,000	Agency for Barani Areas Development and Planning and Development Dept., Government of Punjab
Urban Transportation Design Project	Provide a transport economist for this World Bank-funded project of the Lahore Development Authority	5.0	Hansen		1/87	$ 28,000	Lahore Development Authority

TABLE 5 (continued)

Project Name	Brief Description	Total Person-Months	DAI Staff	DAI Associate	Completion Date	Value	National Agency and/or Contact Person
Pak Holland Metal Project	Provide socioeconomic analysis for a project designed to establish centers to assist small enterprises	1.8		Shaikh	1/88	$ 24,428	
Tribal Areas Development Project	Assess the integration of tribal areas into socio-economic mainstream	3.5	Mickelwait	LaPorte Eldredge	1/86	$ 69,491	Planning and Development NWFP and FATA
North West Frontier Area Development Project Province	Development assistance for the Gadoon and Amazai regions of the North West Frontier	155.0	Bradford Mickelwait Smith St. Andre Welsh	Clawson Scott Sollod White	12/86	$2,500,000	Planning and Development Department, NWFP, Sulaiman Ghani
International Irrigation Management Institute Study	Study the potential for opening an IIMI office in Pakistan	0.9	Wolf		12/84	$ 8,000	A. Muhammed - PARC, ISB 829088
Research Component: Irrigation Systems Management (subcontract with the University of Idaho)	Design priority research programs in areas of water management within and outside the Indus system and strengthen the capabilities of government institutions involved to carry out research activities	6.1	Reiss Wolf		11/84	$ 114,950	
Command Water Management	Assist AID mission to write a project paper for the command water management component of the Irrigation Systems Management Project	1.3		Vander Velde	7/84	$ 11,289	

TABLE 5 (continued)

Project Name	Brief Description	Total Person-Months	DAI Staff	DAI Associate	Completion Date	Value	National Agency and/or Contact Person
Management of Agricultural Research and Technology	Design the management of agricultural research and technology component of the project paper	1.7	Olson		6/84	$ 22,887	PARC - A. Muhammed, ISB 829088
Irrigation Systems Operations and Maintenance Requirements	Review irrigation system operations and maintenance financial requirements	6.2	Wolf	McAnlis Rusk	6/84	$ 108,009	R. Backus - USAID/W, (202) 647-8813
Special Development Plan for Poppy Growing Areas	Assist the Government of Pakistan with an analysis of potential projects to be presented to the consultative group of donors	4.0	Mickelwait Wolf	Campbell Jones	11/83	$ 55,000	Planning and Development Department, NWFP
Food Security Project	Prepare a project paper for Food Security Project	1.0	Bremer		11/83	$ 8,451	USAID/Islamabad
Gadoon-Amazai Area Development	Design of a long-term project for development of the Gadoon and Amazai regions of the North West Frontier Province	21.0	Bremer Mickelwait St. Andre Woodcock	Bullard Jones Wheeler Wily	8/83	$ 355,144	Planning and Development Department, NWFP
North West Frontier Province Agriculture Credit Study	Design credit system for fruit and vegetable component of Agricultural Production, Distribution, and Storage Project	1.0		Rusch	6/83	$ 20,378	Fruit and Vegetable Board NWFP
On-Farm Water Management Project	Develop preliminary strategy for long-term assistance to increase cultural productivity and develop plan for strengthening training capacity	4.8	Hannah	Tileston	6/83	$ 102,337	R. Backus - USAID/W, (202) 647-8813

TABLE 5 (continued)

Project Name	Brief Description	Total Person-Months	DAI Staff	DAI Associate	Completion Date	Value	National Agency and/or Contact Person
Fruit and Vegetable Development Board North West Frontier Province	Prepare draft project paper for the North West Frontier Province Fruit and Vegetable Development Project	9.5	Armor Babb Poulin	Bruce Chilton Morton	3/83	$ 176,763	Fruit and Vegetable Board NWFP
On-Farm Water Management Project	Assess need for short-term assistance, determine specific training needs, and plan follow-up activities	3.0	Hannah Wolf		12/82	$ 30,321	R. Backus - USAID, (202) 647-8813; S. Cheema - Lahore, 52504
Strategy Paper on Dealing with Narcotics Issues	Assist AID mission in determining how to address narcotics issues in its development assistance program	3.0	Mickelwait Crawford	Palmer	12/82	$ 54,085	Planning and Development Department, NWFP
Irrigation Systems Management	Assist AID mission with synthesis of project components and completion of design	1.0	Mickelwait		8/82	$ 14,075	Provincial Irrigation Departments
Irrigation Systems Management	Develop training and monitoring information system for project staff	1.5	Armor		7/82	$ 19,432	
On-Farm Water Management Project	Develop management improvement strategy and implementation plan	2.0	Armor	Oad	3/82	$ 16,771	R. Backus - USAID/W, (202) 647-8813

The project has been able to introduce improved technologies and management systems, and to contribute significantly to policy reform and institutional development despite significant political and financial confusion in the Philippines. The technologies being introduced on the agroforestry pilot projects are increasing incomes and, in a few short years, have proven to be very popular with the upland farmers. The projects are successful in reducing soil erosion and restoring soil fertility through the use of contours, nitrogen-fixing ground covers and trees, and water management. Through intensive field-training programs, over 100 social forestry field agents have been introduced to the new technologies and are applying them in new areas. Practical and effective technologies for village-level tree nurseries have been introduced, and project staff are teaching nursery management in all the project sites. This technology is critical to eliminating a major constraint to establishing permanent, soil-conserving, upland farming systems.

Upland Agriculture and Conservation Project, Indonesia (1986-1991)

DAI is developing and modifying technologies for rainfed agriculture, soil conservation, and watershed management in selected pilot areas of Central and East Java, where population pressure has forced farmers onto steeper and more marginal areas. The level of effort of the project has been increased to address the problems identified by the team in the field. Replicable institutional and organizational approaches to managing these fragile upland areas are also being developed. The experts provided to the project work at four levels: the local, regional extension center level; the project management unit, or kabupaten level: the project coordinator, or provincial level; and the national level. Soon after project implementation was initiated, the team concluded that inadequate attention was being given to enforcing conservation guidelines for rural road building.

Provincial Area Development Program -- Phase I, Indonesia (1978-1987)

DAI provided 426 person-months of technical assistance to this nine-year project, including five long-term advisors. The Provincial Area Development Program (PDP) had a strong institutional development focus, concentrating on decentralized development planning and implementation of income-generating projects at the local level. During the more recent years of the project, an important objective was to improve the quality and flow of information for planning, monitoring, and evaluation of rural development projects. DAI long-term advisors provided technical assistance and training in the collection, analysis, and utilization of data in the decentralized planning process. They also worked at the provincial and lower levels to improve the capability of local officials to monitor project implementation progress. DAI also provided short-term assistance to the Government of Indonesia and AID in designing for all of the project's provinces a more comprehensive management information system that would furnish regular status reports on project implementation, continuation, and impact through an integrated (and partially computerized) data base.

As part of the project's capacity-building objective, short-term advisors collaborated with local planning officials to design and conduct workshops for project planners and managers at various levels. DAI's long-term resident agricultural specialists were also involved extensively in refining and extending production technologies to improve irrigated and rainfed smallholder production. They were active in two ecologically different provinces: Aceh and Central Java. In Aceh, PDP

agricultural activities concentrated on rice production, mixed cropping, animal husbandry, and fisheries. Combining the use of improved rice varieties from research stations, training of extension workers and farmers in production of high-yielding varieties, and improved credit led to a doubling of yields, from 3.5 to 7 tons per hectare. In Central Java, PDP's agricultural activities concentrated on horticulture, animal husbandry, agricultural infrastructure, and fisheries. In both locations the project emphasized crop diversification and the demonstration and on-farm development of secondary crops.

Small-Scale Irrigation Management Project, Indonesia (December 1987-February 1990)

The Small-Scale Irrigation Management Project (SSIMP) assists the Government of Indonesia to implement activities in irrigation technologies, the management of provincial public works, beneficiary participation, and special studies. The project works in the drier outer islands of Indonesia developing nontraditional approaches to irrigation design, construction, operations, and maintenance in 17 sites. DAI, as a subcontractor to Harza Engineering Company, is providing a social scientist to carry out analyses in social and economic soundness, beneficiary participation, institutional development, and monitoring and evaluation, while an agricultural economist is assisting in selecting sites, identifying economic constraints, exploring the economic feasibility of privately owned irrigation pumps and of diversified cropping patterns, and developing a training plan.

SELECTED PROJECT IMPLEMENTATION IN OTHER DEVELOPING COUNTRIES

Associated High Valleys Component, Chapare Regional Development Project, Bolivia (1987, design; 1989-present, implementation)

DAI and subcontractor staff conducted a review of the Associated High Valleys (AHV) Area of Cochabamba Department, Bolivia in 1987, an area three to seven hours drive from the provincial capital. This review placed special emphasis on planning development activities to address major environmental degradation problems. The AHV area is home to most of the workers who move to the Chapare and grow coca for cocaine production; thus the sustainable economic improvement of the labor source area is viewed by the mission as critical to slowing the production of coca.

An amendment to the project paper was produced by the Mission using DAI recommendations for initiatives in livestock, forestry, watershed management, environmental monitoring, and farming systems approaches. A six-person team was fielded in January 1989 to assist the Government of Bolivia and USAID with implementation. In May of the same year, the team provided them with a five-year work plan and budget for implementation with the assistance of a member of DAI's Washington-based staff.

Niamey Department Development Project, Niger (1981-1988)

DAI staff assisted the Niamey Department Development Project to incorporate farming systems concepts and methods into its applied research unit. The project

identified adapted crop varieties for dryland and irrigated areas, including coarse grains, grain legumes, oilseeds, and market garden crops. An important component of this project was the testing of seed treatments to be used in conjunction with decentralized seed multiplication centers to boost the availability and quality of seed distributed. A second element was the adaptation of recommended dryland farming technologies to different agro-ecological zones across the Niamey Department, where, in the absence of irrigation, there is evidence of declining annual rainfall and increased risk to subsistence level producers.

DAI staff who led the Applied Research and Agricultural Machinery Unit collaborated with the Niger National Agricultural Research Institute (INRAN), ICRISAT, and INTSORMIL research programs. The project and INRAN ran joint diagnostic surveys and trials in crops and production practices. On-farm work consisted of exploratory, refinement, and verification trials of sorghum, millet, cowpeas, and fertilization practice. The Agricultural Machinery Unit operated a station at N'Dounga, where machinery prototypes were developed and tested. Most machinery work was oriented toward animal power applications.

High Impact Agricultural Marketing and Production Project, Eastern Caribbean (1985, design; 1986-1991, implementation)

In July 1986, DAI, along with two cooperating firms, was awarded the five-year contract to implement the High Impact Agricultural Marketing and Production Project (HIAMP). This is a particularly innovative design addressing the need to develop private sector initiatives in agricultural marketing and production. Senior marketing and agribusiness development advisors were rapidly placed in a central office in Barbados with agribusiness specialists assigned to five of the participating islands. The project has attracted a great deal of attention in the region and has been successful in identifying viable investment opportunities and preparing them for investment. The project has a number of innovative components, all oriented toward increasing private sector participation in agricultural production, supporting services, and processing, marketing, and transportation.

HIAMP is a $40-million AID-sponsored effort to promote and facilitate increased agribusiness investment to enhance agricultural production and exports from the island nations of the Eastern Caribbean. The project was designed by a 10-person DAI team in late 1985 and early 1986. The design team included marketing experts, agriculturalists, financial analysts and credit experts, agribusiness management and development specialists, and project design specialists. The team studied the climate for agribusiness development in all of the island countries served by AID's Regional Development Office for the Caribbean: Grenada, St. Vincent, St. Lucia, St. Kitts, Dominica, and Antigua.

The project was designed with two components, to take maximum advantage of island resources and other special factors (such as location and special marketing relationships) and to be responsive to private sector entrepreneurs, either local or expatriate. The first component provides entrepreneurs with appropriate technical assistance and project financing in the form of equity investment. The other component called for the design of major subprojects to be funded and implemented separately, in tropical fruit and vegetable development for the Windward Islands, the development of alternative row crops for the Leeward Islands, cocoa development in Grenada, and mariculture development.

One aspect of HIAMP is the use of a small pool of discretionary testing funds to explore the value of an investment idea, and then bring together local or foreign investors, including local farmer associations as well as private businesses, to develop business plans to qualify for draw downs from a venture capital trust fund established outside USAID. This approach is being used to explore development of stronger private sector supply of inputs and production and marketing services through grower associations at the local level.

Individual enterprises are backed by more systematic mixed private and public subprojects to provide credit guarantee funds that are intended to change conservative lending practices of banks in the region. To date, HIAMP has developed 37 full-scale business plans on behalf of agribusiness entrepreneurs. More than $4 million from an Agricultural Venture Trust has been invested in agribusinesses such as food processing, exotic fruit, root crops, fishing, and cut flowers. Sixteen grants of seed capital have been awarded to foster innovations in production and marketing in areas such as garlic trials, tumeric production, and herbal tea exports.

Arusha Planning and Village Development Project, Tanzania (1979-1983)

Begun in July 1979, with $20 million in funding from AID and the Government of Tanzania, this four-year project, which was designed by DAI, had two complementary goals: to assist regional officials with the preparation of a long-term integrated development plan, and to improve villagers' well-being through the implementation of income-generating projects in agriculture, natural resources, and rural industry. The project had four major components: increasing agricultural production, improving infrastructure, promoting off-farm enterprises, and strengthening the capabilities of local government to plan implement and evaluate development projects.

As the principal contractor responsible for implementation, DAI provided a six-person, long-term technical assistance team as well as over 100 person-months of short-term technical assistance. By 1983, the project had been instrumental in launching 31 regional projects, 137 district projects, and 13 road projects. Included in these projects were various training programs, agricultural implements research, irrigation systems, tree nurseries, maize mills, brick and tile production facilities, a bakery, potable water supply systems, crop production schemes, livestock development, crop storage facilities, and bridge and road construction.

The project's agricultural production component carried out extensive field research in crop production, livestock and range management, agroecological zonation and land capability classification, soil and water conservation surveys, and forestry and wildlife inventories. The descriptive information and specialized analyses and inventories were assembled to form a regional agricultural information center.

PROJECTS IN ISOLATED AREAS

Most of the projects described above are implemented in rural areas that require DAI and the field teams to overcome serious logistical and administrative support problems. Some of our projects have truly tested our ability to support field

projects in isolated environments. Two of the most difficult field projects from the perspective of communications and logistics are described below.

Southern Sudan

Both the **Southern Manpower Development Project (1979-1983)** and the **Sudan Regional Finance and Planning Project (1981-1984)** were located in areas that could not be reached for several months each year as a result of heavy seasonal rains. Moreover, air traffic was intermittent and communications limited to single side band radio. Within these projects, individual sites were widely scattered. In the Southern Manpower Development Project, the team members were 350 kilometers apart in three sites, the Sudan Regional Finance and Planning Project held workshops in isolated parts of the region. As sole contractor, DAI provided all logistical support and commodity procurement, and constructed housing and office space; although the lack of continuous communication made it very difficult to coordinate and supervise team activities, we were able to support and direct coherent, successful technical assistance efforts.

Zaire

From 1977 to September 1986, DAI implemented the **North Shaba Rural Development Project** in eastern Zaire. The project focused on increasing agricultural production, marketing, and smallholder income for over 15,000 farm families in North Shaba. The project location was remote. The technical assistance team had to depend on a combination of air, road, and river and railway transport between Kinshasa and Kongolo for support to the eight expatriates and 26 Zairian professionals. DAI's team included a pilot/mechanic, who operated and maintained a project plane for five and one-half years. DAI arranged for housing with generators and a dependable water supply for the project staff at three sites. Through project efforts, water was also provided to the entire town of Kongolo, which has a population of 30,000. Project staff were also based in towns 65 and 180 kilometers from Kongolo, as well as in Kinshasa.

These and other experiences in remote areas of Indonesia, Sri Lanka, Mauritania, and Tanzania demonstrate DAI's ability to manage and implement successfully rural-based development projects in parts of the world where infrastructure is weak and obstacles to planned change abundant. The experience of DAI in agricultural and rural development activities can be found in the tables at the end of this section; these summarize DAI's multiyear projects, profile DAI's ability to field short-term teams, and provide DAI technical references.

ABILITY IN MANAGING SIMILAR COMPLEX PROJECTS

DAI has operated under the same executive leadership since it was founded in 1970. The firm is wholly owned by its employees and is one of the largest technical assistance contractors for AID. As our workload has grown and diversified, the firm has progressively strengthened both the technical and the administrative support systems needed for a complex business operation. In addition to its current portfolio of 16 multiyear projects (11 in the field, 5 home based), the firm undertakes about five short-term consulting assignments in a typical month. DAI staff, including the corporate officers, travel overseas frequently to participate on or lead project teams.

DAI's extensive experience enables the firm to apply knowledge gained and lessons learned to the creation of an ever stronger management ability. An example of our use of experience to become better in the future is the project implementation manual included in Section III, which was developed by DAI to assist field teams with project management in the field.

Administrative Support

Under the direction of the Vice President for Finance and Administration, DAI has experienced support staff grouped in the Offices of Overseas Project Support, Finance, and Contract Administration and Personnel. This component of home office project support complements the technical back-up described below under home office back-stopping capability; it has the following key characteristics and capabilities.

Overseas Project Support

DAI provides its technical assistance teams with a full complement of technical, logistical, and financial support. As a general rule, the need for experienced, specialized assistance tends to be greatest during the first 6-12 months of project start-up. To this end, DAI has developed a time-tested policy and procedures manual (see Section III) for its overseas staff that sets guidelines for team and project management, personnel benefits, contract administration, in-country and overseas training, and procurement.

DAI emphasizes the integration of its home office with its field operations to ensure that projects are run efficiently and effectively. The Office of Overseas Project Support is the point of direct contact between each field team and the home office administrative support structure. Working under the office director are two full-time project administrators, who are responsible for the daily monitoring of long-term overseas contracts.

In most projects, it is the close interaction and daily collaboration between the Project Coordinator and personnel of the Office of Overseas Project Support that guarantees a timely response to field queries. In the case of ASSP, Valerie Beyers who is Director of OPS is the Project Coordinator, thus guaranteeing that project issues are addressed at the requisite level in a timely fashion. In the role of Project Coordinator, she will provide contract administration and team support from the home office and will serve as a focus for addressing technical and management issues through direct contact with DAI management and the Division of Agriculture and Natural Resources. This procedure ensures that ASSP will receive the range of home-office support necessary to fulfill its mission effectively and that the team leader in the field will minimize time spent on administrative matters, while gaining quick resolution to administrative and technical problems.

The Office of Overseas Project Support begins its work well in advance of the placement of the team in the field. Before a team leaves for its assignment, the following activities occur:

- A computerized accounting system, based on a DAI standardized template, is established for field expenses and the team leader fully trained in its use;

- The reporting requirements -- technical, financial, administrative -- for USAID, DAI, and other concerned parties are discussed with the team members and an initial schedule established for the timely presentation of all required reports;

- If subcontracts form part of the implementation effort, a thorough discussion is held with the team leader concerning the establishment, use, and control of these contracts;

- Training in the use of equipment, for example, computers, that contribute to more efficient project implementation is given before the team is placed in the field;

- The use of local currency and local banking procedures are discussed so that the team leader can react quickly upon arrival in the host country;

- Personnel matters and DAI administrative procedures are reviewed with each team member and the team leader; and

- If procurement of equipment and supplies is required in the contract, a procurement schedule and purchasing and shipping procedures are established.

Financial Management System

In 1988, USAID-financed contracts accounted for more than 90 percent of DAI's revenues. The structure and operations of the firm's internal accounting system reflect the financial reporting requirements of our primary client.

- DAI's accounting system is approved by the DCAA for cost reimbursement type contracts and fixed price contracts.

- The Finance Office is fully automated through a local-area network of IBM ATs running DELTEK finance and accounting software and complemented by electronic spreadsheet applications packages.

- The Vice President for Finance and Administration, the Controller, and the Director of Financial Reporting are certified public accountants. Additional staff in the Finance Office include two project accountants, a chief accountant, and a payroll manager.

- DAI has established a system of checks and balances to ensure error control of invoices. Project billings are submitted by project staff who hold signature authority and normally use a standardized field accounting system developed by DAI. The home office project administrator performs a budget analysis to track expenditures against the obligated funds for each project and a project accountant provides billing information on salaries, payment of fringe benefits, communications and other procurement charges by telex or FAX. Project field staff are best qualified to determine the appropriateness and final accuracy of these and locally incurred charges for inclusion in the voucher. Each project is invoiced once a month.

- DAI has maintained records in accordance with AID regulations for 18 years; the firm's accounting system has always received an "unqualified opinion" from external auditors in periodic reviews.

CAPABILITY TO PROVIDE EXPATRIATE TECHNICAL ADVISORS

DAI's experience in recruiting long- and short-term teams is amply illustrated by the projects we have and are implementing. The relatively large number of permanent professional staff maintained by DAI provides us with a network of contacts in the development field for recruitment of excellent professionals in development. Long-term project recruitment is handled by a recruitment office of five full time staff working with our development professionals to maintain contact with individuals interested in project work abroad.

A harsh test of recruitment and fielding capability comes in providing short-term technical consulting services. DAI's skill in doing that is elaborated below as illustrative not only of the quality of the teams provided, but also the rapidity with which we can and do act to support the requirements of field projects. Forty-seven person-months of short-term technical assistance from expatriates is called for in the RFP. The skills required include 19 specialty fields and the possibility of other skills as required.

DAI's approach to providing technical assistance is based upon two guiding principles:

- Achieving a precise match between each project's unique set of requirements and our candidates; and

- Proposing individuals whose work is well known by the firm and who have a continuing relationship to permit the building of institutional memory and consistent technical competence over time.

Recruitment of Short-Term Team Specialists

DAI has a firmly established record for mobilizing and fielding consulting teams for overseas assignments on a timely basis. As of this writing, DAI has fielded and managed 500 short-term technical assistance teams to all points of the globe in its 19 years of operation, and the pace quickens each year. In 1988, for example, our staff and associates carried out 46 short-term assignments, the majority through work orders under AID indefinite quantity contracts (IQCs). Currently DAI holds five IQCs:

- The **Rural and Regional Income Generation and Resources Management IQC** with DAI as the lead firm;

- **The Employment and Enterprise Development IQC** was recently awarded to DAI as the lead firm;

- **The Institutional Development and Development Management IQC;**

- **The Macroeconomic Analysis IQC**; and

- **The Agriculture and Rural Development IQC** with REDSO/West and Central Africa.

In addition to its short-term work, DAI in 1988 provided 85 consultants to its long-term projects.

Each of the two technical divisions has its own recruitment coordinator whose principal task is to maintain contact with specialists outside the firm who are available for long- or short-term assignments overseas. The recruiting, briefing, and travel, legal, and logistical arrangements of five teams a month is an average for the DAI recruitment staff; their organizational capacity and systems to carry out these kinds of tasks are by now well honed.

Of special interest is our rapid response capability, which allows us to place a team of appropriate experts in immediate response to client requests -- often within days of the initial request if client contracting requirements are completed. Another important element, reflecting a company policy, is that DAI's permanent staff are consistently involved in short-term assignments.

DAI's success in fielding highly qualified teams on very short notice has been made possible through a combination of factors:

- A computerized database has been set up whereby lists of potential candidates for specific assignments can be immediately established on the basis of specialty area, academic degrees, language skills, geographic areas of expertise, and other variables. More than 2,300 resumes of specialists have been included in the system, after their references were carefully checked;

- Short-term teams are debriefed upon their return, and comments on the scope of work, performance, and results of the work are given to management and other development professionals;

- Reports are reviewed at the home office by members of the division back-stopping the project prior to final editing by the Publications Office; and

- A systematic review of the work of associates and outside consultants is undertaken after each assignment, allowing DAI to upgrade its pool of consultants and select those who are best qualified.

Table 7 illustrates our experience in fielding short-term consulting teams.

MANAGEMENT AND MONITORING CAPABILITY

DAI monitors its multiyear projects primarily through the link between the project and the home-office-based project coordinator. It is the responsibility of the coordinator to closely follow project activities through reports and communication with the field team and to ensure rapid responses to field inquiries, problems, or issues.

By having one point of contact with the home office, there is clarity in where responsibility rests for project monitoring. Through a single point of contact, there is less chance that a required action will be overlooked or not receive the attention that it deserves. Home office support for ASSP is detailed in Chapter Two.

DAI's Office of Overseas Project Support meets on a weekly basis with both DAI divisions and reviews the needs of all long-term projects. In these meetings, administrative support issues are discussed; usually a clear, precise decision emerges. Issues that require greater management input are then decided with corporate management.

DAI requires a quarterly report from its Chief of Party. Often this report includes contractually required reports as well as those that stem from short-term assistance. Technical issues coming from these reports or through a direct request from the field are shared with the appropriate full time staff members at DAI. It is the project coordinator's responsibility to transmit suggestions, experience in similar situations, and technical references to the field team in response to technical issues.

When possible, an annual visit by the project coordinator to the field is planned. The coordinator gains first-hand knowledge of the field activities, is able to gauge the effectiveness of current project support, and further monitor the implementation process. These visits are meant to improve the implementation effort; the visits also give members of the field team a means of expressing their concerns directly to someone representing the DAI home office.

This monitoring system is currently utilized to support 11 long-term projects on three different continents. The system has proven effective in:

- Monitoring project performance;
- Reacting to situations that call for modifications;
- Supporting the field team in implementation; and
- Providing DAI management oversight.

HOME-OFFICE BACKSTOPPING CAPABILITY

DAI policy, based upon its experience, places operational authority for long-term projects in the hands of the field team. The team leader must be responsible

for controlling the pace of activity and discretionary use of contract resources. Home-office backstopping within DAI, a system that has evolved through almost two decades of experience, assists field teams to carry out their assigned tasks effectively, while providing solid technical and administrative support to project implementation.

Technical Support

Experience has proven that a three-pronged approach -- management, technical support, and administrative systems -- provides both effective and efficient backstopping and improves the quality of contract work. Figure 11 illustrates this approach.

Technical support comes from home office professional staff and associates organized into two functional divisions. These are:

- The Agriculture and Natural Resources Division, which provides technical support to projects in area and rural development, agricultural research, rainfed agricultural production, agricultural policy and planning, irrigation and water management, and watershed and natural resource management; and

- The Finance, Management, and Economics, which is responsible for supervision and technical support in finance, agricultural credit, small and medium enterprise development, privatization, agribusiness, and information services.

Each overseas project DAI undertakes is supported by one of these divisions, which together include 35 permanent development professionals, augmented by more than 70 associates who work with DAI on an intermittent basis. U.S.-based staff fulfill a support function for long- and short-term field projects, with a professional staff member assigned to support each project. This support includes, but is not limited to, collaboration with the field team by participating directly in short-term consulting missions, providing review and feed-back on field reports, helping to recruit replacements when long-term positions open, identifying appropriate short-term specialists, and assisting to resolve substantive issues and problems.

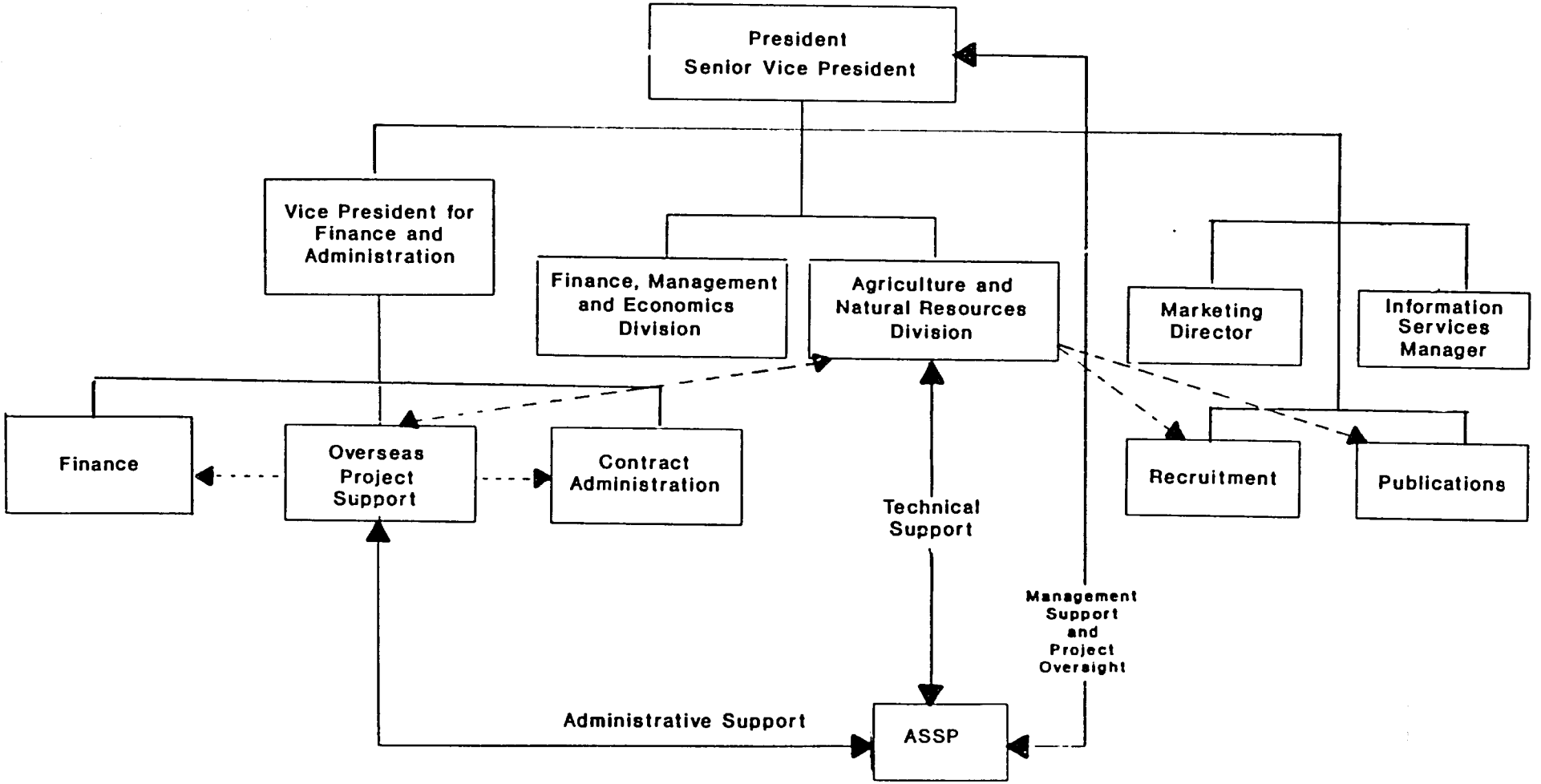
In the case of ASSP, technical backstopping will be assigned to the Agriculture and Natural Resources Division. The Director of that division, Dr. Richard L. Smith will be directly responsible for technical support, drawing on the knowledge of its 19 staff members.

Contract Administration and Personnel

DAI is staffed to administer a large volume of contract activity with the ability to deliver services, monitor expenditures, and ensure conformance with client reporting and record keeping requirements on as many as 50 active contracts at any given time. Several key indicators of administrative performance include:

- DAI currently implements 11 long-term contracts with one or more subcontractors;

Figure 11
DAI Organization Chart for Project Backstopping and Management



- In 1988, DAI provided services under 17 long-term contracts (duration of one year or more) for a total volume of $10.5 million. Over the same period, DAI carried out 46 short-term contracts, including IQC work orders, for a total volume of $3.3 million;

- The firm has a reputation for providing clients, during the contract negotiation phase, with complete and accurate information on costs, backed by adequate justification, on a quick turn-around basis.

DAI management will grant authority to its representative in the field to draw up, negotiate, and sign employment contracts or subcontracts with other firms for services required in a host country. The granting of this authority, while not done lightly, occurs in situations in which communication is either slow or not reliable, when greater efficiency can be achieved through such contracting, when this type of contracting is allowed under the core contract, and when DAI feels assured that necessary regulations relating to these contracts will be followed in the field.

Planning and Information Systems

The development consulting environment is extremely complex and ever changing. One reason DAI has been able to grow in size and capability in recent years is the emphasis that it has given to the planning, investment in the required capital and human resources, and management of information systems. These systems have been designed to fit DAI's decentralized management structure by providing key information to decision makers throughout the organization and around the world.

DAI is known for providing both conceptual and computer-assisted information system services to overseas clients. During implementation of the early phase of North West Frontier Area Development Project, for example, DAI advisors and short-term consultants initiated computer use for project monitoring in North West Frontier Province, trained computer staff, and procured equipment. Virtually all of the ideas and applications for DAI's consulting services in information systems were first developed and tested internally in the Washington office:

- DAI has a state-of-the-art 70-station multi-user, multi-tasking Novell network system accommodating a wide range of software applications. Users interact with system software through a set of menus, as well as directly with the operating system. Linked to telex, fax, and electronic mail capabilities, the DAI network and communications system provides each DAI professional with an effective link to the next office or to the outside world;

- Staff have developed and operate a variety of data bases to meet internal information management needs: these include a recruitment roster of more than 2,300 specialists; an automated register of corporate experience on projects; and other tracking systems for proposals, project budgets, payroll, new projects, personnel actions, corporate capabilities, and collaborating firms and institutions.

- Other than using data-base programs for information management purposes, DAI aggressively explores the use of a bewildering variety of software

applications packages for project management, telecommunications, graphics and text production, statistical analysis, and forecasting in the context of its development work. The firm continuously searches for ways in which this rapidly changing technology can be used in the interest of development planning and administration.

- All traveling teams exhibit a high degree of computer literacy and carry portable computers and peripherals, and complete most reports in the field. This capability provides an invaluable capability to manage a great deal of quantitative and qualitative information, perform analysis, draft recommendations, receive rapid and informed feedback, and make modifications so that the results of our work can be communicated clearly and in a timely fashion.

TECHNICAL REFERENCES

Table 8 presents a list of projects undertaken by DAI that are similar to the ASSP. The names of the relevant project officers and their telephone numbers are also listed. Please feel free to contact any of these people for an assessment of DAI's capabilities and past performance in the types of activities most directly relevant to this project.

TABLE 6

PROFILES OF MAJOR DAI PROJECTS

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Associated High Valleys Development Project, Bolivia	Dec. 1988 Aug. 1990	77.0	To stablize the population of the Associated High Valleys and to attract migrants back to their areas of origin through economic activities in agriculture and forestry by conducting studies for the formulation of strategies, providing technical assistance, and identifying technical training.
Technical Assistance: Small Business II Project, Honduras through a subcontract with Robert R. Nathan Associates, Inc.	Oct. 1988 Oct. 1991	30.0	To contribute to employment generation by spreading the benefits of economic growth among all strata of the Honduran population. The project aims at removing policy and regulatory constraints on the functioning and efficiency of small- and medium-scale enterprises. DAI provides a policy analyst to the project.
Applied Research/ Technical Assistance: Natural Resources Management Support, Africa through a subcontract with Energy/Development International	Sept. 1988 Sept. 1990	49.0	To provide technical assistance, natural resource assessments, training support, special studies, and information support in natural resource management to USAID missions.
Technical Assistance: Mahaweli Agriculture and Rural Development and Mahaweli Downstream Support Project, Sri Lanka	July 1988- June 1993	469.0	To complete the construction of the irrigation infrastructure needed to cultivate the 20,000 acres of the Mahaweli System "B" and to devise and implement an operations and maintenance scheme for this infrastructure that is cost effective, operated by farmers, and locally financed. At the same time the project will undertake adaptive research and farmer organization and extension.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Applied Research: Agricultural Sector Study in Africa	Jan. 1988-Feb. 1989	60.4	To conduct a study of the agricultural sector in Africa. The study's objective is to assist the African Development Bank in defining a coherent strategy for lending to agriculture. The study is divided into three phases. Phase I involves a review of recent literature and experience in Africa regarding agricultural development in five production-oriented subsectors and the six principal agro-ecological zones of the continent. Phase II will examine the Bank's experience in making loans for agricultural development to institutions in member countries. Phase II will examine institutional issues involving Bank lending to agriculture.
Technical Assistance: Small-Scale Irrigation Management Project, Indonesia through a subcontract with Harza Engineering Company	Dec. 1987-Feb. 1990	63.0	To assist the Government of Indonesia to implement activities in irrigation technologies, provincial public works management, beneficiary participation, and special studies. A DAI social scientist will implement analyses in social and economic soundness, beneficiary participation, institutional development, and monitoring and evaluation, while an agricultural economist will assist in site selection, identify economic constraints, explore the economic feasibility of privately owned irrigation pumps and of diversified cropping patterns, and develop a human resources development plan.
Applied Research/ Technical Assistance: Irrigation Support Project, Asia and the Near East through a subcontract with Camp Dresser & McKee International, Inc.	Aug. 1987-Aug. 1992	185.0	To provide assistance to USAID missions in fields related to irrigated agriculture, including engineering, technical agriculture, and social sciences. A DAI social anthropologist is a full-time member of the project's Technical Service Center.
Technical Assistance: Agricultural Surveys and Policy Analysis Project, Rwanda	Aug. 1987-Aug. 1991	134.0	To strengthen Rwandan institutional capacity to collect and analyze relevant data and identify realistic policy options for the national decision-making process. This is to be accomplished by working with the studies and statistics units of the Agriculture, Plan, and Finance and Economy ministries.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Development Studies Project, Indonesia	June 1987-June 1991	153.0	To assist the Government of Indonesia with the examination of key issues affecting its plans for national development in employment, trade, industry, and other related policy areas. This will be done through the provision of long-term technical assistance to work with the National Development Planning Agency and the Central Bureau of Statistics.
Applied Research/ Technical Assistance: Development Strategies for Fragile Lands Project, Latin America and the Caribbean	Oct. 1986-Sept. 1991	240.0 + approx. 750.0 via buy-ins	To assist the U.S. Agency for International Development to develop economic, social, and technical policies and strategies for the ecologically balanced agricultural use of fragile environments such as steeplands and lowland humid tropical forests. The project also helps USAID missions, host governments, and other donors to carry out research and implementation activities in these areas. Two long-term advisers in Haiti work with the Technical Secretariat for Watershed Management, which is responsible for designing and implementing a strategy for the sustainable development of Haiti's watersheds. In St. Kitts, a land use/ environmental expert and an environmental management officer work on the Southeast Peninsula Area Development Project.
Technical Assistance: Master Plan for Barani Area Development, Pakistan	Aug. 1986-Feb. 1988	86.7	To assist the Agency for Barani Area Development to prepare a master plan to develop the barani (rainfed) areas of the Punjab. The project encompasses an inventory of natural resources; a socioeconomic assessment; development of a master plan recommending policies, programs, and projects designed to reverse the trend in natural resource degradation and to enhance income-earning prospects for inhabitants of these regions; and identification of at least two projects and project designs brought to the pre-feasibility level.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Upland Agriculture and Conservation Project, Indonesia	July 1986-July 1991	393.0	To assist the Agency for Agricultural Research and Development through broad pilot projects in two major watersheds to develop capabilities and programs for increasing farm production and incomes while minimizing soil erosion in densely populated upland areas in Central and East Java. This is to be accomplished by improving farming systems and farm technologies and management. The project's specific purpose is to expand and improve institutional capacities, primarily at provincial, district, and farm levels and to experiment with and apply alternative approaches to upland farming in Indonesia.
Technical Assistance: High Impact Agricultural Marketing and Production Project, Eastern Caribbean	July 1986-July 1991	309.5	To promote the development of viable agribusiness activities in six islands of the Eastern Caribbean. The project is being implemented by a consortium of three firms with DAI in the lead role. Two senior agribusiness advisors based in Barbados lead a team of five other advisors based on the smaller islands to provide assistance in the evaluation, design, financing, and management of island-based agribusiness enterprises owned by local and overseas investors. Another project component involves the design of three major agribusiness subprojects -- tropical fruits, row crop diversification, and mariculture.
Technical Assistance: Financial Institutions Development Project, Indonesia	April 1986-April 1991	277.5	To assist the Ministries of Finance and Home Affairs, and the provincial development banks (BPD) in Central Java, West Java, East Java, and West Sumatra, to improve their assistance to and supervision of local rural credit and savings institutions and programs. The project is providing technical assistance in six principal areas: government policies and programs regarding rural financial intermediation; BPD auditing, inspection, supervision, and general field operations; rural credit development; rural savings mobilization; training; and development of management information systems.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Diversified Agricultural Research Project, Sri Lanka	Aug. 1985-Aug. 1991	250.0	To strengthen the capability of the Department of Agriculture (DOA) to generate and transfer technologies and seed required to increase and sustain subsidiary field crop production on small farms. The project provides assistance to seven regional research centers and in-service training institutes, five seed-processing centers, four seed farms, and DOA headquarters.
Technical Assistance: Fiscal Reform Project, Grenada	May 1985-Jan. 1988	124.5	To increase incentives for private sector growth and reduce the Government of Grenada's budget deficit by initiating reforms in policies and practices affecting both revenue and expenditure. Reforms have focused on implementation of a value-added tax and a property tax and discontinuation of personal and business income taxes.
Applied Research/ Technical Assistance: Employment and Enterprise Policy Analysis, through a subcontract with the Harvard Institute for International Development	Oct. 1984-Sept. 1989	108.0	To analyze the effect of capital market, labor, trade, and fiscal policies on enterprise development and productive employment generation. A long-term advisor in Sri Lanka is designing a project to provide support to small enterprises. Teams have been to Belize, Honduras, Rwanda, Somalia, and Tunisia to analyze the private sector development environment and to perform financial sector reviews. A state-of-the-art paper on the impact of financial market policies on enterprise development has been drafted.
Design/Technical Assistance: Irrigation Systems Management Research, Pakistan through a subcontract with the University of Idaho	June 1984-Nov. 1984 Sept. 1985-Oct. 1989	7.7 72.0	To design water management research programs in and near the Indus system to strengthen the government's institutional capability. Subsequently, to work with local investigators conducting research on the sociological aspects of water management, including participating in training and research management activities and providing technical assistance to engineers and agronomists on how to integrate a social science perspective into their studies.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Rainfed Resources Development Project, Philippines	March 1984-June 1990	347.5	To assist the Ministries of Agriculture and Natural Resources to develop institutional capacities and policy frameworks to support a community-based approach to land and water resources management in the settled upland forest, rainfed agricultural areas, and coastal zones.
Technical Assistance: Fiscal Reform Project, Haiti	Jan. 1984-Aug. 1986	82.0	To improve customs and tax administration by assisting local reform; establishing the Haitian Customs School; and training customs agents and brokers, income, sales, and excise tax auditors, and property tax assessors.
Technical Assistance: North West Frontier Area Development Project, Pakistan	Aug. 1983-June 1987	174.0	To establish institutional, administrative, logistical and financial arrangements, including pilot activities in agriculture, infrastructure, and off-farm employment, for an area-based investment program in poppy-producing regions.
Technical Assistance: Decentralized Development Management, Thailand	Aug. 1982-Aug. 1985	75.0	To assist the Royal Thai Government with management, development, and training in the Rural Employment Generation Program. The technical assistance team worked with district and local government units to improve their capability to identify, plan, and manage projects that satisfy seasonal employment needs and contribute to the long-term development of rural areas in the northeastern region of the country.
Design/Technical Assistance: Central Java Enterprise Development Project, Indonesia	June 1982-Nov. 1983	36.5	To complete base-line studies and a fully elaborated design for a project to assist small- and medium-scale enterprises in the rural areas of Central Java. Subsequently, to provide implementation assistance to the Ministry of Home Affairs, Provincial Planning Units, and private entrepreneurs to allow private production of shrimp, metal products, and light manufacturing exports.
	Sept. 1985-June 1988	214.5	

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Technical Assistance: Strengthening Rural Credit Services Project, Haiti	Nov. 1981-Sept. 1987	150.5	To provide technical assistance to increase the capability of the Bureau de Credit Agricole to provide credit and manage savings of peasant farmers on financially sustainable basis. DAI's long-term advisors concentrate on improving the BCA's internal management and administration, expanding banking services, and increasing revenue through adjustment of the interest rates charged on loans.
Technical Assistance: Regional Finance and Planning Project, Sudan	Oct. 1981-Oct. 1984	146.0	To strengthen the capacity of the Government of Sudan to undertake decentralized development planning at the national and regional levels. Training and technical assistance were primarily directed at Kordofan Region and the southern regions, where DAI advisors developed formal and informal training programs and assisted Sudanese counterparts to prepare annual annual plans and long-term planning documents.
Technical Assistance: Niamey Department Development Project, Phase II Niger	Oct. 1981-Dec. 1988	362.0	To improve small farmer food production and achieve sustained and broad-based rural development for 60,000 households in the Niamey Department. The project has been consolidated in its final phase and focuses on adaptive testing of dryland cropping technologies, assistance to village-based organizations that undertake income-generating micro-projects, and research and development related to animal traction.
Technical Assistance: Agricultural Mechanization Project, Egypt	Nov. 1980-Sept. 1984	240.0	To provide technical and evaluation support in identifying, testing and evaluating appropriate methods for mechanizing agricultural production, especially on smallholder farms. Evaluation activities included a program of in-depth village studies and a large-scale survey of farmers to establish the basic parameters of current mechanization practices. As a subcontractor to another firm, DAI had three full-time specialists serving on this project.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Applied Research/ Technical Assistance: Post-Harvest Institute for Perishables, through a cooperative agreement with the University of Idaho	Oct. 1980- Sept. 1985	60.0	To provide short-term technical assistance and research to establish an institution specializing in research, training, and information dissemination related to perishable fruits, vegetables, and root crops. As a subcontractor to the University of Idaho, DAI furnished staff for PIP consulting teams in the Caribbean and Pakistan.
Technical Assistance: Southern Manpower Development Project, Sudan	July 1979- Sept. 1983	300.5	To improve the Southern Region Government's capacity to train and utilize scarce human resources in the agricultural sector. SMDP, the first major project initiative by AID in the south, focused on planning and strategy development for agricultural as well as manpower development. DAI technical advisers were placed at the Yambio Institute of Agriculture, the Rumbek Agricultural Training Center, and at the headquarters of the Regional Ministry of Agriculture and Natural Resources in Juba.
Technical Assistance: Arusha Planning and Village Development Project, Tanzania	July 1979- March 1983	562.0	To assist regional officials to prepare a long-term integrated development plan and improve village well-being through the implementation of income-generating projects in agriculture, natural resources, and rural industry. The joint efforts of DAI's resident team, short-term specialists, and Tanzanian officials resulted in a set of strategies designed to make optimum use of the region's natural resources, and in successful implementation of more than 100 village-level projects.
Applied Research: Methodology for Small-Scale Enterprise Development	Jan. 1979- Oct. 1984	23.0	To develop, test, and refine techniques to evaluate the impact of small-scale enterprise programs in developing countries. Results included a state-of-the-art paper reviewing current methods to evaluate impact in the small-scale enterprise sector, tests of promising evaluation techniques, and a manual to evaluate small-scale enterprise development projects.

TABLE 6 -- Continued

Activity	Duration	Level of Effort (person-months)	Focus
Applied Research/ Technical Assistance: Organization and Administration of Integrated Rural Development	Sept. 1978-Dec. 1984	282.0	To provide short-term technical assistance and research on the organizational problems of ongoing integrated rural development projects. Short-term technical assistance was provided to 24 projects in 19 countries. Short-term assignments included information systems design, a decentralized planning and management pilot project, evaluation of technical assistance and project strategies, program organization and design.
Technical Assistance: Provincial Development Project--Phase I, Indonesia	June 1978-June 1987	557.0	To increase the capability of provincial, district, and sub-district planning units to identify, design, implement income-generating projects in rural areas. Sub-projects have focused on multiple cropping, agricultural processing, labor-intensive manufacturing, and training of national-level Ministry Home Affairs staff in techniques for monitoring and evaluating project activities.
Technical Assistance: North Shaba Rural Development Project, Zaire	June 1977-Sept. 1986	590.0	To increase agricultural production, marketing, and smallholder income for over 12,000 farm families in North Shaba. Since 1979, maize exports have nearly tripled due to improved seed, moderate changes in cultivation practices, and accelerated marketing activity by private sector merchants. The primary focus of project activities in the final phase (1984-1986) was to ensure that the positive results of the project would be sustained beyond the period of donor financing.

TABLE 7

RECENT DAI EXPERIENCE IN ARRANGING SHORT-TERM ASSIGNMENTS
MAY 1988-MAY 1989

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Social and Institutional Profile Mozambique AID	Develop an annotated bibliography to provide information on social and political conditions in rural areas	4/89	5/89	2.3	Clement	Gross (Maryland)	8/89	$ 44,322
Fundacion Salvadorena para el Desarrollo Economico y Social El Salvador AID	Determine the prospects for self-sufficiency of each unit of FUSADES and define gaps in resources	4/89	5/89	1.5	Nelson	Magill (Wisconsin)	6/89	$ 24,927
Social Dimensions of Adjustment Cameroon World Bank	Provide an analysis of Cameroon's financial sector and possibilities for small enterprise lending under the proposed project	4/89	4/89	0.8	Poulin		5/89	$ 12,100
Agricultural Research Support Project Mali AID	Assist in the writing of a project identification document to establish a national research strategy and improve the national agricultural research system	4/89	4/89	2.4	Gow	DeMooy (Colorado)	7/89	$ 52,159
Social Soundness Analysis United States AID	Review AID's experience with social analysis and recommend ways to further the Agency's ability to design socioculturally sound rural sector interventions	3/89	4/89	8.7	Gow VanSant Wyckoff-Baird	Hoben (Massachusetts)	8/89	$132,966

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Market Development Program Kenya AID	Analyze the structure, conduct, and performance of agricultural markets and their social dimensions for the project assistance approval document	2/89	4/89	20.0	Barclay Clement Grant Wilcock	Dodge (Wisconsin) Hughes (Florida) Mintz (Washington, D.C.)	4/89	$320,259
Rural Credit Study Kenya World Bank	Assess the role and potential of nonfarm enterprises and a proposed finance component for project	3/89	3/89	1.0	Boomgard		5/89	$ 11,760
Government Personnel Administration Tunisia UNDP	Analyze the goverment's personnel policy for the civil service	3/89	3/89	0.8		McCorry (Washington, D.C.)	4/89	$ 19,000
Customs Administration, Policy, Planning, and Administration Improvement Project Costa Rica AID	Design a plan to reform customs operations	2/89	3/89	2.0		Osbourn (Tennessee) Stacey (United Kingdom)	5/89	$ 36,530
Graduate Demand Study Cameroon AID	Analyze the demand for graduates from an agricultural university	2/89	3/89	0.8	Grant		4/89	$ 15,000
Applied Agricultural Research and Outreach II Project Zaire AID	Write a project identification document to strengthen the capacity of the Department of Agriculture to transfer agricultural technologies to small farmers	2/89	3/89	4.3	Humpal	Heureux (United Kingdom) Lockart (Minnesota)	5/89	$ 8,518

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Agricultural Exports Protection Project Dominican Republic AID	Analyze the local institutional capacity to analyze pesticide residues and ensure quality control for fruits and vegetables	1/89	2/89			Bensinger (Florida) Guiliano (Washington, D.C.) Rizvi (Minnesota)	4/89	$ 51,305
Cooperative Development Project Equatorial Guinea AID	Evaluate a project designed to establish the institutional framework to ensure the small farmer inputs needed for production and marketing of produce	1/89	2/89	3.0		Armstrong (California) Matze (California) Prunier (Washington, D.C.)	4/89	$ 59,922
Natural Resources Management Support Project Gambia AID	Write an action program for AID to address natural resource management issues	1/89	2/89	1.0	Seubert		3/89	$ 11,170
Nontraditional Exports Study Guatemala AID	Analyze the impact on secondary income and employment generation of investments in non-traditional exports	12/88	2/89	4.4		Alberti (Florida) Bolton (Tennessee) Dillon (California) Magill (Wisconsin)	5/89	$ 69,910
Rural Roads III Project Honduras AID	Provide institutional, social, and engineering analyses for a roads maintenance project	1/89	1/89	4.8		Douglas (California) Heilman (Maryland)	5/89	$101,500
Agricultural Policy Study Tunisia AID	Provide analyses and recommendations for a supervised credit program run by the Ministry of Agriculture	1/89	1/89	0.8		Gadway (Illinois)	2/89	$ 17,262

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Economic Policy Reform Program Mali AID	Analyze the government's customs administration system	1/89	1/89	0.9		Ansay (Belgium)	2/89	$ 15,800
National Agroforestry Program Haiti AID	Design a project that makes agroforestry technologies and inputs accessible to small farmers and promotes the involvement of non-governmental organizations	12/89	1/89		Clement Gow Koehn	DeMooy (California) Lowenthal (Maryland) Van Eysinga (Netherlands)	3/89	$163,433
Private Sector Training Needs Assessment Cape Verde AID	Analyze credit, training and technical assistance constraints on women-owned private enterprises	12/89	1/89	0.9	Clement		1/89	$ 8,580
Strategic Seminar United States AID	Conduct a workshop for senior management on broad-based growth and employment through enterprise development in Asia	11/88	12/88	0.9	Boomgard Nelson Tzavaras	Berry (Canada) Liedholm (Michigan) Little (United Kingdom)	1/89	$ 19,826
Private Sector Training Needs Assessment Niger AID	Determine the needs for the development of human resources and develop a plan for private sector training	11/88	11/88	0.8	Wyckoff-Baird		12/88	$ 6,390

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Economic Policy Analysis Support Project Morocco AID	Evaluate the pricing policy subproject and analyze the advantages of allowing market determination of prices	10/88	10/88	0.7	Nelson		11/88	$ 24,998
Analysis of Economy Cameroon AID	Analyze the Cameroon economy to serve as the basis for the country development strategy statement	10/88	11/88	7.3	Nelson Poulin	Kulibaba (Washington, DC)	3/89	$134,952
Market Towns and Rural Growth Conference Côte d'Ivoire AID	Prepare papers on effect of rural growth on market towns and effect of investments in infrastructure and market facilities on rural growth	11/88	11/88	1.0	Gow Poulin		1/89	$ 25,000
Natural Resources Management Support Project Mali AID	Write an action program for AID to address natural resource management issues	10/88	11/88	1.1	Humpal		1/89	$ 13,342
Barani Area Formulation Pakistan IFAD	Analyze the components of a project in the rainfed areas of Pakistan	10/88	11/88	1.0		Greenwood (California)	11/88	$ 7,965
Economic Policy Support Project Morocco AID	Evaluate the pricing policy subproject to determine whether it has assisted the Pricing Directorate to strengthen its capacity to assess the advantages of allowing market determination of prices	10/88	10/88	0.7	Nelson		11/88	$ 24,998

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Budget Analysis and Assistance Ghana Ashanti Goldfields Corp.	Develop a budget for two divisions of Ghana's largest gold mine	10/88	10/88	2.2	Grant		12/88	$ 28,075
Tropical Forest and Biological Diversity Burundi AID	Assess the status of Burundi's biological diversity and tropical forests and identify priority areas to address problems of deforestation and reduction of biological diversity	10/88	10/88	1.2		Murray (Florida)	12/88	$ 16,037
Tribal Areas Development Project Pakistan AID	Evaluate and redefine the purpose of a project based on changing the socio-political conditions of the Tribal Areas	9/88	10/88	7.6	Mickelwait	English (New York) Greenham (England) Knowles (Florida)	1/89	$116,180
Crop Diversification and Irrigation Project Jamaica AID	Evaluate a project that strengthened the capacity of a parastatal to promote agricultural investment	8/88	9/88	2.5		Hughes (Florida)	10/88	$ 41,575
Microenterprise Stock-taking Worldwide AID	Evaluate AID's approaches to microenterprise development and determine a profile that is the most effective	8/88	9/88	12.5	Barclay Boomgard DeSantis Grant Tzavaras	Biddle (Vermont) Gomez (Washington, DC) Howald (Massachusetts) Magill (Wisconsin) Strauss (California)	3/89	$342,248

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Impact of Rural Credit Programs Africa AID	Evaluate AID's rural credit programs in Africa to assess their impact on rural and agricultural development	7/88	9/88	16.3	Clement DeSantis Deschamps	Bielen (Wisconsin) Duggleby (Washington, DC) Gadway (Illinois) Harmon (Virginia) Hoben (Massachusetts) Howald (Massachusetts) Howes (Maryland) Kulibaba (Washington, DC) Schar (Indiana) Van Eysinga (Netherlands) Zeltzer (New York)	3/89	$345,417
Natural Resources and Environmental Management Central America AID	Assist the AID regional office in developing a strategy for the management of natural and environmental resources in Central America	9/88	9/88	4.6	Gow Hanrahan Pool Wahab	Randall (Virginia) Vaughn (Mississippi)	6/89	$151,969
Environmental and Multilateral Development Bank Issues United States AID	Examine selected AID projects for possible adverse environmental impact and report on adequacy of the procedures of multi-lateral development banks concerning projects with appropriate environmental policies	9/88	9/88	4.4	Gow Pierce Pool		1/89	$ 64,200
Command Water Management Project Pakistan AID	Provide an engineer and a social scientist to evaluate the project	8/88	9/88	3.4	Betts Reiss	White (California)	9/88	$ 43,194

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Agricultural Sector Development Grant Niger AID	Analyze progress in achieving agricultural policy reform and identifying additional constraints and policies to alleviate them	7/88	8/88	1.7		Gadbois (Rhode Island) Pierre-Louis (New York)	10/88	$ 48,857
Agricultural Research Foundation Honduras AID	Review the system of governance to enhance its role in fund raising	8/88	8/88	2.5		Borgatti (New York) Mesbreno (Honduras) Marcano (Venezuela)	11/88	$ 38,262
National Agroforestry Program Haiti AID	Prepare a project identification document emphasizing the private sector in achieving greater on-farm productivity	8/88	8/88	1.2	Gow		9/88	$ 15,922
Off-farm Employment Assessment Ecuador AID	Assess employment situation and constraints in Ecuador focusing on microenterprise sector	8/88	8/88	4.1		Fletcher (Iowa) Herrick (Virginia) Marquez (Massachusetts) Sarfaty (Washington, DC)	12/88	$ 82,053
National Environmental Management Program Honduras AID	Provide technical assistance in the creation of a national environmental management program within SECPLAN	6/88	7/88	7.6	Hanrahan Pool	Sharp (Virginia) Shores (Washington, DC) Tracy (California)	7/89	$349,037
Business Climate Study Mali AID	Assess the climate for private sector development and propose activities to create employment opportunities	5/88	7/88	2.3	Grant	Hanel (Canada)	8/88	$ 43,147

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Women's Training Potential Profiles Cameroon, Tanzania AID	Examine the role women play in the economy and recommend a training strategy to enhance the involvement of women in the countries' economies	6/88	7/88	3.8	Wyckoff-Baird	Howald (Massachusetts)	10/88	$ 49,753
Animal Traction Development Project Togo AID	Evaluate a project designed to coordinate and expand the government's efforts to promote animal traction among smallholder farmers	5/88	6/88	3.5		Kulibaba (Washington, DC) Watson (New Jersey) Zalla (Kentucky)	7/88	$ 60,037
Hillside Agriculture Project Jamaica AID	Design a management information system to meet project reporting requirements and a plan for the system's implementation	6/88	6/88	1.2	VanSant	Toder (Florida)	7/88	$ 19,570
Small Dams Project Morocco AID	Provide institutional and economic analyses for the design of a project to construct, operate, and maintain small dams in major irrigated schemes in the northern part of the country	5/88	6/88	1.4		Billings (Connecticut)	7/88	$ 18,605
Foundation for Economic and Social Development El Salvador AID	Conduct a financial assessment of FUSADES to determine the feasibility of it taking equity positions in local investments	6/88	6/88	1.5		Hughes (United Kingdom) Magill (Wisconsin)	7/88	$ 29,991

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Provincial Area Development Program II Indonesia AID	Evaluate the viability of the credit system created by the project and the agencies involved, and the impact on its borrowers	6/88	6/88	4.1		Dukesbury (Virginia) James (United Kingdom)	8/88	$ 63,849
Animal Traction Assistance Project Senegal AID	Evaluate the project to determine whether animal traction activities should continue to receive funding	5/88	6/88	3.6		Swanson (Minnesota) Watson (New Jersey) Zalla (Kentucky)	7/88	$ 60,037
Private Sector Training Needs Assessment Senegal AID	Analyze macroeconomic policy, markets, and sources of credit and human resources, and draft a training plan for private sector development	6/88	6/88	0.8		Harmon (Virginia)	7/88	$ 16,484
Private Sector Training Needs Assessment Rwanda AID	Analyze macroeconomic policy and trade and financial markets and draft a training plan for private sector development	5/88	6/88	1.0	De Santis		7/88	$ 16,157
National Credit Union Project Togo AID	Evaluate the project, which promotes a stable and financially sound national service organization for private sector credit unions, and recommend activities in rural credit for future donor assistance	5/88	6/88	1.8		Carrier (Canada) Herman (Ohio)	7/88	$ 38,600

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Land Use Review Nepal AID	Review existing land use and capacity survey work to identify those geographical areas where the potential for specific cash crops is highest	5/88	5/88	0.5	Pool		6/88	$ 8,138
Environmental Study Congo, Côte d'Ivoire, Ethiopia, Kenya, Senegal, Tunisia, Zambia African Development Bank	Prepare a policy paper for the Bank on environmental management and sustainable development	4/88	5/88	6.0	Pierce	Freeman (Virginia)	12/88	$151,000
Rural Income Study Sri Lanka AID	Analyze data to determine distribution of income in rural areas	5/88	5/88	1.5	Hansen		7/88	$ 22,564
Program Development and Support Project Chad AID	Provide the analyses to develop an assistance program in the agricultural sector	4/88	5/88	4.3		Johnson (England) Luzzatto (Washington, DC) Schar (Iowa) Theisen (Maryland)	7/88	$ 79,952
Small-Scale Enterprise Development Project Bolivia AID	Assist in designing a project to stimulate the growth of the country's small-scale enterprise sector	4/88	4/88	3.1		Berliner (Washington, DC) Kraljevic (Maryland) Magill (Wisconsin) Rivarola (Paraguay)	5/88	$ 59,014
Private Sector Training Needs Assessment Guinea AID	Analyze the development of the private sector and develop a training plan to relieve constraints on the development of human resources	3/88	4/88	0.8		Harmon (Virginia)	5/88	$ 19,000

TABLE 7 -- Continued

Project Name Location Client	Brief Description	Date Services Requested	Start Date	Total Person-Months	DAI Staff Involved	DAI Associate and Location	Completion Date	Value
Animal Production Project Philippines UNDP	Evaluate a center for animal products	4/88	4/88	0.5		Heilman (Maryland)	5/88	$ 10,944

TABLE 8

DEVELOPMENT ALTERNATIVES, INC.

TECHNICAL REFERENCES

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT								
Bureau for Asia and Near East								
Irrigation Support Project, Asia and Near East Regions	USAID	1,208,220	Subcontract with Camp Dresser & McKee International, Inc.	9/87-9/92	All Asian and Near East Countries Served by AID	Stan Peabody, Project Officer, AID/Washington (202) 647-6988	P. Reiss	Provide assistance to USAID missions in fields related to irrigated agriculture, including engineering, technical agriculture, and social sciences
Upland Agriculture and Conservation Project	USAID	3,849,757	497-0311-C-00-5096-00	7/86-7/91	Indonesia	Frank Gillespie, Project Officer, USAID/Indonesia Jakarta: 360-360	B. Harker	Assist the Agency for Agricultural Research and Development through broad pilot projects in two major watersheds to develop capabilities and programs for increasing farm production and incomes while minimizing soil erosion in densely populated upland areas in Central and East Java

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	CAI PROJECT MANAGER	PROJECT DESCRIPTION
Development Studies Project	USAID	6,084,164	497-0340-C-00-7104-00 (Joint Venture with Boston Institute for Developing Economies)	6/87-6/91	Indonesia	Martin Sirait, Project Officer, USAID/Indonesia Jakarta: 360-360	R. H. Betts	Provide technical assistance to the National Planning Agency and the National Bureau of Statistics to strengthen their capacity for policy decisions in the areas of employment, industry, and trade
Small-Scale Irrigation Management Project	USAID	638,020	Subcontract with Harza Engineering Company, Inc.	9/87-2/90	Indonesia	Herb Blank, Project Officer USAID/Indonesia Jakarta: 360-360	R. H. Betts	Assist the Government of Indonesia to implement activities in beneficiary participation, institutional development, monitoring and evaluation, development of human resources, identification of economic constraints, and site selection
Rainfed Resources Development Project, Cycle II	USAID	1,604,842	492-0366-C-00-8045-00	3/84-7/90	Philippines	Jerry Bisson, Project Officer, USAID/Philippines Manila: 521-7116	T. Babb	Strengthen the capacity of the Department of Natural Resources and non-governmental organizations to manage and implement development activities to raise the incomes of coastal zone residents and upland farmers

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Financial Institutions Development Project	USAID	3,282,328	497-0341-C-00-5092-00	2/86-2/91	Indonesia	Gordon West, Chief of Employment and Enterprise Development Office, USAID/Indonesia Jakarta: 360-360	D.A. Lucock	Assist the Government of Indonesia to strengthen the capacity of village-based credit institutions in West Java, West Sumatra, Central Java, and East Java to extend credit to small entrepreneurs and to begin mobilizing voluntary savings
Diversified Agricultural Research Project	USAID	7,260,227	383-0058-C-00-5023-00	8/85-8/91	Sri Lanka	Charles Strickland, Agricultural Development Officer, USAID/Sri Lanka Colombo: 21271 Edward Suraweera Ministry of Agriculture, Project Manager Kandy: 08-88206	G. W. Selleck	Assist the Government of Sri Lanka in increasing production of subsidiary food crops through research, extension, and seed multiplication
Irrigation Systems Management Research Program	USAID	943,931	Subcontract with Univ. of Idaho 0467-C-00-5044-00	9/85-10/89	Pakistan	D.W. Fitzsimmons University of Idaho (208) 885-6182; Jalil Ahmed, Project Officer, USAID/Pakistan Islamabad: 824-071	D. S. Humpal	Conduct research on the sociological aspects of water management

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Rehabilitation Assistance Project Design	USAID	177,295	383-0249-C-00-8041	3/88-5/88	Sri Lanka	Dennis Zvinakis, Project Development Officer, USAID/ Sri Lanka Colombo: 21271	M.D. Goldensohn	Assist in designing a project to promote income, employment, and agricultural productivity in war-torn areas by helping in the restoration of a viable, productive economy
Central Java Enterprise Development Project	USAID	1,447,813	497-0329-C-00-5090-00	9/85-6/88	Indonesia	Gordon West, Chief of Enterprise and Employment Division, USAID/Indonesia Jakarta: 360-360	P. Guenette	Provide implementation assistance to the Ministry of Home Affairs, Provincial Planning Unit, and private entrepreneurs to allow private production of shrimp, metal products, and light manufacturing exports
Mahaweli Agriculture and Rural Development Project Design; Mahaweli Downstream Support Project Design	USAID	184,747	PDC-1096-I-15-5049-00	3/87-7/87	Sri Lanka	John Flynn, Agricultural Development Officer, USAID/Sri Lanka Colombo: 21271	D.R. Mickelwait	Assist in designing two projects, one to diversify crop production and test innovative agricultural research, marketing, and extension approaches for System B, a second project to complete the tertiary irrigation system, develop new drainage systems, and complete associated settlement infrastructure in Zone 4A

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
North West Frontier Area Development Project	USAID	1,640,326	391-0485-C-00-5017-00	8/83-6/87	Pakistan	Tariq Durani, Project Officer, USAID/Peshawar Peshawar: 05264	R. L. Smith	Establish institutional, administrative, logistical, and financial arrangements including pilot activities in agriculture, infrastructure, and off-farm employment
BAPPENAS Automation Assistance	USAID	59,200	497-0340-C-00-5011-00	11/84-12/85	Indonesia	Martin Sirait, Project Officer, USAID/Indonesia Jakarata: 360-360	J. K. Rosengard	Assist BAPPENAS in installing and testing a management information system for the efficient use of external development resources
Provincial Area Devt. Project-Phase I	USAID	6,300,000	497-0264-C-00-5010-00	6/78-6/87	Indonesia	William Douglass, Rural Development Officer, USAID/Indonesia Jakarta: 360-360	J. Dukesbury	Increase capability of provincial, district, and subdistrict planning units to identify, design, and implement income-generating projects in rural areas

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Bureau for Africa								
Agricultural Surveys and Policy Analysis Project	USAID	4,513,776	696-0126-C-00-7777-00	8/87-7/91	Rwanda	Valens Ndoreyaho, Project Officer, USAID/Rwanda Kigali: 5746	G. Lassiter	Strengthen Rwandan institutional capacity to collect and analyze relevant data and identify realistic policy options for the national decision-making process
North Shaba Rural Development Project	USAID	13,748,841	660-0059-C-00-4029-00	7/77-9/86	Zaire	Rudy Griego, Deputy Agricultural Development Officer, USAID/Zaire Kinshasa: 25525/25398	K.E. Koehn and M.D. Goldensohn	(1977-1983) Increase maize production and related infrastructure and services to support small farmer development (1984-1986) Provide continuing technical support to the project while facilitating transition to a sustained management structure
Niamey Department Development Project Phase II	Government of Niger and USAID	4,943,397	683-0240-C-00-7005-00	1/85-12/88	Niger	Marc Madland, Project Officer, USAID/Niger Niamey: 73-41-15; A. Baoua, Projet Productivité de Niamey, Niamey: 73-35-08	K. E. Koehn	Provide coordinated management and technical support to a multi-faceted rural development project aimed at promoting sustained increase in dryland agricultural production

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Dirol Plain Studies	USAID	465,706	AFR-0929-C-00-7011-01	2/87-9/88	Mauritania	Nancy McKay, AFR/PD/SWAP, USAID/Washington (202) 647-6321	M.D. Goldensohn	Conduct a feasibility study and then assist in designing a project to address the controlled use of available watershed and flood waters in the recessional crop-production region
Private Sector and Rural Institutions Design	USAID	82,229	624-0510-I-13-7018-00	2/88-4/88	Togo	Sid Bliss, Rural Development Officer, USAID/Togo Lome: 215-835	D. Harmon	Assist in designing a project to promote rural institutions, particularly rural producer groups
African Economic Policy Reform Program Design	USAID	135,382	624-0510-I-09-7018-00	6/87-8/87; 11/87-3/88	Niger	Erna Kerst, Project Officer, USAID/Niger Niamey: 734-215	W.J. Grant	Assist in designing an economic policy reform program that encourages private sector initiatives, particularly through the removal of constraints to agricultural marketing
Southern Zone Water Management Project Design	USAID	203,837	624-050-I-08-7018-00	8/87-12/87	Senegal	Bill Hammink, Project Development Officer, USAID/Senegal Dakar: 225-880	D.S. Humpal	Conduct a prefeasibility study and then assist in designing a project to help increase cereal production through improved farmer utilization of water

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Sudan Regional Finance and Planning Project	USAID	1,990,000	AFR-0012-C-00-1024-00	10/81-10/84	Sudan	Tom Eighmy, Project Officer, USAID/Sudan Khartoum: 71570	D. Edens	Strengthen the capacity of the Government of Sudan to undertake decentralized development planning at the national and regional levels
Bureau for Latin America and the Caribbean								
High Impact Agricultural Marketing and Production Project	USAID	7,460,784	538-0140-C-00-7035-00 (Joint Venture with Western Agri-Management Company)	7/86-7/91	Eastern Caribbean	William Baucom, Chief, Agriculture and Rural Development Office, USAID/Barbados Bridgetown: 436-4910	M. Julien	Promote the development of viable agribusiness in six island states of the Eastern Caribbean
Fiscal Reform Project	USAID	2,565,369	538-0096-C-00-5026-00	5/85-1/88	Grenada	Robin Philipps, Project Officer, USAID/Barbados Bridgetown: 436-4950	H. Brazer and C. Stockman	Increase incentives for private sector growth and reduce the government of Grenada's budget deficit by initiating reforms in policies and practices affecting revenue and expenditure

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Strengthening Rural Credit Services	USAID	1,953,869	521-0121-C-00-2006-00	2/82-9/87	Haiti	C. McIntyre, Rural Development Officer, USAID/Haiti Port-au-Prince: 25500	T. Stickley and D.P. Harmon	Improve capability of the Bureau de Crédit Agricole to provide credit and manage savings of peasant farmers on a financially sustainable basis
Fiscal Reform Project	USAID	726,898	521-0167-C-00-4011-00	1/84-8/86	Haiti	L. Morse, Deputy Director, USAID/Haiti Port-au-Prince: 25500	J. M. Buck	Develop training programs in customs and and tax administration, and recommend improvement in customs code
Bureau for Science and Technology								
Employment and Enterprise Policy Analysis	USAID	1,267,180	Subcontract with Harvard Institute for International Development	10/84-9/89	Worldwide	Robert Young, Employment and Small Enterprise Division, S&T Bureau, AID/Washington (202) 235-8881	S. G. Goldmark and J. J. Deschamps	Specify methodologies for small and medium enterprise analysis in developing countries, identify short-term projects, and analyze long-term policy
Organization and Administration of Integrated Rural Development	USAID	3,497,775	AID/DSAN-C-0065	9/78-12/84	Worldwide	K. Kornher, Development Administration Division, S&T Bureau, USAID/ Washington (202) 235-8870	G. H. Honadle	Provide short-term technical assistance in the management and administration of large-scale rural development projects

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Latin America Caribbean Region/ Development Strategies for Fragile Lands	USAID	12,957,043	DHR-5438-C-00-6054-00	9/86-9/91	LAC Region	H.S. Plunkett, Rural and Regional Development Division, S&T Bureau, AID/Washington (202) 235-8860	M.S. Hanrahan	Provide services in strategy development, research dissemination, policy analysis, and institutional networking to support sustainable management of steep slopes and humid tropical lowlands
Evaluation Methodology for Small-Scale Enterprise Devt. Assistance Projects	USAID	362,000	AID/DS-otr-C-0016	1979-10/84	Worldwide	Michael Farbman, Chief, Employment and Small Enterprise Division, S&T Bureau, AID/Washington (202) 235-8881	S. G. Goldmark	Test and refine techniques to evaluate the impact of small-scale enterprise programs in developing countries
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS								
Monitoring and Evaluation System	FAO	42,300	87/098	10/87-3/88	Malaysia	M. Kato, Senior Evaluation Officer, FAO Rome: 575-101, Ext. 3906	J. Magill	Improve the efficiency and effectiveness of the Ministry of Agriculture's monitoring and evaluation system

TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Rural Development II Project Evaluation	FAO	39,950	87/104	9/87-11/87	Bangladesh	M. Kato, Senior Evaluation Officer, FAO Rome: 575-101, Ext. 3906	L. Heilman	Evaluate a project designed to strengthen cooperatives by expanding their services including packages of inputs for irrigated agriculture and employment-generating activities
ASIAN DEVELOPMENT BANK								
Master Plan for Barani Area Development	ADB	1,231,373	TA No.708-PAK	7/86-4/88	Pakistan	Dr. Gene Owens, Project Economist, Irrigation and Rural Development Department, ADB Manila: 834-39-44	D. R. Mickelwait	Assist in preparing a master plan to develop the barani, or rainfed, areas of the Punjab
Rural Development Seminar	ADB	18,500	CAS/5/84-097	7/85-11/85	Philippines	Dr. S. C. Jha, Manager, Division I, Irrigation and Rural Development Department, ADB Manila: 834-39-08	G. H. Honadle	Present a paper assessing the impact of various approaches to rural development, particularly aspects related to planning and management

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TABLE 8 -- Continued

PROJECT TITLE	FUNDING AGENCY	CONTRACT AMOUNT IN U.S. DOLLARS	CONTRACT NUMBER	CONTRACT DATES	COUNTRY	CLIENT CONTACT/ TELEPHONE NUMBER	DAI PROJECT MANAGER	PROJECT DESCRIPTION
Malaysia Smallholder Study	ADB	170,000	CAS/S/84-123	7/84-12/84	Malaysia	Gene Owens, Senior Executive Officer, Agriculture Department, ADB Manila: 834-37-02	R. H. Betts	Study smallholder sector to address issues of Malaysia's national agricultural policy
Solomon Islands Rural Development Centers Project	ADB	190,000		3/83-7/83	Solomon Islands	Harpal Singh, Project Economist, Agricultural Support Services Division, ADB Manila: 834-37-70	C. F. Sweet	Design integrated project based on concept of rural development centers on islands with high economic potential and population density
AFRICAN DEVELOPMENT BANK								
All-Africa Agricultural Policy Study	AfDB	775,958	N.A.	1/88-2/89	Africa	S.B. Badinga, Director, Central Projects Department, AfDB Abidjan: 320-711	D. C. Wilcock	Conduct a study of the agricultural sector in Africa to assist the Bank in defining a coherent strategy for lending
Environmental Policy Study	AfDB	151,000	N.A.	5/88-12/88	Africa	S.B. Badinga, Director, Central Projects Department, AfDB Abidjan: 320-711	P. Freeman	Develop policy guidelines for the Bank to improve project selection and appraisal with respect to environmental issues

GIC AGRICULTURAL GROUP

AGRIBUSINESS EXPERIENCE

GIC Agricultural Group is a fully integrated agribusiness consulting firm with an expert staff of agricultural economists, investment analysts and commodity traders. The Ag Group specializes in marketing, trade and investment issues. GIC agricultural project experience in developing and industrial countries includes:

- Production
- Management
- Processing
- Storage
- Marketing

The firm adheres to a fundamental philosophy which is reflected in its project work and professional staffing. There is a definite bias toward problem solving with the most feasible and least cost solution as the preferred option. As a small business, GIC has maintained a level of professional integrity and expertise in agribusiness which has made it competitive with larger firms lacking the same level of specialization

THE STRATEGY...

GIC's strategy is to bring as many of these specialized skills and services as possible to bear on any individual project so that analysis and planning are dealt with in the context of implementation. The success of an agricultural plan is determined by its application which is why GIC offers a comprehensive approach to its agribusiness projects.

SINCE 1980...

Since the firm was established in 1980, it has been actively involved in private and public sector work in agribusiness. The range of activities has covered everything from economic and policy analysis to feasibility work and project implementation services. Governments and international organizations have contracted with GIC for policy reviews of the role of agribusiness in foreign assistance and economic development. Private sector clients now look to GIC for assistance in investment, and marketing and merchandising of their product.

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(703) 684-1366 FAX (703) 684-1369 TLX 4992865 GIC ALX

LONG-TERM COMMITMENT...

Its investment feasibility work has spawned a new set of activities for the company involving GIC's direct participation in agribusiness projects in developing countries. Equity and operational participation reflect its long-term commitment to development. Moreover, as a business for profit, the firm recognizes the potential for a competitive return on its investment in these types of projects.

GIC TRADE...

The establishment of GIC Trade, Inc. as an independent company from the Agricultural Group was in response to client requests for trade related services. Successful projects in terms of production in too many instances have failed to address the need for merchandising the product.

GIC Agricultural Group offers advisory assistance in this regard and GIC Trade is prepared to take the additional risk of handling the products in international trade. Moreover, the trade affiliate will provide freight forwarding and shipping services which are critical to moving products for export from developing countries. As relatively low volume trade areas, developing countries require appropriate import and export strategies which compensate for differential shipping rates and services.

PROJECT DESIGN...

Political, social and general economic considerations must also be taken into account in the commercial planning and implementation of an agribusiness venture. Ultimately, these factors play a principal role in determining the success or failure of the project itself. For instance, designing commercialized production for a particular crop without taking account of trade and investment policies, or political and cultural sensitivities limits the potential positive economic and social benefits to the project.

Over-emphasis of a short-term economic objective at the expense of long-term economic goals may also undermine a project's effectiveness. This conflict is a recurrent problem for marketing projects where foreign currency priorities weaken the potential impact of an export project. The development of a complete product cycle marketing strategy will provide higher long-term rates of return without sacrificing short-term profitability.

Well designed projects offer a competitive return to the private sector and at the same time can serve to satisfy basic economic and social concerns associated with development. Assuming government and the private sector carry out their respective responsibilities, the prospect of any such project failing should not be significantly greater than any analogous venture in industrial countries.

DEVELOPING COUNTRY OUTLOOK...

In international trade, an agribusiness project in a developing country may offer an even higher return than in an industrialized country because of lower cost factors of production. Advances in storage and delivery systems plus the integration of world markets now facilitate market penetration and long-term growth for developing country suppliers.

Appropriate planning, attention to implementation phases and market sensitivity are all crucial elements to any successful agribusiness project.

PROFESSIONAL STAFF

Richard Gilmore	President, PhD/ Trade Economist. Professional experience in agricultural consulting with emphasis on marketing, trade and investment issues. Formerly, Chief Economist for Senate Foreign Relations Committee, Food Analyst for Rand Corporation, Guest Fellow at the Overseas Development Corporation, Agricultural Project Director at The Carnegie Endowment for International Peace, Advisor to Government and Industry, writer on agricultural issues.
Shirley Logan	Office Administrator
John Chuck Malott	Technical Director, MS in Agronomy. Familiarity with all aspects of agricultural production and farm management. Experience includes management and establishment of multiple crop farms in different countries and technical assistance to agri-businesses.
Francis Masson	Technical Consultant, PhD in Agricultural Economics, Ohio State University. Specialization in production and marketing of tropical food commodities. Experience includes agribusiness production and marketing studies in Latin America and the Caribbean.
Christopher Muessel	Vice President, GIC Trade, Inc., J.D. with specialization in International Transportation, Admiralty and Maritime Law. International shipping broker and owner's broker. Also shipping agent under PL-480 and Section 416.
Kulpreet Sunderlal	Research Director, MS in Food and Resource Economics, University of Florida. Specialist in agricultural product marketing and trade policy analysis. Also responsible for econometric/ statistical analysis and new project development.
Patrick Vermeulen	Director, GIC Agricultural Group, France. MS in Accounting and Business Management. Experience includes management positions in SOMDIAA and Grands Moulins de Paris projects in agricultural milling and marketing.

SELECT PROJECTS

Public Sector

Pre-Privitization Study: Mechanization Service of The Government of The Gambia, Ongoing, Center Privitization, Bureau for Private Enterprise, U.S. Agency for International Development.

GIC is heading a team performing a Privitization Feasibility Study of the Agricultural Mechanization Services provided by the Ministry of Agricultural and Natural Resources through it's three institutional organs: 1) Agricultural Engineering Unit, 2) Tractor and Ploughing Services, and 3) Mechanical and Transportation Services.

Evaluations: Three Grants to American Society of Agricultural Consultants International (ASACI) for Agricultural Investment profiles in 11 Countries, Ongoing, U.S. Trade and Development Program (TDP), International Development Cooperation Agency.

GIC has responsibility for evaluating the Reconnaissance and Business Profile reports in Costa Rica, Dominican Republic, Ivory Coast, Ecuador, Kenya, Grenada, Philippines, Malaysia, Haiti, Guatemala and Belize. A principal objective is to measure the degree of success of the ASACI projects in promoting U.S. exports.

Evaluations: Marketing Activities in Western Europe, Middle East and Asia, Ongoing, Western United States Agricultural Trade Association (WUSATA).

GIC is conducting field evaluations of country and product marketing activities under TEA (Targeted Export Assistance) grants awarded to WUSATA by the U.S. Department of Agriculture. The objective is to measure the impact of promotion and market development programs in foreign markets on U.S. agricultural products produced in Idaho, Washington, Utah, Alaska, American Samoa, California, Colorado, Hawaii, Montana, New Mexico, Oregon and Wyoming.

Agribusiness Subcontractor, Ongoing, Center for Privatization.

GIC assists the Center on an ongoing basis in providing agribusiness experts for field work in privatization programs for state owned enterprises in developing countries.

Appropriate Marketing Programs for Promoting American Agricultural Exports, Ongoing, General Accounting Office.

GIC is heading a review of alternative marketing mechanisms and working with a panel of experts to develop appropriate new initiatives for legislators and policy makers. The final report will be completed, January 1, 1988.

Baking/Catering Project: A Joint Venture of GIC, Ottenberg's Bakery, Inc. and Caribbean Company, Ongoing. U.S. Agency for International Development, Office of the Private Sector/Joint Venture Feasibility Fund, project begun in January, 1987 and negotiations ongoing.

GIC has already conducted a prefeasibility study for investment in a baking and catering enterprise in eastern Caribbean countries. It is now reviewing proposals for direct investment with local partners. The venture would involve the establishment of a new plant producing specialized bakery products for local hotel, restaurant and international establishments as well as export to CARICOM countries and to the United States.

Alternative Approaches to Encouraging Small Business, National Commission on Jobs and Small Business, July, 1986.

GIC reviewed industrial country policies affecting small business, with particular emphasis on agribusiness. Recommendations were made to a bipartisan panel, based on GIC findings about the degree of success different policies met in encouraging small business development. Specific measures regarding export financing have been either adopted by the Federal Government or introduced as legislation before Congress.

Foreign Strategies for Export Promotion,
National Commission on Agricultural Trade and Export Policy, March, 1986.

GIC developed a comprehensive study of significant export promotion policies among the world's principal suppliers of agricultural products. GIC established an information base on national policies according to crop, product, policy objective and degree of effectiveness measured in terms of primary and secondary sales and longer term trends. Many of the study recommendations ere endorsed by the Commission and are at an early stage of implementation.

Investment/Project Evaluations in Guinea -- Cocoa, Coffee, Rubber and Palm Oil,
Sponsored by the United Nations Development Program/UN Center on Transnational Corporations, January, 1985.

GIC conducted prefeasibility assessments and provided detailed evaluations of individual investment proposals for the production, processing, and marketing of these four crops. All proposals were developed by European companies for large scale, commercial operations in Guinea. In each case, the investment package was predicated on a strong demand for the crop by end-users in Guinea, neighboring African countries and in third country markets, primarily Western Europe and the United States.

The Price Formation Process for Selected Agricultural Commodities: An Overview of Price Information Systems,
UN Center on Transnational Corporations, February, 1984.

GIC studied cash and futures markets for 18 different commodities worldwide. THe objective of the analysis was to ascertain how commodities were priced in international markets and whether these pricing mechanisms ere registering true demand-supply relationships. In the absence of perfectly competitive marketing conditions, it was necessary to assess whether current pricing functions were the ideal indicator of market opportunities for buyers and sellers or whether arbitrary prices prevailed. In such circumstances, costs to developing country producers were the greatest.

Future Transportation Alternatives Across the Panamanian Isthmus, Futures Group/ U.S. Department of State, November, 1982.

GIC conducted a trade impact analysis for agricultural products on alternative Panamanian rate and delivery scenarios. The purpose of this study was to measure the costs and benefits of the construction of a new, wider canal.

Agricultural Mission Report for Poland, Rockefeller Foundation, December 1982.

Dr. Gilmore participated in a group evaluation of Poland's agricultural economy, The purpose was to identify bottlenecks from production to marketing prescribe ways to maximize efficiencies in all agricultural sectors.

Procurement Practices and Alternative Import Strategies, World Food Council, January, 1982.

GIC reviewed how food deficit developing countries cover their requirements through imports. Case studies were developed for the study on Algeria, Bangladesh, Brazil, Egypt, Ghana, Mexico, and Morocco. The analysis involved an assessment of the costs of parastatal procurement operations as well as handling, storage and distribution practices in these countries compared to commercial import operations in more developed countries.

Overview of Food Supply Problems and the Grain Trade, World Bank, November, 1980.

This study assessed the costs of shortages and market inefficiencies to those developing countries which were most likely to incur shortfalls or continue to be in a deficit food position to 1985.

Food and Beverage Industry: Impact of Foreign Investment on Developing Countries, Rand Corporation/ UN Center on Transnational Corporations, January, 1979.

This study evaluated corporate investment in developing countries in the food and beverage industries. GIC established an information base on agribusiness portfolios and measured the short and long-term effects of investments and operations on the host country's economy.

Private Sector

Marketing Services, Ongoing, Joint Agricultural Coordinating Council (JACC), Dominican Republic.

GIC conducts market and financial research for JACC members interested in exporting non-traditional food products to the United States and Western Europe.

A Market Analysis for the Counterseasonal Supply of Fresh Fruits Imported from Uruguay for Sale in the United States, Canada and the European Economic Community, 1987.

GIC provided research and analysis as a subcontractor on transportation rates, competitive export practices, European consumption trends and distribution channels, and market assessments. The report serves as a prefeasibility study for the grower in Uruguay and potential investors, including the International Finance Corporation.

Outlook for Lauric and Palm Oil Industries in the United States, 1986.

GIC conducted a feasibility study for a private investor/trading company on the establishment of an oil refining plant. Substantial market related research was undertaken in order to assess the viability of the project from the point of origination in Malaysia and the Philippines to the processing and final distribution points in the United States.

The U.S. Ethanol Industry: A Profile of the Industry and Its Future, March, 1985.

GIC conducted a comprehensive study of the growth potential for ethanol production in the United States. Primary research involved an analysis of the structure of the American industry, and assessment of its competitiveness compared with oil and other biomass forms of energy, and an evaluation of long-term prospects in light of the highly protected nature of the industry.

The Dairy Industry: An Investment Analysis and Review of the Market in the United States, April, 1985

GIC reviewed the dairy industry nationwide. It then conducted a survey of the market in three states, identified potential dairy farms for acquisition and provided a financial analysis of these potential investment enterprises.

Food & Drink Facts: New Products, New Markets in the United States, World Food & Drink Report, 1985.

GIC established a data information base on the food and beverage industries in Europe and the United States. In addition to basis financial information, GIC provided clients with detailed information on new products, sales, and distribution networks.

Investment Feasibility Study for Rice Industry in Jamaica, December, 1984

GIC reviewed Jamaica's rice industry from production to final distribution. The purpose of the study was to evaluate the profitability of a potential investment in rice production and parboil processing. Research required extensive market survey work on packaging and distribution through wholesale and retail facilities and consumer preferences.

Baking Equipment Survey, Far East, Overseas Private Investment Corporation, May, 1984.

GIC served as consultant and principal to this project. The proposed venture involved the leasing of used and new baking equipment in the Far East: Indonesia, Philippines, Singapore, Malaysia, Hong Kong, China and Taiwan. It was necessary to conduct a comprehensive market survey, assessing equipment manufacturers and sales opportunities in each of these extremely complex markets. The second phase was to identify prospective distributors, assess their operations and the overall commercial environment. The third phase was to analyze financial requirements for the venture, involving off-shore capital and joint venture participation with local partners.

Barter/Countertrade between the United States and Algeria: Oil for Grain, May, 1984.

Research for this project was transaction related. GIC valuated the commodities involved in the potential exchange and worked directly with buyers and sellers in an effort to complete the transaction.

Japan's Changing Consumer Markets/Food Product Preferences under Three Trade Policy Scenarios, Nomura Research Institute, January, 1984.

GIC's participation in this comprehensive study was limited to a trade impact analysis, assessing the costs to consumers of different food products as a function of their imported price. Projections were provided under three distinct scenarios--greater trade liberalization, status quo and more protectionism in Japan.

Cargo Preference and Other Maritime Subsidy Programs, National Association of Wheat Growers, April, 1983.

GIC provided an economic analysis of current maritime subsidy programs and their impact on U.S. agricultural exports. Recommendations in the report led to changes in the law, although not sufficiently in favor of the suggested reductions in direct and indirect subsidy levels.

Prefeasibility Study of Soybean Crushing Plant in Rumania under a Countertrade Agreement, Spring 1983.

To conduct this feasibility study, it was necessary to make certain price assumptions given the countertrade terms of the proposal. GIC reviewed wold market conditions, utilization requirements in Rumania and other specified markets and conditions set by the supplier/investor. The barter aspects of this project introduced new variables and allowed for additional research on the practicality of this type of investment and long term trade proposal.

U.S./Europe Flour Industry: Past, Present and Future, August, 1982.

This industrial case study involved a micro-review of the industry from an economic and commercial perspective. Market research was conducted on both continents to assess viability and quality of final packaged product and future trends in individualized markets. Considerable attention was devoted to sales and investment opportunities in developing countries.

Export Sales and Import Procurement Policies for CONASUPO, Mexico, December, 1981.

GIC conducted a market analysis for sorghum, recommending basis priced contracts for CONASUPO during a fixed period of the crop year. The methodology for the study entailed an analysis for futures and cash prices and projections of those prices out to an acceptable delivery date. A cost comparison model was developed to determine the net benefit of a flexible versus fixed price contract.

Rice Market Survey in Saudi Arabia, November, 1981.

GIC conducted a diverse market survey in-country, involving an analysis of consumer preferences, imported/wholesale/retail prices, and an evaluation of packaging, distribution facilities and sales representation compared with competing imported rice brands in Saudi Arabia.

CLIENT LIST

Public Sector

Canadian International Grains Institute
Caribbean Project Development Facility
Center for Privatization
CONASUPO (National Food Supply Company, Government of Mexico)
General Accounting Office
Government Institutions (U.S. and non-U.S.)
Inter-American Development Bank
Joint Agribusiness Coinvestment Council, Inc. Dominican Republic (JACC/RD)
National Commission on Agricultural Trade and Export Policy (U.S.)
National Commission on Jobs and Small Business (U.S.)
Overseas Private Investment Corporation
President's Commission on World Hunger
The Rockefeller Brothers Fund
The Rockefeller Foundation
The United Nations Center on Transnational Corporations
The United Nations Development Program
The World Bank
The World Food Council
Western United States Agricultural Trade Association (WUSATA)

Private Sector

Arthur D. Little, Inc.
Autranet
Center for International Technical Cooperation, American University
CIGRA
C.ITOH & CO., Ltd.
Climatologie Agronomie Aeronautique
Collier Enterprises
DGA International, Inc.
Donaldson, Lufkin & Jenrette, Inc.
Grands Moulins de Paris
National Farmers Organization
Nomura Research Institute
Ottenberg's Bakers, Inc.
Price Waterhouse
Rouse Woodstock, Inc.
SAVILLS
SOLCOOR, INC.
SOMDIAA
The Futures Group
The Government Research Corporation
Union Nationales des Cooperatives Agricoles de Cereales
Waitaki NZ Refrigeration Limited
Vie de France

GIC TRADE, INC.

THE STRATEGY...

GIC Trade is both a supplier of specialty food and feed products and a shipping agency. We handle exports and imports of agricultural products in international trade. Much of GIC Trade's business is with commercial clients in developing countries where it acts as a supplier, buyer, or procurement agent.

For too long, these buyers have been neglected because of more profitable, high volume business in industrial countries. GIC Trade has a different strategy: it focuses on the need these buyers have for competitively priced product from reliable suppliers worldwide.

FULL RANGE SERVICE...

As an affiliate of an agribusiness consulting company, GIC Agricultural Group, GIC Trade offers buyers and suppliers additional trade and investment assistance at no extra charge. Among these services, GIC will help market products to domestic and foreign buyers. If we handle a new product, we will find a niche for that product which offers an opportunity for long term sales. GIC also helps eligible buyers obtain financing through U.S. government programs and commercial banks.

SHIPPING AGENCY...

As a shipping agent, GIC currently handles U.S. food aid -- PL 480 -- shipments for the Government of the Dominican Republic. In this capacity it works extensively with shipowners (U.S. and foreign flag), brokers, and commodity suppliers in the United States. On commercial cargoes, GIC provides government agency buyers :

- Spot commodity prices
- Spot freight rates
- Assistance on opening Letters of Credit
- U.S. government regulatory information
- Liaison services in Washington, D.C.

PRODUCT LIST/ ALL ORIGIN

BULK GRAINS AND COMMODITIES:

- Specialty orders
- Screenings

OILSEEDS:

- Various oilseeds

SEMI-PROCESSED AND PROCESSED GRAIN AND OILSEED PRODUCTS:

- Pelletized/ dehydrated feeds
- Vegetable oils
- Rice Products
- Wheat flour
- Mill-feeds
- Soybean, cottonseed, sunflower seed, peanut, safflower and canola (rapeseed) meals
- Dried pet foods

FRUITS AND VEGETABLES:

- Fresh
- Processed (branded and non-branded)
- Packaged
- Byproducts (branded and non-branded)
- Seeds (branded)

ANIMAL PRODUCTS:

- Poultry and meat products (branded)

FISH/ SEAFOOD:

- Fish meal
- Shrimp/ Crayfish
- Catfish

EARTH SATELLITE CORPORATION *(EarthSat)*

7222 47th STREET, CHEVY CHASE, MD, USA 20815
Telephone: (301) 951-0104 Telex: 248618 ESCO UR
Facsimile: (301) 951-4077

EARTHSAT'S INTEGRATED REMOTE SENSING SERVICES

EarthSat is a professional services firm specializing in the application of remote sensing and geographic information technologies to the development, management and conservation of earth resources. Since 1969, EarthSat's analyses, satellite imagery and map products have served private industry and federal, state, and local agencies in some 50 countries. EarthSat's technical staff includes agronomists, ecologists, geologists, geographers, meteorologists, computer scientists, physicists, cartographers and photography specialists.

DIGITAL IMAGE PROCESSING

EarthSat's GEOPIC™ processing of satellite imagery maximizes scene quality, resolution, geometry and spectral information. Custom interactive analytical and mapping processing produces special applications image products. Image processing services include the photowriter production of hardcopy film or print images from client-processed CCT's.

AGRICULTURE INFORMATION SERVICES

EarthSat's CROPCAST™ System provides computerized commodity forecasts based on worldwide weather data and advanced crop simulation models. CROPCAST produces real-time worldwide agricultural information and projections with daily reports, direct computer access, and comprehensive biweekly reports. Forecast accuracies exceed 97% and are available weeks before government statistics.

GEOLOGICAL SERVICES

EarthSat's products and services for the oil and gas industry have been employed successfully in locating new reserves both on frontiers and in established producing areas. Exploration services include structural mapping, tectonic modeling, subsurface integration, basin analysis, prospect generation, and specially processed satellite imagery. Minerals and groundwater exploration services are also offered.

LAND RESOURCE AND ENVIRONMENTAL ANALYSES

Analytical services for renewable resource management, land use planning, and environmental issues are a major EarthSat activity. Remote sensing and conventional analytical methods are applied to land use inventories, land capability studies; forest, range and wetlands mapping; coastal and hydrologic studies; site selection; evaluation of mined land and waste disposal sites; and other programs requiring accurate and timely information for land planning development and management. Air photointerpretation and field studies are essential elements of many of EarthSat's studies. GIS and spatial information data base management systems have been developed in conjunction with large regional projects.

ANALYTICAL SYSTEMS

EarthSat's image processing and analytical hardware includes an I^2S interactive system, a Sun-4 Workstation, a PRIME 750 computer, an Earth Resources Data Analysis System, a CIRRUS laser photowriter with image formatting and annotation capability and digitizers. A custom photolab supports these systems with the production of hardcopy imagery up to 50" x 96."

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AGRICULTURAL AND NATURAL RESOURCES INFORMATION SERVICES ASIAN REGION

Since 1969, the Earth Satellite Corporation (EarthSat) has been providing Remote Sensing and Geographic Information Services in agricultural, environmental, and natural resources programs to developing countries through U.S. and international assistance agencies and under direct host country government and commercial contracts.

EarthSat's experience includes projects in over fifty (50) developing countries. Resource inventory, assessment, exploration, and technical assistance projects have included training and technical assistance.

SYNOPSIS OF SELECTED ASIAN EXPERIENCE

AGRICULTURE

Northern Thailand Unit Mapping for Agricultural Assessment and Regional Development Planning: U.S. Department of State, 1986.

Borneo 1983 Fire Multitemporal Image Analysis: Harvard Institute for International Development, 1984.

Northern Thailand Landsat Image Analysis for Classification of Cultivated Areas for Resource Inventory and Opium Free Zone Mapping: U.S. Department of State, 1981.

China, India, Indonesia, Malaysia, Philippines, Thailand Daily Crop Monitoring and Production Forecasting for Wheat, Coarse Grains, Oil Seeds, Palm and Coconut Oil and Sugar Cane: EarthSat CROPCAST™ Agricultural Information Service.

Pakistan, Indus River Vegetation Classification: World Bank, 1982.

Oman Mountains and Dhofar Regions, Groundwater Potential Analyses and Rainfall Distribution Study: Public Authority for Water Resources, 1979 and 1985.

ENERGY

Borneo Geologic Analysis for Petroleum Exploration: U.S. Oil Company, 1987.

China Tarim Basin Geologic Analysis for Petroleum Exploration: Proprietary Study, 1987.

Pakistan, Tectonic Synthesis of Pakistan: International Oil Companies, 1988.

Japan, Kyushu/Hokkaido Geologic Analysis for Geothermal Potential: New Energy Development Organization, 1983.

China Tarim and Ordos Basins Regional Geologic Evaluations: International Oil Company, 1980.

Southern Iraq, Petroleum Evaluation: International Oil Company, 1983.

Southeastern Turkey, Regional Petroleum Exploration Program: International Oil Companies, 1982.

United Arab Emirates, Petroleum Evaluation: National Oil Company, 1981.

IMAGERY, CARTOGRAPHY AND PHOTOMAPS

In support of analytical projects, and as separate technical services, EarthSat's Image Processing, Cartography and Photographic Laboratories produce digitally enhanced satellite imagery and enlargement, cartographically rendered mosaics, photomaps and overlays. A Quick Reaction filmwriting service is available for converting client supplied digital data to printed hard copy. Landsat, SPOT, GOES, AVHRR and other digital images are regularly processed from either computer tape or disk.

IQC SERVICES TO USAID

EarthSat is under contract to the United States Agency for International Development (USAID) to provide short-term technical assistance and consulting services in remote sensing and geographic information technologies to USAID missions worldwide. Our staff and consultants can provide missions and programs with project design, implementation and evaluation services where the tools of remote sensing and geographic information systems may offer cost-effective solutions to resource development and management problems.

Project: **Oman Land Capabilities Analysis**
Client: Sultanate of Oman, Ministry of Agriculture and Fisheries
Dates: July-October 1982
Area Covered: Entire Sultanate
Contract Value: $439,000
Description: An analysis of 23 Landsat images at 1:250,000 scale to map soil parent material, hydrology, land cover, and agricultural and range suitability. EarthSat computer processed and performed automated classification of all imagery, and then conducted a change analysis to illustrate land use changes over an eight-year period. Field work provided ground truth information on land use, land cover, and soil parent material. Ninety clearfilm map overlays were produced at 1:250,000 scale. An image mosaic covering the entire Sultanate was created at 1:1,000,000 scale to provide a regional overview of cultural and natural resources, and agriculture and range suitability potential.

Project: **Oman, Dhofar Groundwater Exploration**
Client: Public Authority for Water Resources
Tetra Tech International
Dates: February 1985
Address: 1901 Ft. Meyer Drive, Arlington, VA 22209
Contract Value: $5,000
Contact: Ralph Redford (703) 243-7700
Description: A lineament analysis was made from Landsat MSS imagery to identify possible fractures for the concentration of groundwater. Drilling on the lineaments has resulted in the discovery of at least six wells of good quality water in an area of predominantly brackish water.

Project: **Oman Mountains Groundwater and Mineral Exploration**
Client: Confidential (Commercial)
Dates: May-November 1979
Area Covered: 24,000 Square Miles in Northern Oman, and 3,000 Square Miles in the Musandam Peninsula Area
Contract Value: $77,000
Description: This was an integrated Landsat, literature and field analysis which provided assessments of groundwater and minerals potential within the study area. The project also involved the preparation of Landsat base maps at 1:250,000 and 1:500,000 scales, and the mapping of land use and terrain. Significant results included reassessment of the emplacement tectonics of Semail ophiolites, yielding direct implications for ongoing water and mineral exploration programs. EarthSat also processed and analyzed Landsat data for preparation of a regional groundwater guide map involving geohydrological analysis of Landsat imagery and identification of prospective groundwater target areas.

Project: **Oman Rainfall Distribution Study**
Client: Oman Public Authority for Water Resources

Dates: July 1982-March 1983
Area Covered: Northern Oman; Northern Drainage Basin
Contract Value: $30,500
Description: Vegetation distribution and water resources availability were determined using Landsat, weather satellite and available rain gauge data. The purpose of this project was to determine rainfall distribution resulting from a major storm which occurred on May 2, 1981, and to determine rainfall available to a specific drainage basin under consideration for water resources development.

Project: **Oman Soils Mapping**
Client: Ministry of Agriculture and Fisheries
Dates: May-June 1985
Address: Muscat, Oman
Area Covered: Approximately 80,000 Square Miles
Contract Value: $45,000
Contact: Ahmed Bin Salem Bin Said Al Shanfau
Telex: 3503 AGRIFIS #014 (MUSCAT)
Description: Using computer enhanced landsat MSS imagery the area was evaluated to identify those areas that had potential for localized areas of arable soils. Possible gypsum and salt contamination were assessed in this evaluation.

Project: **Oman Vegetation Change Analysis**
Client: Tetra Tech International
Dates: September-November 1985
Address: 1901 Ft. Meyer Drive, Arlington, VA 22209
Contract No: None
Contract Value: $15,000
Contact: Ralph Redford (703) 243-7700
Description: Substantial changes have occurred over the last decade in the agricultural activities along the Batinah Coast of northern Oman. To document these changes, Landsat MSS imagery acquired in 1972 and 1985 were co-registered and the vegetation coverage was analyzed in three categories: increase, decrease, and no change. Considerable damage to date palm orchards were shown resulting from salt water incursion resulting from excessive fresh water drawn-down from wells further inland.

Project: **Pakistan Indus River Vegetation Classification**
Client: The World Bank
Dates: April-August 1982
Address: 1818 H. Street, N.W., Washington, DC 20411
Contract Value: $10,000
Technical Monitor: J. McKenna (202) 477-4823
Description: An estimate of the changes between 1973 and 1977 in cultivated areas along the Indus River in the Sind Region was performed by computer analysis of Landsat data. The project was undertaken to estimate the areal impact of salt water incursion in the irrigated areas below the

Snkkurbarrage. The analysis pictorially and statistically classified cultivated vegetation into areas that were observable only in 1973 or 1977 and areas that were observable in both years. The ground truthing of this Landsat analysis showed the estimate to be within an acceptable standard of error.

Project: **Pakistan, Peshawar Region Analysis of Cultivated Land Use**
Client: Department of State (INM)
Dates: March 1983
Area Covered: 13,225 Square Miles
Contract Value: $17,000
Description: Produced Landsat GEOPIC™ imagery of northern Pakistan and conducted a Landsat analysis of cultivated land use in the Peshawar Region of Pakistan. Computer analyses of temporal Landsat images obtained multi-year (1975, 1978, 1979, 1980) area estimates of cultivated lands at district and sub-district levels. Results were used to guide location, analysis, and monitoring of agricultural areas. Demonstrated viable technique for determining cultivated area from Landsat data, and define appropriate temporal parameters for future studies.

Project: **Pakistan Petroleum Exploration**
Client: Various Petroleum Companies
Dates: February-October 1988
Area Covered: The Central Fold Belt and Indus Valley (approximately 650,000 km^2)
Contract Value: $200,000
Description: EarthSat, in conjunction with Dolan & Associates of Surrey, U.K., made an extensive analysis of the tectonic frame work of the potential petroleum producing provinces of Pakistan south of the Himalayan Mountain front. Thirty-two (32) Landsat images covering the Central Fold Belt and the Indus Valley were computer processed and interpreted for structural information to guide petroleum exploration. The imagery analysis was supported with selected well data and approximately 150 field measured, stratigraphic sections.

EARTHSAT'S FACILITIES

EarthSat has its corporate headquarters at 7222 47th Street, Chevy Chase, Maryland, located in the Washington Metropolitan Area, approximately two miles from the District of Columbia. The offices are conveniently accessible to the Washington Metrorail System, 2-1/2 blocks from the Red Line Bethesda station.

EarthSat's physical plant has 18,000 square feet of office and laboratory space that includes:

DIGITAL IMAGE PROCESSING FACILITY

This SUN 4 Workstation and PRIME 750 Minicomputer-based facility supports the production and interactive analysis of EarthSat's GEOPIC digitally enhanced imagery. These systems, plus AT class microcomputers, are used in the development of new proprietary image processing and graphics software and the data base management of over 3,000 satellite images produced by EarthSat. A laser film writer, operating off the SUN 4, produces color and black-white film positives and negatives for high quality hardcopy photographic prints.

EARTH RESOURCES DATA ANALYSIS SYSTEM (ERDAS)

This integrated image processing and GIS system operate on an enhanced PC/AT microcomputer. The system has topographic and 3-D modelling capabilities based on DEM, DTT and DMA data inputs. With adapter software, the raster GIS is compatible with vector data bases. GEOPIC features have been installed to enhance its image processing. The system includes a tape drive, digitizing tablet, 19" RGB monitor, and color ink jet printer. Digital data may be transferred to the SUN 4 for laser film writing.

AGRO-METEOROLOGICAL INFORMATION PROCESSING CENTER

MIPS/RISC and ATT 3B2 computers are at the center of this system that provides continuous worldwide reception, processing, analysis and dissemination of weather based crop forecasting intelligence. The system receives GMS, GOES, and Meteosat satellite imagery, National Weather Service data, CAC climatic data and all WMO station data. Through an ATT 6300 W G S hookup, commodity news and additional global weather data is received. EarthSat's quantitative analyses, GIS graphics, and written reports are prepared and filed for client dial-up and/or direct fax distribution via five AST 286/386 microcomputers.

IMAGE ANALYSIS FACILITY

Equipment available to EarthSat image interpreters include ocular and mirror stereoscopes with parallax measuring attachments, zoom stereoscopes, monocular magnifiers, zoom transfer scope, and light tables.

CARTOGRAPHIC LABORATORY

To support EarthSat's custom and thematic map design, layout, and production, the Cartographic Laboratory is equipped for large format drafting, scribing, separation plate preparation, typesetting and stock-up. Equipment includes light tables up to 50" x 60", rigid and swivel scribing engravers, technical pen sets with jewel tip nibs for consistent line weights, Map-O-Graph vertical enlarger/reducer, IBM typesetting composer, and a Varityper headliner for larger type faces. IBM Freelance is used to prepare page size maps where appropriate.

PHOTOGRAPHIC LABORATORY

Final hardcopy products are produced in EarthSat's 6,000 square foot custom, industrial photolab. Color and black-white prints from 8" x 10" contacts to 40" x 80" mural size images are regularly processed. Major equipment includes a JOBO AT 3 Processor, two Horizontal 26x magnification enlargers, a precision vertical enlarger, a 40" x 50" process camera, 40" x 50" contact printers, 52" color processor, and a 42" continuous tone black-white processor. Laminating and mounting services are available.

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TECTONIC SYNTHESIS
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FOR
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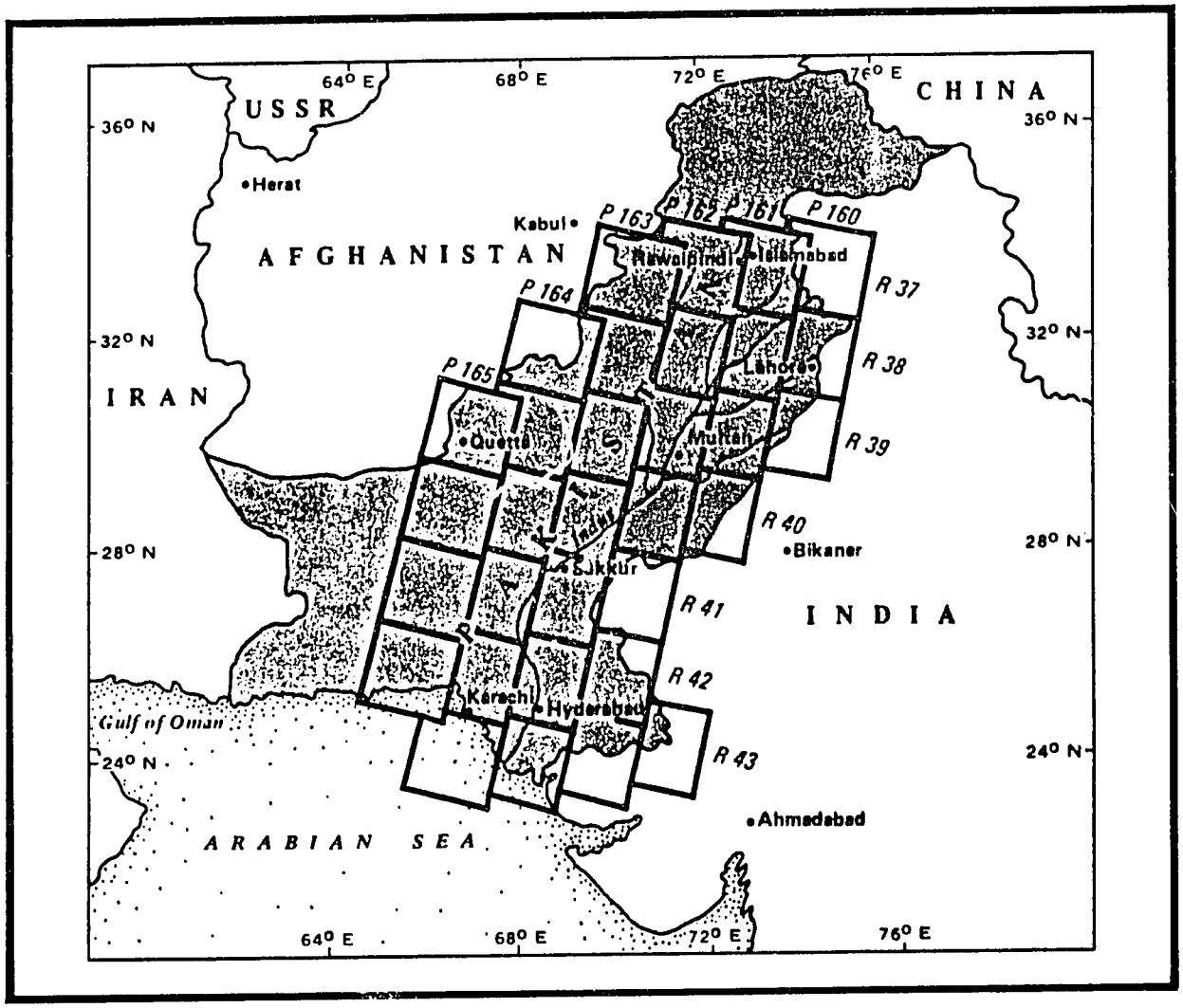


OCTOBER 1988

EARTH SATELLITE CORPORATION
AND
DOLAN & ASSOCIATES

TECTONIC SYNTHESIS OF PAKISTAN FOR PETROLEUM EXPLORATION

Scope

The primary element of this report is a set of 32 Multispectral Scanner (MSS) images obtained from a series of Landsat satellites. These images have been interpreted in detail, at a scale of 1:500,000.
The geographical extent of the study is as shown on the cover of this brochure and covers the Potwar, Upper and Lower Indus Basins.

Purpose

The objective of this report has been to provide the petroleum industry with a fresh and independent assessment of the tectonic setting of Pakistan. As such it is thought to complement other studies which are being developed as a result of the recent dramatic upswing of exploration interest in Pakistan.

Data Base

The data base is comprised of four principal elements

- 32 Multispectral Scanner (MSS) scenes. The digital data were converted to colour images, with enhancements to optimize geological features, using Earthsat's GEOPIC™ image processing techniques.
- Previously published outcrop data using standardised stratigraphic terms and descriptions.
- Selected summary well data to illustrate the status of current exploration in each MSS image area.
- A thoroughly researched compilation and grading of all known surface oil and gas shows, seeps and 'indications'.

Report Format

The report is bound in two volumes of American Quarto size text and appendices and one map folio measuring approximately 21 x 26 inches which contains the 32 MSS scenes and transparent interpretation overlays.
In addition, there are 8 separate rolled items, comprising coloured mosaic prints, tectonic elements, tectonic synthesis and well/outcrop location transparent overlays.

Confidentiality

This report is a non-exclusive but confidential document. It is sold on the condition that purchasers may not copy, show, loan or give the report, in whole or in part, to any other company, institution, government, public body or individual without the prior written consent of Earth Satellite Corporation and Dolan & Associates.

Availability

The report is available for immediate delivery

Price

The price of the report is US $25,000 until 31 December 1988. The quoted price is for a single copy purchase with use of the report results restricted to the purchasing company (including its parent or subsidiary companies) only; group purchases are subject to negotiation. Earth Satellite Corporation and Dolan & Associates reserve the right to vary the price after that date.

EXECUTIVE SUMMARY AND INTRODUCTION – EXTRACTS

The first century of onshore petroleum exploration in many parts of the world has commonly been marked by a sequence of initial drilling near surface oil shows, rudimentary localised seismic surveys, more regional potential field surveys and then remote sensing studies. This is the reverse of what most explorationists would now regard as ideal; so it has been in Pakistan.

As a consequence, this MSS image study represents an attempt to 'step back' and reconsider the structural framework in which the more detailed and disparate data can be re-assessed. Thirty-two images have been interpreted in detail at a scale of 1:500,000. The resultant interpretations have been described first in structural terms and secondly within the context of petroleum exploration to date.

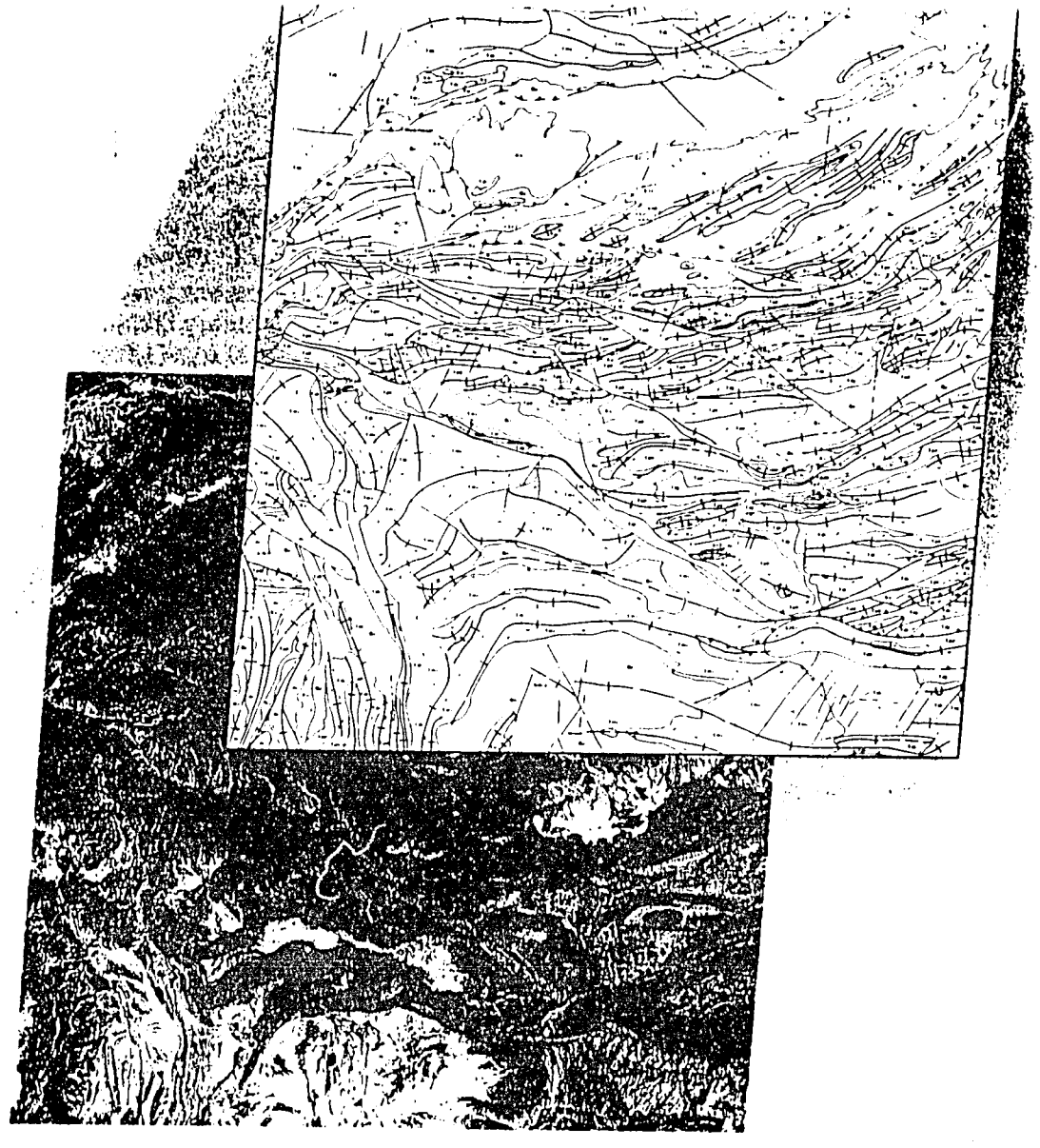
A sequence of tectonic events has been formulated to explain the various lineament patterns beneath the Indus Plain and the divergent fold trends within the Central Fold Belt. These descriptive and genetic accounts have then been combined to establish a set of major structural domains, themselves often sub-divided into compartments. The end result has been an assessement of the petroleum exploration potential of each structural unit.

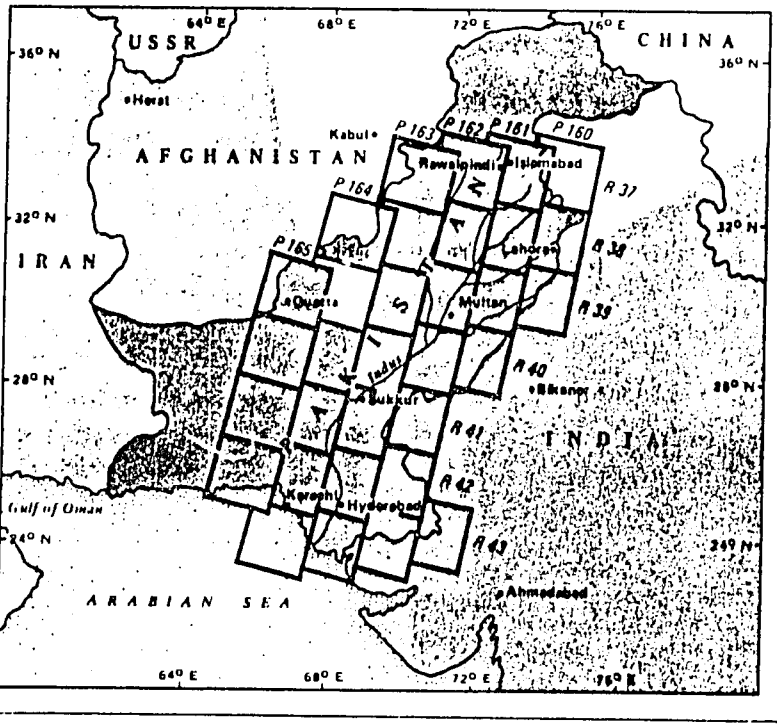
Several proposals are made for play concepts which should appeal to those companies wishing to identify high risk/high reward, new venture projects in an established petroliferous area with broadly competitive fiscal terms in the 'international' arena.

Perhaps the most signicant aspects of this interpretation and synthesis are:

- The likely presence of compressional structures beneath the Indus Plain adjacent to the Central Fold Belt.
- The clear recognition of discordant fold trends at various stratigraphic levels within the Central Fold Belt, and hence the need to carefully consider well locations.
- The possibility of a foundered structural 'high' lying beneath the Sibi Embayment.
- The apparent restriction of oil seeps in the Central Fold Belt to a specific area and hence the prediction of where oil plays may be best developed.
- The Bela Embayment may justify limited exploration.
- The Kirthar Range may have a concealed southerly extension.

It is obvious from this study that several of the exploration axioms which have prevailed in Pakistan bear close examination, and exciting new plays may be generated.

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R 42
R 43
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OUTLINE CONTENTS

VOLUME I

Main Report

- EXECUTIVE SUMMARY
- INTRODUCTION
- DATA BASE
- INTERPRETATION METHODOLOGY
- IMAGE DESCRIPTIONS
- REGIONAL TECTONIC SYNTHESIS
- PETROLEUM EXPLORATION IMPLICATIONS
- CONCLUSIONS AND RECOMMENDATIONS

Volume I is illustrated by 15 figures and 3 tables.

VOLUME Ia

Appendix 1 Measured Outcrop Sections
146 sections are described in a standard manner with a summary lithologic column, at a scale of 2 cm per 1000 feet (1:15,240), along with a detailed location map and miscellaneous comments.

Appendix 2 Selected Well Data
51 wells are described at the same scale as the measured outcrop sections and include all available lithologic and/or formation top data.

Appendix 3 Selected References
85 relevant references are listed

Appendix 4 Characteristics of the Landsat System and Earthsat's GEOPIC™ Image Processing.
A discussion of the digital data capture and manipulation is provided.

VOLUME II

Generalised Stratigraphic Sections.

A definition of the adopted lithostratigraphy and chronostratigraphy is provided along with the mapping units selected for the image interpretations.

Landsat Images and Interpretation Overlays (32 scenes)

Each image, at 1:500,000 scale, is displayed in false colours on a high grade photographic paper. Every image has an accompanying black-line transparent overlay showing an interpretation of structural features and stratigraphic boundaries.

SEPARATES

Rolled and presented at both 1:1,000,000 and 1:2,000,000.

Torn-Center Landsat Mosaic	(Coloured Print)
Tectonic Map	(Transparent Overlay)
Tectonic Elements Synthesis	(Transparent Overlay)
Well and Outcrop Location Map	(Transparent Overlay)

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Fax: (301) 951 4077 Telex: 248618 ESCO UR
Attention: John R. Everett, Orville Russell

EARTHSAT'S

COMPUTER PROCESSED LANDSAT IMAGERY

GEOPIC ™ images are high quality color composite and black-and-white Landsat scenes which display substantially more information than images obtained from other sources. A single Landsat image covers over 34,000 square kilometres (more than 13,000 sq. mi.). Worldwide coverage is available.

GEOPIC images are produced from Landsat digital tapes using EarthSat's proprietary algorithms for geometric and radiometric corrections, edge enhancement, gray scale adjustments, and scan-line suppression (destriping).

GEOPIC images, available exclusively from EarthSat, are regularly used in worldwide resource studies and exploration projects involving:

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WATER RESOURCES
GEOGRAPHY
CARTOGRAPHY
LAND USE/LAND COVER
REGIONAL DEVELOPMENT PLANNING
AGRICULTURE
FORESTRY
RANGE MANAGEMENT

GEOPIC images are used routinely by EarthSat scientists for a wide variety of exploration and resource management programs; we therefore appreciate the benefits of using the best available imagery.

GEOPIC processing techniques can produce both general purpose and custom enhanced Landsat images. In the use of Landsat imagery, information requirements vary with the application. To meet varying needs, EarthSat has developed, and is continuously refining, its processing procedures to improve and maximize those image qualities that are of greatest interest.

GEOPIC images are available in a variety of scales and formats, including mosaics and photomaps. EarthSat also offers a wide range of additional high-quality computer and photographic processing services. For more information about GEOPIC images, delivery schedules, or price quotations, please call or write:

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GEOPIC PRODUCTS

False Color Infrared GEOPIC Prints

EarthSat's standard GEOPIC product is an enhanced color composite of computer processed Landsat hands 4 (green), 5 (red), and 7 (near-infrared), displayed as blue, green, and red, respectively. These images include geometric and radiometric corrections, thereby producing a superior quality, general purpose, false-color infrared image. This image product is excellent for multiple analysis applications, mosaics, and display.

Color TDCS (Structural Enhancement) Images

The main application of the GEOPIC Two-Dimensional Contrast Stretch (TDCS) image is for the enhancement of subtle lineaments. The Landsat data are processed by considering three separate sets of two-band combinations. For each two-band combination, the pixels are sampled separately in a large number of albedo (or brightness) slices. The pixels within each individual albedo slice are contrast stretched independently from those pixels within the surrounding albedo slices. The resulting image maximizes the contrast between the subtle spectral information lying on either side of a faint linear feature, and thus more clearly displays the presence of the feature.

GEOPIC Spectral Ratio Images

Ratioing is a mathematical combination of the reflectance values of two different spectral bands; the most common combinations in color are bands 4/5, 5/6, and 6/7,displayed as blue, green and red, respectively. Ratio images have proven particularly valuable in geologic applications, and in location, recognition, and interpretation of vegetation. Indications of surface and subsurface deposits of mineral resources can be identified by lithologic and stratigraphic characteristics enhanced on color ratio images. For vegetation analysis, these images can present additional information regarding plant varieties, extent, density, and vigor.

GEOPIC Principal Component (PC) Images

This GEOPIC product complements standard and ratio images. PC images involve a principal component analysis (eigen vector analysis) of the Landsat spectral data. The analysis is based on linear combinations of data in each of the four multispectral bands. Each of the combinations is uncorrelated and ranked according to information content when measured by the percentage of total scene variance. This technique greatly minimizes the information characteristically discarded in generating standard false color infrared images. When users specify individual training areas in the image, training area statistics can be used to calculate eigen vectors so as to either enhance or suppress certain spectral characteristics found in the training area.

GEOPIC Mosaics and Photomaps

Mosaics provide a broad overview of a region's physical resources. Large features and the inter-relationships of the physical and cultural environments of a region are clearly displayed. Landsat mosaics, using GEOPIC imagery, provide a vital communications tool for regional mapping, geographical studies, planning, and multiple resource application. EarthSat has produced mosaics of from two to more than 100 GEOPIC images. GEOPIC photomaps are a valuable complement to existing topographic and other map series.

GEOPIC Interact^2 and Change Detection

EarthSat's image processing system includes complete color image display hardware with supporting interactive software designed specifically for multispectral analysis of Landsat digital data. This interactive capability enables the user to preview and select the most useful image from a wide variety of image types (e.g. false color infrared, ratios, principal components, etc.), all with various combinations of band permutations and contrast enhancements. This system also provides a powerful analytical tool for the digital interpretation and integration of Landsat data with various external digital data bases, such as topographic, seismic, and magnetics, gravity, and other digital data. Multi-date Landsat digital data for the same location may be compared using EarthSat's Interact^2 system to identify areas of change. Statistics and images showing areas of change can be produced.

RIGHT: *This standard false color GEOPIC™ image of the north side of the Tarim Basin in the Xinjiang Province of Western China illustrates many of the features of high quality computer processed Landsat imagery. It also illustrates the marked contrast between the barren Takla Makan desert and verdant (red) agriculture possible where water is available, as near Lake Po-ssu-teng in the upper right and in the Tarim River valley in the lower portion of the image. This lake and many nearby river systems derive water from snow melt off the 15,000 feet high Tian Shan (Range) to the north and west. This arid, wind-swept environment has produced extensive fields of sand dunes on the south shore of Lake Po-ssu-teng and south of the Tarim River. Some of the largest crescentric dunes known occur in this general area. Geologically, the area is still tectonically active and left-lateral strike-slip faulting has created east-west trending mountain ridges and valleys. The resultant Tarim Basin, approximately 300,000 square miles in area, is one of the largest basins in the world with no exterior drainage.*

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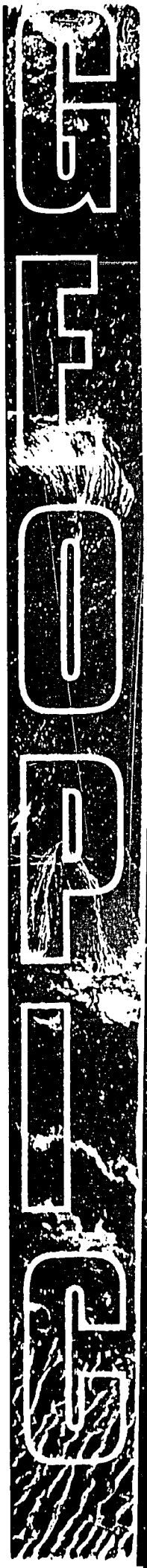

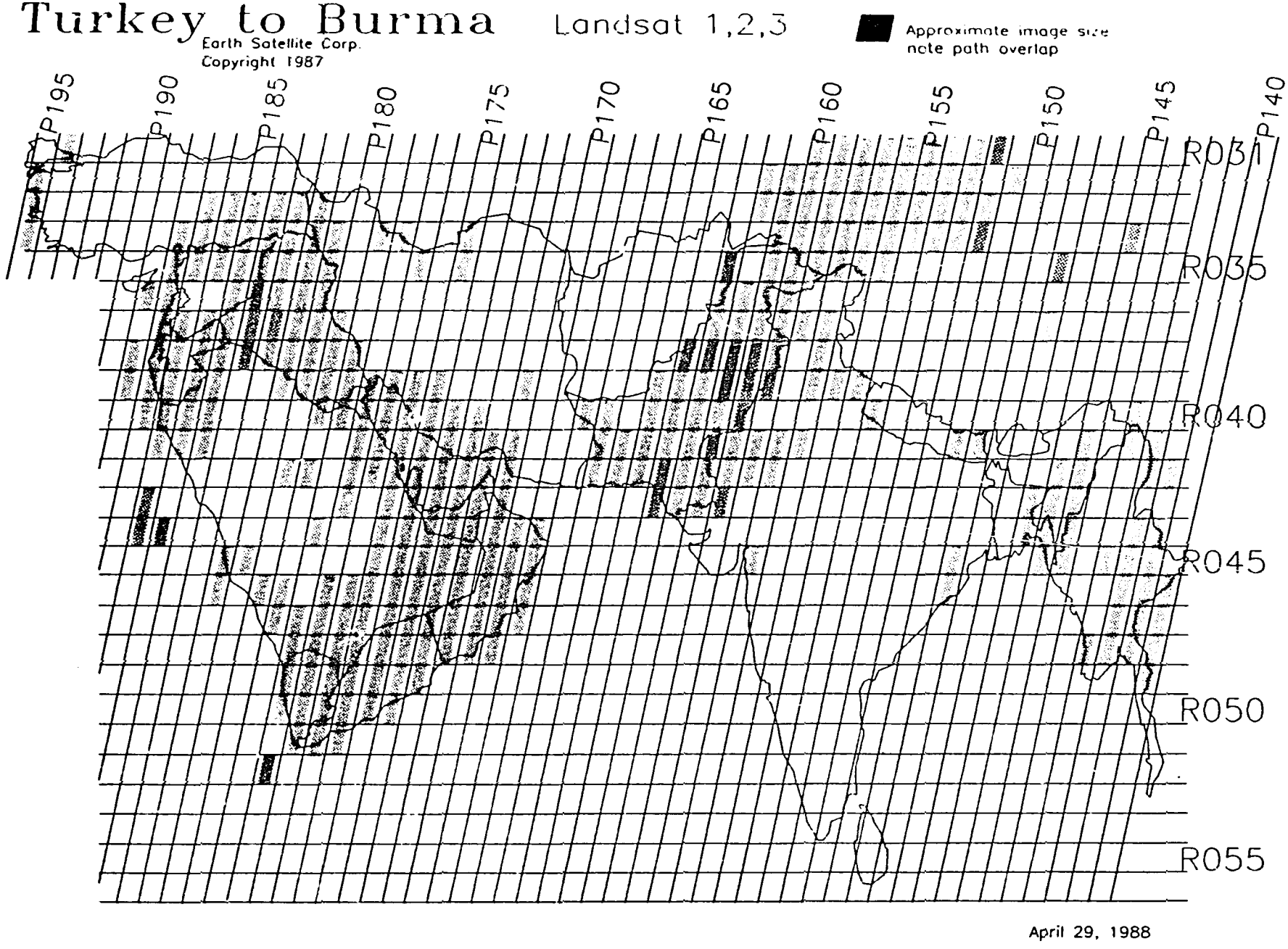
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April 29, 1988

HARZA CORPORATE QUALIFICATIONS AND EXPERIENCE

Harza is a multidisciplinary consulting engineering firm with 68 years of experience in the planning and development of land, water and energy resources. The firm has a successful record in the technical, contractual and logistic management of projects in the U.S.A. and worldwide.

Resources

Harza and its affiliates currently employ over 710 full-time personnel. Sixty-five percent of our staff are professionals, engineers or specialists in the sciences. Many hold advanced degrees, including 45 with doctorates. In-house capability includes all the disciplines required for land development projects.

A description of selected Harza projects completed or currently underway in Pakistan, irrigation management projects and experience in training and technology transfer is included in this section.

Project Staffing

Nearly half of Harza's annual work is conducted on overseas projects. As a result, we have extensive experience in staffing projects abroad and have ready access to personnel willing to accept short and long-term assignments. Our regular full-time personnel are accustomed to worldwide travel, and cultural and language differences. Many and most have completed one or more assignments abroad. In addition, because of Harza's known requirements for short and long-term overseas positions, qualified specialists interested in potential foreign assignments in irrigation development maintain regular contact with us.

Because of this ability to draw on a large pool of full time employees and consultants, Harza is able to be quite selective and obtain highly qualified specialists.

In addition, our depth of full-time personnel and consultants allows us to fulfill client's requirements completely. Harza is capable of providing staffing for most projects with the technical and language skills necessary and with our personnel we can staff simultaneously several large projects.

We have demonstrated our ability to staff and retain expatriate personnel on past and current USAID projects.

Overseas Project Experience

Harza has worked in over 60 countries around the world and has performed nearly 600 assignments outside of the

U.S.A. Many of these assignments have been located in relatively remote locations under a variety of environmental settings, ranging from the rain forests of South America and monsoon areas of the Indian subcontinent to the arid conditions of the Middle East, and the driest region in the world, the Atacama Desert in Chile. Projects have been located at elevations in excess of 3,000 meters in the Rio Chimbo basin in Ecuador and in the estuarine marshes of Bangladesh, Senegal and Jamaica.

Through these assignments, our personnel have become familiar with a wide range of conditions, and are accustomed to working with other consultants and civil servants at all levels. We have knowledge and appreciation of the technical training, procedures and perspectives of client-country personnel, and have demonstrated that we can effectively work with local personnel as co-workers, advisors or reviewers of their analyses and technical designs.

Experience with Similar Projects

Harza is uniquely equipped to provide the wide range of experience required for the Afghanistan Agriculture Sector Support (ASSP) Project. As shown on the matrices which follow, we have had extensive experience in institutional strengthening; in planning, design, implementation and operation and maintenance of irrigation projects as well as in training and extension services. We have supplemented the matrices with selected project descriptions to assist you in evaluating our capability and experience with this type of project. We have also included 5 relevant client contacts who can attest to our performance and high professional standards.

Experience with USAID Projects

Harza is especially attuned to AID methods and objectives for this type of project. We are currently working on AID sponsored assignments in Egypt, India, Jordan and Indonesia which involve services similar to the project. A list of USAID and USAID supported assignments completed by Harza is also included in this section.

EXPERIENCE IN PAKISTAN

Harza experience in Pakistan spans nearly 30 years. During this period we completed seventeen projects and currently have five assignments underway. A description of selected projects and a comprehensive list follows.

Fordwah Sadiqia (South) Sub-Surface Drainage Project

This drainage project is intended to eliminate water logging and salinity of the worst affected areas of the Fordwah Eastern Sadiqia command. The gross area of the project is 316,500 acres of which 273,300 acres is canal commanded. About 60 percent of the project area is affected by water loss with a water table within five feet of the ground surface. The Water and Power Development Authority (WAPDA) has planned a surface drainage system in the project area and proposes, if it is feasible, to construct a sub-surface drainage system to resolve the waterlogging problem.

Harza in association with NESPAK, is providing consultancy services to WAPDA. The objective of the assignment is to conduct a feasibility study and prepare a report for the project in a form adequate to implement the project. The project also includes the design and preparation of tender documents for about 20 percent of the area in need of sub-surface drainage.

Chashma Right Bank Canal Drainage Works

The main objective of this project is to improve drainage in the presently water logged project area, encompassing 18,842 hectares, for agricultural purposes. The project will provide for complete drainage systems consisting of interceptor drains adjacent to the canals, a horizontal subsurface drainage network, and a system of surface drains to provide flood control. The water collected through the drainage system will be recycled through electrically-driven low-lift pumping facilities for subsequent irrigation usage or removal, as required.

Harza in association with NESPAK and ACE is currently providing analysis, planning, design and construction services for the installation of the drainage works. The work is being carried out by the combined efforts of WAPDA, NWFP Provincial Government, and the consultant team led by Harza.

Salinity Control and Reclamation Projects

Harza has been associated with resolution of the problems of waterlogging and salinity since the firm's appointment as General Consultants to WAPDA in 1959. From 1960 to 1966, Harza furnished general review and advisory services to WAPDA with respect to the Salinity Control and Reclamation Projects (SCARPs) in the Northern Zone for which Tipton and Kalmbach, Inc. were Project Consultants, and in the Southern Zone (Lower Indus) for which Hunting Technical Services and Sir MacDonald and Partners were Project Consultants.

From 1974 to 1978, Harza was assigned by WAPDA as General Consultant for the Accelerated Programme for Waterlogging and Salinity Control. Under this program, planning and feasibility studies for individual SCARPs were assigned to Pakistani private consulting firms and WAPDA planning units. Many of these studies were updates of plans prepared in the 1960s for projects that had not as yet been implemented. Harza assisted the firms improving their planning techniques, provided guidelines for agronomic and economic analyses, reviewed analyses and report drafts, and assisted WAPDA in overall coordination of the program. Assistance was provided for over 30 projects involving over ten million acres of irrigated land.

Swabi SCARP

The Swabi command area is located in the Northwest Frontier Province of Pakistan. The total project area is 385,000 acres, of which 286,000 acres are cultivable. The region is adversely affected by inadequate applications of irrigation water for high-intensity farming practices, high water table conditions in about 30 percent of the command area, frequent flooding, accumulation of salts in the root zone, and insufficient institutional support.

In 1988, Harza, in association with NESPAK, provided consulting services in the fields of drainage, irrigation, agronomy, geotechnical engineering, hydrology, rural sociology, and economics for the Swabi Salinity Control and Reclamation Project (SCARP), Pakistan. The assignment involved the preparation of a feasibility study for the purpose of:

- confirming the technical feasibility and economic viability of the Project,
- project formulation including preliminary design of major components,

- design of implementation arrangements for timely completion of the Project.

Particular emphasis was given to the treatment of sub-surface and surface drainage, flood problems, water requirements, canal/tunnel rehabilitations; watercourse improvements and socioeconomic conditions in the project area.

Mardan SCARP

The Mardan SCARP includes 123,000 acres of the Lower Swat Canal command area in the Northwest Frontier Province of Pakistan. The Mardan project, for which Harza in association with NESPAK was retained in 1980, covers the portions of the Lower Swat system not included in the Swabi SCARP. Cropping intensity in the region is relatively high and soil conditions are generally good. Crop yields, however, are low principally due to poor soil drainage and limited irrigation water.

To achieve full project benefits, the capacity of the Lower Swat canal system is to be approximately doubled. This requires remodeling of 164 miles of existing canals and construction of a second head regulator on the Swat River. Approximately 200 miles (320 km) of surface drains are being enlarged and deepened. Sub-surface drains are being constructed in 73,000 acres (29,600 ha). In all, approximately 1,780 miles (2,900 km) of laterals and 380 miles (610 km) of collector drains are being constructed. Other project components include remodeling of 1,060 miles (1,700 km) watercourses and land leveling on 20,000 acres (8,000 ha) of saline land.

A monitoring program provides data used to evaluate progress on Mardan and provide input for other SCARP projects in Pakistan.

The Harza engineers and agricultural specialists stationed in Peshawar and Mardan are providing assistance with design services, equipment procurement and construction and with the training of Pakistani personnel. One interesting feature of the project is the intention to convert the irrigation system to a "demand" system, the first such project in Pakistan.

Indus Basin Master Planning Projects

From 1975 to 1979, in an assignment on behalf of The World Bank, Harza advised and assisted WAPDA in preparing a master plan for irrigated agriculture in the 35 million acre Indus Basin irrigation system. The plan, called the

"Revised Action Programme" includes recommendations for policy and institutional adjustments; programs for improved agriculture and water management practices; and a schedule through 1990 of projects for irrigation, groundwater management, and river control and flood management. The program also had the objective of further developing capabilities within WAPDA for independent continuation of master planning.

Emphasis at the beginning of the "Revised Action Plan" project was on program design and institution building. The Master Planning Division was structured to include a high-level Plan Formulation Team supported by technical sections for Agricultural Economics, Irrigation, Drainage, Agronomy, Reclamation, Systems Analysis, Watercourse Surveys, and Soil Salinity Surveys. Assistance was given in recruiting and evaluating local personnel to fill over 150 technical positions. Work flow diagrams and schedules were prepared for each section. Soils and water analysis laboratory equipment needs were determined and arrangements were made for procurement.

A training program was organized and coordinated. It consisted of in-country workshops, study tours for senior officials, and several overseas scholarships. The in-country workshops for WAPDA, and other agency personnel, were on the subjects of water resource economics and planning, and groundwater modelling. The scholarships were in the subjects of systems analysis, flood management, groundwater modelling, and agricultural economics.

The final report presented the "Revised Action Programme" (RAP) for the Government's Fifth, Sixth and Seventh 5-Year Plans and a Perspective Plan to the year 2000. RAP includes existing and proposed project descriptions, investment and implementation schedules, production targets, labor, equipment and material requirements, economic costs and benefits, their associated investment needs, rural employment, and demographic effects, electrical power requirements, and surface and groundwater distribution requirements.

RAP is currently being updated by Harza in the "Water Sector Planning Project" being undertaken in association with Sir M. MacDonald of U.K. and NESPAK and ACE of Pakistan.

Master Plan for Barani Area Development, Pakistan

The geographical boundary for the study is the rainfed Barani area in Punjab Province. The objective of the study,

carried out in 1986-87, was to formulate a long-term development strategy of 10 to 20 years, within which a package of most urgently needed projects would be prepared for subsequent investment decision making. The project included:

- preparation of an overall framework, objectives, targets and development perspective.

- sectoral strategy and identification of high impact projects and the areas of land use, water resources, rainfed agriculture, livestock, inland fisheries, sociology and human resources, and rural credit and small scale and industries.

- assessment of technical feasibility, economic and financial evaluation, social aspects, and operation and maintenance needs for two projects.

Strategy, policy, program and project formulations were incorporated into a comprehensive master plan for the Barani area.

Harza, as a subcontractor to Development Alternatives, Inc., provided services in the areas of soil conservation, water resources planning, inland fisheries specialization and economics.

Baluchistan Groundwater Development

Harza Engineering Company was retained by the Asian Development Bank to prepare a feasibility study for the expansion of irrigated agriculture in the Baluchistan Province of Pakistan. The objective is to expand production from high-value irrigated crops. The project area comprises about 3,850 square miles located in five intermountain valleys near the Afghanistan border and between the provincial capital of Quetta and the Indus River.

The major services carried out by Harza were:

- Review previous work carried out by the United Nations Development Programme and the Pakistan Water and Power Development Authority on available groundwater resources, soil surveys, and land classification.

- Plan and supervise supplemental field investigations to be carried out by counterpart technical personnel from Pakistan Government agencies.

- Investigate possible cropping patterns, market potential, and institutional resources and constraints.

- Prepare preliminary designs for wells, irrigation and electrical powered distribution facilities, and project roads.

- Estimate project costs, returns, and carry out financial and economic analyses.

Harza provided an interim report which presented a preliminary selection of areas for development. A feasibility report followed which documented the results of the study. Harza participated in meetings with the Asian Development Bank and the Government of Pakistan to obtain inputs and to present findings of the study. The work was completed over a 6-month period in 1984 by a technical team resident in Quetta.

Indus Basin Barrages

As General Consultants to WAPDA, Harza had responsibility for review of all design criteria and designs, specifications and construction drawings prepared by Coode & Partners for construction of the barrages; coordination of the barrages with the link canals and other portions of the Indus Basin Project; and advice during construction.

For the Chashma Barrage embankments, which extend approximately 6 miles across the Indus River flood plain, Harza provided technical supervision for foundation explorations and designed the embankment sections. Harza also furnished technical supervision of field investigations and design for the uplift-pressure relief wells at Chashma and for the Rasul Barrage remedial works as well as the floor-uplift relief drains for the Marala Barrage remedial work.

In addition Harza prepared designs for remodelling and raising the Marala weir, advised WAPDA on remodelling of Balloki Headworks, and the remodelling of Trimmu Barrage gates and headworks.

Indus Basin Link Canals

In 1961, WAPDA and the Irrigation Department, in cooperation, established a "Canal and Headworks Observation Programme" (CHOP), with the assistance of Harza, the general consultants to WAPDA. Harza provided professional advice and technical assistance to the CHOP personnel in collecting data on the performance and operation of existing canals in the Punjab and in evaluating design procedures and parameters then used. The data obtained were reviewed by Harza and were used in the hydraulic design of the link canals.

Also, Harza reviewed the designs, specifications and construction drawings for the link canals; coordinated the engineering of portions of the work common to other irrigation schemes in the Indus Basin; and provided technical advice during construction.

Mangla Spillway

One of the largest elements in the Indus Basin Settlement Plan for India and Pakistan is the Mangla Dam Project, completed in 1968. It is the central structure in a complex which includes a dam and dike, and which impounds 6.8 billion cubic meters of water. Of this total, 5.7 billion cubic meters are usable for power and irrigation supply.

The spillway, designed for a maximum discharge of 31,000 cubic meters per second and a total drop of 100 meters, utilizes nine submerged-orifice radial gates 11 meters wide by 12 meters high and unique double stilling basins with baffle blocks to reduce discharge velocities to about 4.6 meters per second. A relatively poor foundation of sandstone with embedded clay layers, and the possible future raising of the dam, resulted in the design that was used. Harza was responsible for the planning, contract documents, design, and construction drawings for the spillway. Harza also reviewed the designs of Binnie and Partners of U.K. as consultant on the design of the dam.

Tarbela Project

Tarbela Dam is the largest element to be built in execution of the Indus Basin Treaty. The purpose of the project is to store flood flows for regulated irrigation release and to provide large quantities of low-cost power. Other benefits are fish and wildlife preservation, recreational uses, and some measure of flood control and navigation regulation. The project includes the largest rock and earthfill dam (142 million cubic meters) ever built, five tunnels and two spillways.

Harza, as General Consultant, reviewed all the studies, designs, construction drawings, specifications and estimates for the project which are prepared by the project consultant, Tippetts, Abbett, McCarthy, and Stratton (TAMS). In its review, Harza studied many alternative layouts and designs, and made independent cost studies in reviewing the work of TAMS. Economic analyses were made to compare the alternative layouts and designs.

In addition, Harza conducted studies on the integration of the Tarbela Project into the overall agricultural and power development of the Indus River Basin. The basic data for these studies were gathered by Harza field personnel in Lahore. They included agricultural surveys, crop yields, farming practices, cost of farm production, market surveys, etc.

Kalabagh Dam Project

Harza conducted initial planning studies for the Kalabagh Dam in 1961 under General Consulting Services for WAPDA. Later in 1967, Harza, responding to a request from WAPDA, prepared a report "An Appraisal of Hydroelectric Development at Kalabagh." This report recommended that a more detailed study of a power project in the Kalabagh gorge should be accorded a high priority in WAPDA's future plans for project investigations.

Since 1982, Harza has worked with Kalabagh Consultants to provide consulting services to WAPDA on the Kalabagh Dam Project. Kalabagh Consultants consist of three foreign firms - Binnie and Partners Limited, Preece Cardew and Rider Limited (both of the U.K.) and Harza Engineering Company International - joining with two Pakistani consulting firms - Associated Consulting Engineers Limited, Karachi, and Engineering Services (Pakistan) Limited, Lahore.

Kalabagh is a multipurpose project providing power generation, irrigation and flood control. The dam will have 2,400 MW of generating capacity and provide over seven million acre-feet of potential irrigation water per year. Initially, eight 300-MW generating units will be installed with allowance for expansion through six additional 300-MW units, bringing the total capacity to 4,200-MW. The 265-foot-high embankment dam has a gross storage capacity of 9.4 million acre-feet. A special feature of this project is sluice gates that will alleviate heavgy sediment buildup prevalent during the monsoon seasons.

Consulting services for this project entail preparation of definite project plan, specifications, tender documents and final design. Services also include operation studies using the project for power, irrigation and flood control, and training of WAPDA personnel. Scheduled completion for Kalabagh Dam is the year 1992.

Flood Management System Appraisal

An appraisal of existing methods for real-time flood forecasting and warning and for emergency rescue and relief

operations was undertaken to determine needed improvements for the Indus River Basin in Punjab and Sind Provinces. An inventory was made of existing institutions, facilities, and procedures. The potential improvements that were studied included development of flood-routing procedures, installation of weather surveillance radar to track estimate rainfall intensities of monsoon storms, and improvement of coordination among government agencies.

An appraisal of existing structural measures for flood control was conducted to determine the adequacy of existing measures and to identify short-term and long-term improvement measures. The need for comprehensive planning studies was identified, and a work program for conducting these studies was prepared. Based in part on the recommendations in the work program, a Federal Flood Commission was established and Phase I of the Comprehensive Flood Management Plan was undertaken.

Flood Damage Restoration Project

Harza, as a subcontractor to NESPAK, participated in administering an IDA $40 million credit for: 1) reconstruction of flood-damaged works (such as levees, irrigation canals, and highways); and 2) importing machinery and spare parts to improve civil works construction capability. A water resources engineer and a construction engineer were assigned to the project. The major responsibilities included field checking of restoration work, processing IDA reimbursement claims, and preparing progress reports.

Comprehensive Flood Management Plan

NESPAK and Harza (as subcontractor to NESPAK) were engaged by the Federal Flood Commission to prepare a "National Flood Protection Plan" generally following the terms of reference given in Harza's earlier report, "Appraisal of Flood Management Systems in Pakistan."

NESPAK/Harza began the study by collecting the flood discharge data for the Indus River and its main tributaries, and reviewing existing flood protection systems and provincial flood protection plans. NESPAK/Harza then evaluated the potential of using Tarbela and Mangla Reservoirs and the proposed Kalabagh Reservoir for flood control measures, such as flood warnings and land use controls. Major flood problems and needs were defined using flood frequency analyses, and the potential for using flood simulation models for future planning was evaluated.

As a result of these studies, NESPAK/Harza recommended high priority projects for immediate implementation, conducted feasibility studies for selected complex problem areas, improving the existing planning and design practices, and initiating a program for continuing planning studies.

The planning program was carried out primarily by NESPAK staff with an average of two Harza personnel in key roles. The project accomplished a significant transfer of modern flood management planning technology and substantially improved the capability of NESPAK personnel in engineering, hydrologic, economic and planning procedures associated with flood management planning.

Thatta-Sujajawal Bridge

Harza reviewed the bridge design for Gammons of Pakistan. A theoretical analysis of the contractor's original design was made on the basis of the stress-strain relationship for the type of foundation material encountered.

The bridge has a total length of 3,200 feet with 13 spans. Each main span is composed of two 92.5 foot cantilever arms supporting a 76.5 foot suspended span. The cantilever arms are supported by a reinforced concrete cellular pier founded on a single hollow circular reinforced caisson sunk to a depth of 159 feet. As a result of Harza's recommendations, the caissons were sunk considerably deeper than designed by the contractor.

Extension of 500-kV Transmission Line

In 1976, Harza Engineering Company International in association with National Engineering Services Limited of Pakistan (NESPAK) contracted with WAPDA to provide engineering services for the extension of the 500-kV Transmission System from Faisalabad to Multan and Guddu. The project included review of preliminary line routing, comparison of two proposed alternatives to the Indus River crossing, preparation of design criteria consistent with existing designs and future system requirements, preparation of supply and construction documents, assistance during contract award, construction surveillance and assistance during construction.

The facilities which have been constructed include approximately 330 miles of 500-kV single-circuit transmission line on steel towers (presently operated at 220-kV) and one 220-kV substation located in the vicinity of Multan. The scope of services for this project was divided in three phases. Phase I was basically design and preparation of

contract documents. Phase II involved preparation of construction drawings, with most of the work done in Pakistan. Phase III involved construction surveillance and assistance during construction.

HARZA EXPERIENCE IN PAKISTAN

Project	Location	Start Date	End Date
Fordwah Eastern Sadiqia Drainage Project	Punjab	89/2	90/2
Water Sector Planning Project	National	88/12	89/12
Flood Sector Planning Project	National	88/3	92/3
Chashma Right Bank Canal Drainage Works	D.I. Khan	86/06	90/06
B-S Link Hydroelectric Project	Balloki-Snimanki	86/01	89/12
Chashma Right Bank Canal Stage I Systems Monitoring	D.I. Khan	87/01	89/01
Kalabagh Dam Project Engineerng Study	Indus River	82/03	89/01
Swabi Salinity Control and Reclamation Project	Mardan, Upper Swat Canal	88/04	88/08
O&M Training for WAPDA Engineers		87/08	88/00
Barani Master Plan for Agricultural Development	Punjab, Barani Area	86/07	87/12
Mardan Salinity Control and Reclamation Project (SCARP)	Mardan and Swabi		
Baluchistan Groundwater Development	Baluchistan	84/12	85/06
Karachi Transmission and Distribution System Upgrade	Karachi	84/01	85/02
WAPDA General Consulting and Tarbela Dam	Mardan, Indus River	59/00	84/12
Hub Dam Seepage	Karachi, Hub River	80/02	84/00
WAPDA 500-kV Transmission Upgrading Study	Lahore, Gahi-Jamshoro-Guddu-Dadu Circuits	81/12	83/07
WAPDA Dams Safety Training	Chicago, Illinois	82/06	02/08
Extension of Pakistan 500-kV Transmission System - Design through Construction	Faisalabas to Multan and Guddu, West Pakastin	76/05	81/03

HARZA EXPERIENCE IN PAKISTAN
(continued)

Project	Location	Start Date	End Date
Indus Basin Revised Action Program for Master Plan for Irrigation and Agriculture	Indus Basin River	76/10	80/04
Review of Indus-Basin-Model Canal Losses Computation Procedure	Indus River Basin	76/10	80/04
Kalabagh Dam Project	Karachi, Indus River	73/09	80/03
Pakistan Comprehensive Flood Management Plan	Pakistan	77/11	78/12
Pakistan Waterlogging and Salinity Control, and Mardan SCARP Interim Services	Punjab and Sind Provinces	79/10	78/12
Pakistan Flood Damage Restoration	Countrywide	77/05	78/02
Warsak Dam Stilling Basin Repairs	Warsak	77/04	77/09
Pakistan Flood Control - Warning, Protection	Countrywide	75/00	75/00
Review of Tarbela Left Bank Tunnel	Mardam, Indus River	73/00	73/00
Chandpur Irrigation Project Gates Review		69/00	69/00
Thatta-Sujawal Bridge Design	West Pakistan	65/00	68/00
Mangla Dam Spillway Project	Jhelum River	58/00	68/00
Tarbela Project	Mardan, Indus River	59/07	

Experience in Training and Technology Transfer

Training, institutional development and technology transfer are integral parts of Harza's services. Through our many assignments in developing and managing long-term projects worldwide we have evolved an approach to training focusing on improving project performance and enhancing an organization's ability to manage a changing environment. To accomplish these objectives, we work closely with clients and host countries to establish well-defined systems and procedures in order that new and existing skills will be effectively utilized. We also recognize that organizational units should have a basic capacity to support management and administrative functions. An overview of training experience is provided at the end of this section.

During the course of our assignments we have been involved with:

- Organizational and operational analysis.
- Design and implementation of planning and management systems.
- Organization, administration, and training of site teams for technical oversight quality control, and contract administration for construction projects.
- Assisting with management procedures and operations.
- Developing information systems.
- Practical and operation training on-site or through seminars.
- Management training in local or U.S. academic institutions and government agencies.
- Specialized training in Harza offices and in other private or public organizations in the U.S. and other countries.

Specific examples of institutional development, technology transfer, and training activities carried out by Harza follow.

Harza Training Services in Pakistan

Harza's services in Pakistan are a specific example of a practical training experience provided on the job. Harza has provided services in Pakistan continuously since 1959, primarily for the Water and Power Development Authority (WAPDA), in the fields of water and power resources investigation, planning, design and construction. Most of these

activities constitute on-the-job training as well as including more formal training in many cases. The training aspects of these assignments are highlighted here and keyed by a number of the assignment descriptions.

The preparation of the Comprehensive Flood Management Plan was performed entirely in Pakistan. Harza provided one engineer in residence for 18 months and part-time services of their Resident Manager plus three engineers on short-term assignments. These men supervised and trained Pakistani engineers in carrying out all phases of the assignment. The Harza input was 30 man-months and the input of Pakistani engineers was approximately 150 man-months.

In an earlier general consulting assignment for water and power resources extending from 1959 to 1970, Harza provided academic training and on-the-job training to numerous engineers of WAPDA in all of its fields of interest. This training and on-the-job training in Harza's home office were also arranged. Some specific examples of in-country training include:

a. Training of a streamflow and climatological survey unit by three Harza engineers from 1960 to 1963. This has continued independently and expanded to the point where the program now includes some 75 streamflow measurement stations and over 100 climatological stations.

b. On-the-job training for all phases of WAPDA's first in-house designed reservoir and irrigation project, Tanda Dam. Harza engineers guided WAPDA engineers from initial field investigations to supervision of construction.

c. On-the-job and formal training in all aspects, electric utilities operations from system planning to distribution maintenance.

All of the design and supervision of construction for the 500 kV Transmission Project is being performed in-country with the exception of tender documents for international procurement which were prepared in Chicago because of scheduling requirements. A Harza resident staff averaging five persons provides supervision and on-the-job training for a staff of Pakistani engineers, draftsmen, and inspectors. The project is now in the construction phase with a total application to date of 142 man-months by Harza and 1376 man-months by Pakistani engineers.

For preparation of a Master Plan for irrigated agriculture in the Indus Basin, Harza provided a resident staff, averaging 10 people, who provided guidance, advice, and on-the-job training for a WAPDA staff of about 175 profes-

sionals. All work was done in the country. In addition to on-the-job training, this assignment included in-country training workshops, international study tours for senior officials, and several study scholarships for six-month training programs in the U.S.

India Water Resources Systems Planning and Management Program

India has a number of major river basins under development. Projects in these basins include components such as irrigation, flood control, hydroelectric power generation, municipal and industrial water supply, fisheries, navigation, and recreation. The river basins where these diverse activities occur are often interstate, involving complex allocation arrangements between states and multiple (and often conflicting) uses and needs. The objective of this five year activity is to develop the institutional capability within the government of India for imparting training in water resources systems planning and management. This training will be applied to determine the optimal method of developing river basins and to obtain the maximum benefit from the land and water resources.

In conjunction with our subcontractors, Utah State University of Logan, Utah (USU) and Consulting Engineering Services (India) Private Limited of New Delhi, India, (CES), Harza is developing a phased program to create institutional capacity within the Government of India to investigate, plan, design and operate integrated river basin systems in the most efficient and productive manner through professional development of key Indian staff.

A Central Training Institute (CTI), linked to leading Indian and U.S. universities is established to provide a continuing source of trained personnel in water resources planning and management. The training includes classroom studies, detailed case studies, and hands-on-training in one or more river basins in India. Particular emphasis is placed on introducing computer-based systems analysis approaches.
Computer hardware and software is being procured for the CTI, and curricula prepared for training 30-50 students per year. A few candidates are selected to receive advanced training in the U.S.

A planning unit will be established in a selected state in India and provided with appropriate computer hardware and software. This State Planning Unit (SPU) will apply the techniques developed in the CTI a specified river basin. It is anticipated that this state model will be replicated in other states in India.

Harza personnel are working to establish the CTI and its related needs of hardware, software, and curricula, and then to assist with training in the area of case studies.

OVERVIEW OF TRAINING EXPERIENCE

Country	Project Purpose(s)	Years	Local Counterpart Training	Local Seminar Training	Training in U.S.A.	Training In Other Countries
AGRICULTURE						
Pakistan	Irrigation, Drainage, Master Plan	1959-date	X	X	X	X
Egypt	Irrigation Agriculture	1983-date	X	X	X	X
Bangladesh	Water Board Organization Strengthening	1980-date	X	X	X	X
Thailand	Irrigation Agriculture	1980-1982	X	-	-	-
Panama	Lecture Course on Irrigation	1979	-	X	-	-
Honduras	Agriculture Flood Control	1976-79	X	X	-	-
Jordan	Irrigation Agriculture	1977-79 1954-64	X	X	-	-
Indonesia	Irrigation Rehabilitation	1969-76	X	X	X	Japan, Taiwan, Philippines
Iran	Principal Engineer Training	1972	-	-	X	-
Thailand	Agribusiness	1969-70	X	-	-	-
Guinea	Coastal Reclamation; Farm Operation	1964-69	X	X	-	-
Canada	Erosion Control	1968	-	X	-	-
Venezuela	Develop University Program, Teach-courses	1965	-	X	-	-

OVERVIEW OF TRAINING EXPERIENCE
(continued)

Country	Project Purpose(s)	Years	Local Counterpart Training	Local Seminar Training	Training in U.S.A.	Training In Other Countries
UTILITIES						
Pakistan	Power Distribution, Utility Management	1961-65	X	X	X	-
Sudan	Utility Management	1984-date	X	X	X	-
Egypt	Expansion, Rehabilitation	1977-date	X	X	X	-
Pakistan	EHV Transmission Engineering	1975-81	X	-	-	-
U.S.A.	Workshop Hydro Planning	1978	-	X	X	-
Iran	Managers and Principal Engineers, National Electric Development	1966-78	X	X	X	-
Indonesia	Rehabilitation	1975	X	X	X	Taiwan Power Co.
Greece	Principal Engineer, System Planning	1973	-	-	X	-
Taiwan	Construction Installation	1964-71	X	X	X	-
Brazil	Expansion, Transmission, Distribution	1964-70	X	X	-	-
Afghanistan	Rehabilitation	1963-69	X	-	-	-
Bolivia	O & M	1966-68	X	X	-	-
Ethiopia	Transmission Generation	1966-68	-	-	X	-
Panama	Hydroelectric Start-Up	1967	X	X	-	-
Philippines	Principal Personnel, System Management	1963-64	-	-	X	-

OVERVIEW OF TRAINING EXPERIENCE
(continued)

Country	Project Purpose(s)	Years	Local Counterpart Training	Local Seminar Training	Training in U.S.A.	Training In Other Countries
WATER RESOURCES						
Pakistan	Hydraulics, Hydrology, Meteorology	1960-80	X	X	X	-
India	Hydroelectric Power, Irrigation	1986-Present	X	X	X	-
Dominican Republic	Small Hydro Power Development Project	1983-date	X	-	-	-
Iran	Managers and Principal Engineers Training Programs	1970-71	-	-	X	-
Ghana	Master Plan Water Supply	1970	X	X	-	-
El Salvador	Monitoring Design	1965-66	X	X	-	-
Southeast Asia	Hydrology Course	1959-62	X	X	-	-
India	Construction Inspection	1958-59	X	X	-	-
Iraq	Hydrographics, Basin Planning	1956-58	X	X	-	-

OVERVIEW OF TRAINING EXPERIENCE
(continued)

Country	Project Purpose(s)	Years	Local Counterpart Training	Local Seminar Training	Training in U.S.A.	Training In Other Countries
CONSTRUCTION						
Pakistan	Irrigation, Drainage, Master Planning	1974-81	X	X	X	X
	EHV Transmission	1975-81	X	-	X	X
Jordan	Irrigation, Agriculture	1977-81	X	X	X	X
Indonesia	Irrigation Rehabilitation	1969-76	X	X	X	X
	Utility Rehabilitation	1975	X	X	-	X
Guinea	Coastal Reclamation; Farm Operation	1964-69	X	X	X	X
Taiwan	Construction Installation, Lower Tachien Dam	1964-71	X	X	X	X
Afghanistan	Transmission Rehabilitation, Hydroelectric	1963-69	X	-	-	X
Bolivia	Utility O & M	1966-68	X	X	-	X
Panama	Hydroelectric Start-Up, La Yeguada Dam	1967	X	X	-	X
India	Construction	1958-59	X	X	-	X

HARZA IRRIGATION MANAGEMENT

Harza has provided consulting services for irrigation management proejcts in developing countries worldwide. Following are descriptions and fact sheets of selected Harza projects in the field of irrigation managment.

MANAGEMENT INFORMATION SYSTEMS FOR AGRICULTURAL PROJECTS

The following projects are examples of Harza's experience in managing information systems follows:

Harza developed and implemented a monitoring program for the Mardan Salinity Control and Reclamation project. The program collects data on canal and drain flows, water table elevations, and other parameters which indicate progress of the land reclamation program. These data are used to evaluate progress and to modify land reclamation methodology for future application. The project was designed to increase cropping intensity and crop yields.

The Jordan Valley Authority retained Harza to develop plans to manage the land and water resources of the East Jordan Valley. Previous assignments for the Authority had resulted in a detailed understanding of the capabilities and constraints of the water supply and conveyance system. The management information system consisted of computer control and communication of data collection, analysis, and management. Program components receive farmer requests, accumulate these requests and reconcile them with the capabilities of the canal system to deliver on schedule. Canal gates and pumps are activated to achieve the required flows.

Harza developed standards and guidelines for planning of water management projects in Bangladesh. As part of the work, Harza formulated a national water sector master plan. Harza is also carrying out the planning and development of small-scale irrigation projects that will eventually include 100,000 hectares.

Two Directorates of Egypt Ministry of Irrigation have irrigation water well fields consisting of about 70 remote pumps each. The pumps require daily selective operation and continuous monitoring. The monitoring system is required to manage irrigation flows to increase crop production and to best utilize the irrigation system. Harza designed and prepared contract documents for the SCADA systems to provide the following major functions:

- Individual pump on-off control
- Local control switch status
- Local water level status
- Pump status
- Local power status

To provide the above functions on an economical and reliable basis, the system configurations use standard commercially available hardware and software to the greatest extent possible.

Harza provided farm owners and operators in California with irrigation management and scheduling services. A key feature of these services was a computer-generated weekly situation report on soil moisture and crop growth characteristics. The weekly report was the result of network of weather and field monitoring stations employed by Harza to collect relevant data. By utilizing state-of-the-art computer technology for computation and rapid updating of soils, crop, and soil moisture conditions, Harza scheduled irrigations on a field-by-field basis, giving due consideration to farmer preferences and irrigation system capabilities.

IRRIGATION MANAGEMENT SYSTEM PROJECT

EGYPT

Harza is providing consulting services to the Egyptian Ministry of Irrigation in an effort to increase the efficiency and effectiveness of the irrigation system. It is in the Ministry's goal to reduce the waste of water by improving the control and distribution of irrigation water supplies and thereby increasing both farm productivity and income of farmers.

In the first step to meet this aim, the Ministry established a Project Preparation Unit (PPU) and retained Harza to develop the PPU into an entity with a staff well trained in necessary project preparation skills.

Harza is also providing long and short-term technical assistance to strengthen the capacity of the newly established PPU. The assistance includes:

- Short courses for engineers and technicians in irrigation design and construction, administration and management, operation and maintenance, on-farm water management, construction management methods and quality control.

- Formal training for over 50 Egyptian professionals to afford the staff maximum exposure to the best standards and techniques.

- Practical, on-the-job training for the staff of PPU.

- Assisting the PPUs director to develop the staff's capability to undertake pre-investment planning and project preparation; and assisting to identify project priorities, to carry out feasibility studies, and to develop criteria, standards, and guidelines for future feasibility studies.

- Evaluation of the training program of the staff.

In a further effort to develop staff skills with on-the-job training, Harza is undertaking feasibility studies of priority projects jointly with the PPU personnel.

SMALL SCALE IRRIGATION MANAGEMENT PROJECT

INDONESIA

The Small Scale Irrigation Management Project is a comprehensive effort on the part of GOI and USAID to address the complex problems of design, implementation and operation of irrigation systems in the eastern islands of Indonesia. Fifteen potential irrigation projects in South Sulawesi, Nusa Tenggara Barat, and Nusa Tenggara Timor have been identified for analysis and review. The projects range in size from 1,000 to 4,000 hectares of irrigated area, including both new developments and expansion of existing systems. The total irrigated area for all project sites under SSIMP is approximately 25,000 hectares.

A number of irrigation technologies utilizing both surface and groundwater sources are being investigated, including surface diversion, lift pumping, reservoir storage, and shallow wells. Irrigation water will supplement and extend wet season cropping, as well as allow expanded dry season cropping. Cropping intensities will be increased to 200 to 300%, with a major emphasis on secondary crops (palawija).

The current status of the identified irrigation projects ranges from initial site selection all the way through completed project design. The nature of the technical assistance under SSIMP is to assist the Provincial Public Works to design or review existing designs for the identified projects. Assistance during construction of the irrigation projects is also being provided to Public Works staff as local contractors undertake the construction.

SSIMP is introducing new irrigation technologies to Indonesia's eastern islands to promote increased production of rice and secondary crops. Key aspects of the project include the following:

- Decentralization of the project development process by building up the design capabilities of the Provincial Publics Works offices.
- Increased farmer participation in all phases of the project development process, by utilizing Water User Association Organizers to liaise between farmers and designers, to obtain better functioning and greater acceptance of the systems by the farmers.
- Acceptance of responsibility for operation, maintenance and management of the irrigation systems by the Water User Association.

- Increased private sector involvement including local engineering consultants and construction contractors, as well as local entrepreneurs in areas such as well drilling, supply and maintenance of pump and fabrication of materials and equipment.

JORDAN VALLEY IRRIGATION SYSTEM AUTOMATION

In 1976, the Jordan Valley Authority retained Harza to formulate new plans and to study their technical and economic feasibility for the development of the land and water resources of the East Jordan Valley. This followed the initial planning work performed by Harza as early as 1955.

The newly formulated project controls and regulates the Yarmouk River, Jordan's largest river, and introduces modern, high-efficiency irrigation methods, drainage methods, and agricultural techniques on 53,700 acres of land.

As part of our assignment, Harza conducted an appraisal study for automating the existing and planned Jordan Valley irrigation water control facilities. A staged development plan was formulated. The automation system utilizes a Master Control Center to provide supervisory management for operation of the Project's water control facilities.

The first stage of development provides for automation of the East Ghor Main Canal check and wasteway gates, turnouts, and pump stations. The system includes data acquisition of main canal reservoir and stream levels, on and off status of pumps; a communications system for information, control, and voice transmission; a digital computer information processing facility; and an operator command center. Operations of water control facilities will be by operator dispatch from the Master Control Center.

The second stage of development involves the addition of reservoir and diversion dam automation, remote climatic data gathering, automation of weed screen and sand trap sluice operations at main canal turnouts, and automation of the pipeline network isolation and flushing valves. The communications, data processing and water control command equipment will be increased accordingly. The check and wasteway gates for a selected reach of the East Ghor Main Canal will be completely automated to operate automatically without operator commands.

The third stage of development provides for further development of climatic data gathering, increased automation of system controls, and increased capability for data transmission and processing.

HONDURAS IRRIGATION DEVELOPMENT PROJECT

HONDURAS

The Honduras Irrigation Development Project is an integral part of the USAID/Honduras agricultural development strategy to help bring into effective production up to 7,000 ha through construction of irrigation systems and intensive instruction of farmers in techniques of on-farm water management and improved production technologies. The agricultural sector goal is to increase agricultural production by $400 million by 1990. Through making irrigation more readily available, the GOH expects not only to increase but diversify agricultural production, particularly among small farmers.

The project addresses existing constraints through three integrated components: (a) construction and rehabilitation of irrigation systems; (b) provision of on-farm water management technical assistance, and (c) long-term credit resources for infrastructure and working capital for production.

At the outset, the following quantitative indicators of project success were stipulated: Doubling of on-farm productivity among participating farms; minimum 15% increase in real incomes among these farmers; increase of 6,000 to 7,000 ha under irrigation; construction or rehabilitation of approximately 600 irrigation systems to serve 3,000 farms; training of at least 45 DHR technicians in water management; completion of at least 400 contracts with Honduran firms. Success in achieving these objectives depends heavily on project activities designed to remove or alleviate institutional, legal, financial, and human resource constraints.

To carryout the project, Harza Engineering Company is working in association with Winrock International Institute, the lead entity, and Agrotecnia, a private agriculture and engineering consulting firm in Honduras and Colorado Institute for Irrigation Management (CIIM), an established component of Colorado State University.

Project implementation follows the demand-pull strategy set forth in the project design. As project interventions stimulate increased production and productivity and enhanced market participation, new demands will arise. Implementation is proceeding under a measured growth approach; experiences are analyzed and activities adjusted before new phases are launched. Technical assistance is directed at all times to areas needing priority attention and essential to engaging in additional activities.

Major areas of project activity, include: (a) revising and submitting a water law to the National Congress; (b) developing a national irrigation plan; (c) refining existing standards and norms for irrigation system construction; (d) establishing guidelines for subproject feasibility studies, and (e) developing a project promotion campaign. At the same time, attention will be directed to a review and construction of irrigation projects already designed by the Department of Water Resources (DRH).

One of Harza's area of interest is in the agricultural production. Harza personnel are responsible for the design and implementation of technological packages for agricultural production on irrigated farms, irrigation districts, and agricultural regions and to aid the development of an agricultural production plan for each farm or district. These plans outline crops to be grown, technologies to be employed, inputs required, crop rotation schemes, production schedules, and an overall farm budget. Harza personnel work directly with the farmers and farmer groups to develop production systems for use under irrigation.

BLACK RIVER UPPER MORASS PROJECT - JAMAICA

Harza Overseas Engineering Company, in association with Hue Lyew Chin Consulting Engineers, Kingston, Jamaica, conducted a feasibility study followed by final design for drained and irrigated agricultural development. The study recommended an irrigation and drainage plan for the entire project area of 11,000 acres located in the Black River Upper Morass area. Both a drainage computer model and a back-water computer model, developed by Harza, were used in developing the final project plan. The study covered such technical fields as engineering, agronomy, ecology, economics and organization.

Alternatives evaluated for use of project lands included emphasis on self-sufficiency in food production, production of export crops, and the cultivation of traditional crops by the maximum number of farm families. The latter was chosen as being most representative of the government's socio-economic goals.

The irrigation design included:

1. Eleven miles of concrete-lined canals with a maximum capacity of 108 cfs. Appurtenant structures include: inverted siphons, check structures, wasteway turnouts, culverts (to 300 cfs), bridges, and turnouts.

2. Laterals servicing 6,000 acres.

3. On-farm development of water management facilities.

The flood control and drainage facilities include a system of collector and carrier drains on project land and flood control levees along the Black River with pumping plants on three tributary streams to evacuate runoff from behind the levees. The Grass River pumping plant is the largest of the three and a key element in the system due to its large drainage area and the contributing groundwater discharge. It has 16 pumping units with a total capacity of 1600 cfs.

The new primary and secondary drains constructed in the project area were designed to follow the natural drainage patterns wherever possible.

WATER SECTOR MASTER PLAN BANGLADESH

This project is intended to ultimately lead to the continuing preparation and updating of a full and comprehensive water resources development plan for the entire country of Bangladesh. For that purpose, a permanent Master Planning Organization (MPO) is being established. Major objectives of the current (1983 to 1986) Master Planning project are to: (1) develop a Master Planning Organization with trained Bangladeshi personnel as permanent professional staff; and (2) prepare a Water Sector Master Plan. The process of preparation of the Master Plan will result in trained staff who will, in the future, continuously update the Master Plan as required.

The preparation of the Water Sector Master Plan is consistent with the Government objective to shift the emphasis from the largely ad-hoc development of the agriculture sector to the orderly implementation of a forward looking development strategy. Expansion of irrigation, improved drainage, and flood control are programmed to be the primary means of achieving rapid and equitable economic development. The Master Plan is being prepared by MPO assisted by Harza personnel in engineering, economics, hydrology and other disciplines.

One of the first tasks undertaken on the project was the preparation of a coherent and systematic planning process for the preparation of the Master Plan. Very generally, that process includes four phases of study: (1) resource evaluation and assessment of current use; (2) identification of constraints and development opportunities; (3) evaluation of development alternatives; and (4) plan selection including project, program and policy recommendations and related institutional requirements.

The resource evaluation stage includes the assembly, storage and evaluation of available land and water resource data. Extensive use is being made of desk-top micro computers for data storage and analysis. For example, analysis of well data to determine groundwater availability for irrigation is facilitated by computer plotting of hydrographs for over 1,000 wells being monitored in Bangladesh. As another example, a water balance model adapted to micro computers is being used to extend the available discharge record and provide estimates of surface water for irrigation.

Identification of development opportunities and binding constraints is based on a rigorous assessment of the resource base and existing use. For that purpose, the country is subdivided into hydrologically defined planning areas suitable for

systematic assessment of water, land, human and institutional resources. The existence and nature of water resource constraints on agriculture and other areas of water use as well as the opportunities for further development are identified within these planning areas. An important aspect of these studies is the field evaluation of a sampling of previously completed projects to determine their achievements and needs for improvement.

A mathematical model is being developed to simulate the relatively complex river system that exists in Bangladesh. The model, by taking into account such factors as the magnitude and variation of flows, water level, sediment movement, tidal effects and saline intrusion, will permit systematic evaluation of the impacts of alternative river improvement projects.

The project and program alternatives identified as technologically feasible are subjected to economic and financial feasibility tests to determine their priority for development. The analysis is facilitated by use of micro-computers for preparation of crop and farm budgets and projection and comparison of alternative project benefits and costs. An Investment Analysis Model (IAM) adapted to micro-computers is also utilized to assist in selection and scheduling of the numerous flood control, drainage and irrigation projects identified in the different planning areas. The IAM ranks all investment alternatives according to their benefit/cost ratios and then allocates available resources to the highest ranked alternatives until available resources are exhausted.

In the final phase of the planning process, alternative Master Plans, each emphasizing a different objective, are evaluated. Each Plan is composed of a set of projects, programs, and policies that best achieve a particular objective such as economic growth or income distribution. Comparison of the product- employment and other consequences of the alternative Plans is facilitated by the use of the IAM model. The model enables the rapid examination of the sensitivity of the alternative Plans to variations in values of important variables or constraints.

The Master Plan project, which is being carried out over a 33 month period, is being funded by the United Nations Development Program and administered by the World Bank. Harza's project staff includes seven resident advisors for 2 to 2 1/2 years each and about 15 short-term advisors.

HARZA EXPERIENCE IN IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
United States					
Benjamin-Kasl & Associates (Lake Andes-Wagner Irrigation District)	Lake Andes-Wagner	South Dakota	Pumping plants, conveyance canals distribution system, and drains for 79,000 acre irrigation project.	Feasibility-level planning and economic analyses.*	1976-77
Franzoy-Corey and Associates (Ak-Chin Indian Community)	Ak-Chin Water Supply	Arizona	Well field and 30 mile long Conveyance system to deliver 30,000 acre-feet of water for irrigation.	Planning and environmental studies. Also design of on-reservoir link, including 8.5 mile long siphon.*	1980-present
John W. Klooster	Peat development study	Minnesota	Use of peat as a fuel and feed-stock in agricultural processing.	Study of the feasibility of using peat in processing soybeans, pelletizing grasses and other applications.	1981
Metropolitan Sanitary District of Greater Chicago	Land reclamation using digested sewage sludge	Illinois	Plan to use MSD's entire output of digested sludge in productive agriculture.	Socio-economic, environmental, fertilization value, crop selection, and operation studies.	1967
	Sludge utilization project	Illinois	Design studies for the 2000-acre first phase sludge utilization development.	Design of sludge conveyance and application systems, contract documents for first construction and subsequent expansion.	1968
	Hanover Park sludge utilization	Illinois	A 200-acre project with grated pipe distribution, terraced land with tile drains and recycling pumps.	Planning, design, and contract documents, including engineering, agricultural, and environmental aspects.	1976
Various farm owners and management organizations	Farm land development and soil conservation	Iowa	Use of bench terraces and drains for erosion control and rainfall infiltration on 3000-acres.	Topographic mapping, layout and design, and benefit/cost studies.	1965-
Argentina					
Aqua y Energia Electrica	Rio Dulce	Santiago del Estero	Reclamation of saline soils and irrigation on 118,000 hectares.	Hydrologic studies, soil surveys, layout of drainage and irrigation systems, and preliminary designs.*	1964-65

* Services provided in association with others.

HARZA EXPERIENCE IN
IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Argentina					
Comision Nacional de la Cuenca del Plata	Zanja del Tigre	Rio Bermejo	66 meter high water supply dam, downstream diversion dam, and 100,000 hectare irrigation system.	Feasibility studies of the main dam and appraisal of the irrigation project.*	1974
Provincia de San Juan	Ullum	Tulum Valley	Irrigation of 100,000 hectares, 66 meter high water supply dam, 40-MW powerhosue.	Irrigation planning, design and assistance during construction of dam, and design of dam, and design of power addition.*	1969-present
Argentina-Paraguay					
Comision Mixta Tecnia Paraguayo-Argentina	Yacyreta and Corpus multi-purpose projects	Parana River	Potential irrigation of 90,000 ha downstream of Yacyreta Project and 140,000 ha downstream of Corpus.	Land classification, water supply studies, and technical and economic analyses of irrigation works.*	1972 & 1975
Bangladesh					
Bangladesh Water Development Board, Asian Development Bank	Small-Scale Irrigation Sector Project	Bangladesh	30 small irrigation, drainage, or flood control projects covering 250,000 acres.	Assistance with planning initial projects and development of planning capability within client organization.*	1981
Bolivia					
Empresa Nacional de Electricidad	San Jacinto Irrigation	Bolivia	Reservoir, pumping plants, 5000-ha irrigation system, and hydro station.	Alternative project layouts, cost estimates, determination of present and projected crop values.*	1970
Canada					
Department of Forestry and Rural Development	Soil erosion control program	Atlantic Provinces	Erosion control and increased productivity through construction of bench terraces and tile outlets.	Evaluation of erosion, establishment of hydrologic and design criteria, and train local personnel in implementation.	1967-68
Colombia					
Instituto Colombiano de Energia Electrica	Betania	Magdalena River	Comparison of agricultural production loss in reservoir area to development of 25,000 ha project.	Feasibility-level studies of loss of 10,200 ha reservoir area and irrigation of new areas.*	1972

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HARZA EXPERIENCE IN
IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Dominican Republic					
Instituto Nacional de Recursos Hidraulicos	Sanate	Sanate and Yuma Rivers	Water supply reservoir on the Sanate River and conveyance canal to 5000 ha project on the Yuma River.	Planning, design, and contract plans and specifications.	1974-75
Ecuador					
Junta Nacional de Planificacion y Coordination Economica	Pisayambo	Central Ecuador	Dam, conveyance tunnel and canals, irrigation of 21,000 ha, and two hydro stations totaling 140 MW.	Power and agriculture market surveys, soil classification, cropping and water requirements, preliminary design.*	1964-66
El Salvador					
Ministerio de Agricultura y Ganaderia	Olomega, Zapotitan, and Rio Grande de San Miguel Projects	El Salvador	Olomega, 11,000 ha; Zaportitan, Zaportitan, 5000 ha; Rio Grande de San Miguel, 31,000 ha. Miguel, 31,000 ha.	Feasibility-level studies.*	1965-67
	Soil erosion control	Rio Grande de San Miguel basin	Appraisal and design of erosion control measures for 28,500 ha in upland areas. bench terraces for 72000 ha.'	Determination of cause and extent of erosion, recommendations and design of	1967
Ethiopia					
Ministry of Public Works and Communications	Finchaa	Ethiopia	Drainage of 31,000 ha Chomen swamp area and irrigation of 15,000 ha in the Finchaa Valley.	Appraisal of Finchaa irrigation and recommendations for development of Chomen swamp.	1964-65
Guinea					
Government of Guinea, U.S. AID, UNDP	Riceland reclamation	Four coastal areas	Drains and tide-control structures to reclaim 18,500 ha of existing and 1600 ha of new lands.	Reclamation design and implementation, soil surveys of 380,000 ha, agro-economic studies of 42,000 ha.	1963-72
Guyana					
Ministry of Agriculture	Black Bush and Tapakuma	Coastal areas	Improvement of irrigation for 100,000 acres of reclaimed land and expansion by 56,000 acres.	Evaluation of improvements to increase rice production, water supply studies, and soils, agronomic, and marketing studies.*	1971-73 1976-77

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HARZA EXPERIENCE IN
IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Honduras					
Ministry of Natural Resources	Quimistan Valley	Honduras	3500 ha project made up of three gravity-fed irrigation systems serving 10-ha farm units.	Feasibility studies and design, including soils and land classification, water supply, and agronomy.*	1976-80
Indonesia					
Directorate General for Water Resources Development	Rehabilitation of irrigation systems	Java, Sumatra, and Sulawesi	Rehabilitation of eight irrigation systems ranging from 40 to 100 years old.	Feasibility studies for 654,000 ha and design and implementation for 442,000 ha.*	1969-76
Iran					
Khuzestan Water and Power Authority	Behbehan	Marun River	Water supply dam and downstream irrigation of 55,500 ha.	Appraisal, feasibility, and design services.*	1966-76
	Gotvand	Karun River	Diversion dam and 40,000 ha irrigation system, including 300 km of primary canals and laterals and 200 km of surface drains.	Appraisal, feasibility studies, design, contract documents, and surveillance of construction.*	1967-79
Jamaica					
Government of Jamaica, Ministry of Finance	Black River Upper Morass	Black River	Drains and pumping stations for 12,000 acres, and diversion dam and irrigation works for 6000 acres.	Feasibility and environmental studies followed by project design and assistance during construction.*	1976-present
Jordan					
Jordan Valley Authority	Yarmouk-Jordan Valley	Jordan	Stage I project, including 70 km long main canal and distribution and drains for 11,000 ha.	Master planning, feasibility, design, contract documents, surveillance of construction, and initial operation.	1955-63
			Stage II project, including Maqarin water supply dam and powerhouse, and piped distribution to 36,000 ha.	Detailed planning and design with market and economic studies, soils survey, and plan optimization.*	1976-present

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HARZA EXPERIENCE IN IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Senegal					
Societe de Mise en Valeur Agroicole de la Casamance and U.S. AID	Master Plan of Agricultural Development of the Lower Casamance Area	Lower Casamance Basin of Senegal	Agricultural development planning for the lower Casamance Basin	Collection and analysis of land, water and socio-economic resource data; Preparation of Master Plan; Selection of priority areas of development; feasibility studies of selected schemes to determine the project development best suited to the Lower Casamance area.	1981-1984
Saudi Arabia					
Ministry of Agriculture and Water	Ghuwayba	Al-Ahsa Oasis Eastern Province	Development of drainage facilities to remove constraints to private agricultural development.	Detailed drainage investigations and soil/land classification studies of 3,350 hectares. Drainage facilities were designed.*	1982
Ministry of Agriculture and Water	West of Dammam	Qatif Oasis Eastern Province	Development of drainage facilities to improve development of private agriculture.	Detailed investigation of drainage, soils and land classification of 7,000 hectares. Alternative drainage plans were evaluated to select a plan for Ministry Approval.*	1982
Private Owner	Private Farm Development	--	Development of private lands for irrigated agriculture.	Reconnaissance studies to determine suitability for agriculture. Included investigations of soils, water availability and quality and land classification.	1983 present
Ministry of Agriculture and Water	Qatif	Qatif Area Eastern Province	Additional studies and final designs for improvement of irrigated agriculture.	Detailed soil and land classification studies for 6,200 hectare area. Water resources studies included drilling program, aquifer tests, and quality testing. Alternative development plans evaluated and final plan selected for feasibility and final design.*	1983-present

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HARZA EXPERIENCE IN
IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Jordan Cont'd					
	Automated control system	Jordan Valley	Computer-based control system to monitor crop conditions and allocate water throughout project area.	Design and preparation of contract documents for system hardware and software.	1980-present
	Raising King Talal Dam	Zarqa River	Raising 100 m high dam by 16 m and ading 4 MW powerhouse.	Feasibility study, design, contract documents.*	1980-present
Nicaragua					
Instituto de Fomento Nacional	Rivas Irrigation	Lake Nicaragua	9000 ha irrigation system with two pumping stations, 4 km conveyance canal, and laterals and drains.	Review of planning, preparation of design drawings and specifications, and training of engineers.	1963-64
Oman					
Ministry of Agriculture and Fisheries	Preliminary Soil and Groundwater Survey	Nejd area of Southern Oman	Preliminary soil and groundwater survey for 60,000 km^2 to determine land and water resources for potential agricultural development	Determined potential groundwater development based on existing data. Identified all land areas of 20 hectares and larger with agricultural potential. Prepared tender documents for detailed studies of areas with potential for agricultural development.	1984-present
Pakistan					
Asian Development Bank	Baluchistan Groundwater Development	Baluchistan region of Pakistan	Feasibility study for the expansion of irrigated agriculture in Baluchistan Province.	Reviewed previous work by UNDP and the Pakistan Water and Power Development Authority on groundwater, soils and land classification. Evaluated cropping patterns, markets markets, and institutional resources and constraints. Prepared preliminary designs for wells, irrigation facilities and roads.	1984-1985
Water and Power Development Authority	Mardan Salinity Control and Reclamation Project	Northwest Pakistan	Increase water supply, improve canal/drainage systems, and reclaim saline land in 55,000-ha area.	Assistance with planning, design, construction surveillance, and training.*	1980 present
	Waterlogging and salinity control	Punjab and Sind Provinces	Five-year technical program aimed at attaining optimum agricultural production.	Specialized consulting and trainnig services provided by Harza personnel in Pakistan.	1974-79

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HARZA EXPERIENCE IN
IRRIGATION AND AGRICULTURE DEVELOPMENT

Sponsor or Client	Project Name	Location	Description	Harza Services	Date
Thailand					
Royal Irrigation Department	Nam Mun and Nam Chi	Mun and Chi Rivers Thailand	Water supply and conveyance for year-round dropping on 19,000-ha Nam Mun and 30,000-ha Nam Chi areas.	Feasibility studies, including hydrometeorology, socioeconomics, land use, and planning.*	1968-70
	Nam Mun and Lam Sae Dams		Two 26-m high earthfill dams to supply water for the Nam Mun irrigation projects.	Foundation exploration, design contract documents, and resettlement plans.*	1980-present
Uruguay					
Ministry of Public Works	Tacuarembo-Rivera Regional Development	Uruguay	Inventory of develop potential, including needed roads and railroads, water supply, and irrigation of 100,000 ha.	Appraisal of natural resources, socioeconomic programs, and recommendation of 5-year data collection project.*	1961-63
	Zapucay Irrigation	Uruguay	Water supply dam and 3500-ha pilot project to demonstrate irrigation benefits and techniques.	Feasibility-level hydrologic, agronomic, engineering, and economic studies.*	1961-63

* Services provided in association with others.

DEVELOPMENT RESEARCH AND MANAGEMENT SERVICES

CAPABILITY STATEMENT

BACKGROUND AND OBJECTIVES

Development Research and Management Services (DRMS) is a recently established research and consulting firm, registered as a private limited company and based in Islamabad. It has two related objectives:

- To provide high quality professional input particularly in the social sciences, for development management and development research; and
- To establish, within DRMS, a sustainable capacity for learning about alternative approaches to the management of national development.

DRMS values learning and innovation in responding to the challenges of a rapidly changing environment. We assist decision-makers in responding to these challenges -- by undertaking research, assessing management strategy, and offering learning opportunities for planners and managers.

DRMS is conceived as a partnership between resourceful analysts and decision-makers. DRMS has the capacity to respond to opportunities involving:

- National and international agencies concerned with development policy and the management and implementation of development programmes;
- Development projects, particularly those with community participation; and
- Business development in the public and private sectors.

DRMS is designed to attain international calibre in the quality of its services. The Core Group at DRMS consists of professionals with higher degrees from recognized centers of academic excellence, and with work experience in some of the foremost development organizations.

SERVICES PROVIDED

The nature of services provided by DRMS is determined carefully through interaction with the client. For its part, DRMS values working relationships that are open and creative, and seeks opportunities for participating in innovative enterprises. The services offered by DRMS fall into three broad categories:

- Applied research into issues of economic, social and political development;
- Strategic planning and programme development for the public and private sectors; and

- The design and implementation of training programmes for managers and planners.

DRMS staff have a proven capacity to analyze and manage development issues. In applied research, DRMS has a particular strength in economic policy analysis, in which Core Group members have a breadth of expertise. When assisting with strategic planning, DRMS expects to work in close partnership with its clients to conceptualize and evaluate objectives, innovations, and key inputs that are needed for success. In designing and implementing training programmes, DRMS helps to capitalize upon a trainee's experience through a combination of current analytical techniques and information on other development experiences.

Each DRMS contract is supervised by a Core Group member, who maintains close contact with the client. Available in-house expertise is fully utilized for administrative and analytical backstopping. Within Pakistan, the charges for DRMS services are intermediate between national and international consulting rates.

AREAS OF EXPERTISE IN PRIVATE SECTOR DEVELOPMENT

The broad functional areas in which DRMS staff have the capacity to provide services in private sector development include the following;

AGRICULTURE AND RESOURCE MANAGEMENT

- technological change
- commodity analysis
- factor markets
- sustainable resource management
- delivery mechanisms
- agriculture sector studies

PRIVATE SECTOR POLICY ANALYSIS

- sector studies
- market research
- feasibility studies
- economic & financial analysis

MACROECONOMICS AND INTERNATIONAL TRADE

- monetary, fiscal and commercial policies
- exchange rates
- balance of payments
- adjustment mechanisms
- income distribution
- econometric modelling

DIAGNOSTIC APPROACHES FOR DEVELOPMENT

- farming systems research
- sample surveys
- rapid appraisal methodologies
- case studies

ADMINISTRATIVE AND TECHNICAL BACKSTOPPING

DRMS has the capacity to provide administrative backstopping and support services for international consulting companies with whom it works in partnership on a broad range of projects. These support services extend to the main cities in the country. In order to strengthen its in-house capacity for research and analysis on a wide range of issues, DRMS maintains a roster of consultants who are available for short and medium term assignments. These consultants have proven capacity in their fields and help DRMS attain its high standards of quality in a cost effective way. This facility is particularly useful in making local expertise readily available on short notice.

DRMS PROJECTS LIST

Project: Impact of technological change in wheat in Pakistan over the last twenty years.
Client: Rockefeller Foundation, New York.
Date: September 1988 - June 1990 21 mm

Project: Provincial workshops on the National Conservation Strategy for Pakistan.
Client: National Conservation Strategy Secretariat, Islamabad.
Date: December 1988 1-2 mm

Project: Identification mission for rural development training needs in Baluchistan.
Client: Royal Netherlands Embassy, Islamabad.
Date: February - March 1988 0.3 mm

Project: Evaluation mission for command water management in Pakistan.
Client: USAID/ISPAN.
Date: August - September 1988 1.5 mm

Project: Best Practice Projects: An assessment of the income-generating programmes for women in the project area of the Aga Khan Rural Support Programme, Gilgit, Pakistan.
Client: World Bank, Population and Human Resources Dept.
Date: July - August 1988 1.0 mm

Project: Employment, productivity and the potential for change among women in the urban informal sector in five cities in Pakistan.
Client: World Bank, Population and Human Resources Dept.
Date: July - September 1988 3.5 mm

Project: Two papers on: (a) the planning process in Pakistan, and (b) an overview of labour markets.
Client: World Bank, Washington.
Date: August - October 1988 3.0 mm

Project: Cooperation with NGOs in agriculture and rural development in Pakistan.
Client: Asian Development Bank/International Development Support Services, Australia.
Date: September - November 1988 3.0 mm

Project: Book on farming systems research in Pakistan, co-edited with Derek Byerlee of CIMMYT Mexico.
Client: CIMMYT, Mexico.
Date: November 1988 1.0 mm

Project: Computerization and analysis of data base on external assistance to Pakistan since 1960.
Client: UNDP, Islamabad.
Date: August - October 1988 1.5 mm

CORE RESEARCH GROUP

Tariq Husain - Proposed Project In charge

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CORE GROUP PUBLICATIONS AND REPORTS

Agriculture and Resource Management

Change and response in the Gilgit District of northern Pakistan: Village management systems and the role of the Aga Khan Rural Support Programme. Tariq Husain. International Centre for Integrated Mountain Development, Kathmandu, Nepal; project on organization and management of rural development in the Hindu Kush-Himalayan region, 1988.

Intervention and innovation in farmer-managed irrigation systems in northern Pakistan. Tariq Husain and Edward Vander Velde. Seventh World Congress for Rural Sociology, Bologna, Italy, June 1988.

Water and social organization in Gilgit: Issues in common property management and irrigation practice. Tariq Husain. Rural Sciences Research Programme Report No. 4, Aga Khan Rural Support Programme, Gilgit, Pakistan, 1987.

Case studies in the development of new land - land use patterns and village management systems. Maliha H. Hussein and Neilin Karmali. Rural Sciences Research Programme Report No. 3, Aga Khan Rural Support Programme, Gilgit, Pakistan, 1987.

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An evaluation of irrigation projects undertaken by AKRSP in the Gilgit District of Pakistan. Maliha H. Hussein. International Conference on Public Interventions in Farmer-Managed Irrigation Systems; International Irrigation Management Institute, Kathmandu, Nepal, August 1986.

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Farm size and productivity revisited. Nadeem ul Haque. Pakistan Development Review, Summer 1981.

Demand for fertilizers: A critical review. Khalil Hamdani and Nadeem ul Haque. Pakistan Development Review, Winter 1978.

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Participatory approaches to development planning: Organizing communities to manage development. Tariq Husain. South Asian Association for Regional Cooperation, Training Course on Planning for Social Development, Islamabad, Pakistan, December 1987.

Research planning and the mobilization of small farmers for rural development:The reformist agenda. Tariq Husain. National Conference on Small Peasants and Rural Structure; Pakistan Administrative Staff College, Lahore, August 1986.

Principles and implementation for small farmer development. Shoaib Sultan Khan and Tariq Husain. Annual Conference of the Pakistan Society of Development Economists, Islamabad, March 1984.

Macroeconomics

Fiscal policy and private saving behavior: Tests of Ricardian equivalence in some developing countries. Nadeem ul Haque. International Monetary Fund Staff Paper (forthcoming).

Ricardian equivalence, liquidity constraints and the Yaan Blanchard effect: Tests for developing countries. Nadeem ul Haque and Peter Montiel. International Monetary Fund, Working Paper, December 1987.

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An economic analysis of personal earnings in Rawalpindi City. Nadeem ul Haque. Pakistan Development Review, Winter 1977.

Labour Markets and Migration

Return migration in a life-cycle setting: A study of Pakistani workers in Saudi Arabia, Hafiz Pasha and Anjum Altaf. Discussion Paper, Applied Economics Research Centre, Karachi, 1986.

Nigeria: Rural labor markers 1973 - 1983 Anjum Altaf. West Africa Division, World Bank, 1985. (Mimeo).

The political implications of migration from Pakistan: A note. Anjum Altaf. South Asia Bulletin, Fall 1982.

Health and Education

Decision theory: An approach to teaching analytical thinking to medical undergraduates in Pakistan. Samia Altaf and Anjum Altaf, International Conference on Progress and Challenges in Health Sciences Education: An International Perspective, Bangkok, October 1987.

Patriarchy, religion and contraceptive practices: Some observations from Pakistan. Samia Altaf and Anjum Altaf (Submitted for publication, 1987).

Treatment of anorectal gonorrhoea infections in males and females with oral ampicillin. Samia Altaf and J.M. Dicaprio. Singapore Medical Journal 27(5), October 1986.

Treatment of pharyngeal gonorrhoea with extended oral ampicillin. Samia Altaf et al. Singapore Medical Journal 27(5), October 1986.

Enabling environment, sustainable livelihood and social sector development in Pakistan. Tariq Hussain, Keynote Paper, National Conservation Strategy Workshop; International Union for Conservation of Nature, Islamabad, August 1986.

Mental disorders in an industrial area in Karachi: A descriptive epidemiological study. Anwar Aqil and Samia Altaf. National Psychiatric Conference, Quetta, October 1985.

A curriculum revision plan for medical technicians in Pakistan. Samia Altaf, Consultant's report to USAID Pakistan, 1984.

The Aga Khan Hospital and Medical College/McGill University joint report in community health sciences. Walter Spitzer, Samia Altaf, et al., June 1983.

The cost of cancer: A summary of the literature. Anjum Altaf and David Eddy, MD. Department of Engineering-Economic Systems, Stanford University, 1979.

Screening for cancer: A program to estimate the economic costs. Anjum Altaf and David Eddy, MD. Department of Engineering-Economic Systems, Stanford University, 1979.

The inverted pyramid in education. Special Report and Cover Story. Nadeem ul Haque. Pakistan Economist, September 1978.

Diagnostic Approaches for Development

Agroecosystem zoning of the Hunza Valley - first iteration. Gordon R. Conway, M Alim Mian, Zahur Alam, Mohammad Yar Khan and Tariq Husain. International Institute for Environment and Development, London, May 1987. (Mimeo).

Rapid rural appraisal for sustainable development: Experiences from the Northern Areas of Pakistan. Gordon Conway, Tariq Hussain, Zahur Alam and M. Alim Mian. International Conference on Sustainable Agriculture; International Institute for Environment and Development London, April 1987.

Approaches and techniques for assessing mountain environments. Tariq Husain. International Workshop on Mountain Agriculture and Crop Genetic Resources; International Centre for Integrated Mountain Development Kathmandu, Nepal, February, 1987.

Agroecosystems analysis and development for the Northern Areas of Pakistan. Gordon Conway, Zahur Alam, Tariq Husain and M. Alim Khan. Rural Sciences Research Programme Report No.1, AKRSP, Gilgit 1986.

Transforming traditional professionals. Tariq Husain. National Workshop on Initiatives in Grassroots Participation; United Nations University Karachi, December, 1985

Theory

Saving behavior in an economy without fixed interest. Nadeem ul Haque and Abbas Mirakhor in Mohsin S. Khan and Abbas Mirakhor, eds., Theoretical Studies in Islamic Banking and Finance, Iris Books, Houston, 1987.

Optimal profit-sharing contracts and investments in an interest-free Islamic economy. Nadeem ul Haque and Abbas Mirakhor, in Mohsin S. Khan and Abbas Mirakhor eds., Theoretical Studies in Islamic Banking and Finance, Iris Books, Houston, 1987.

Review of Deepak Lal, The Poverty of Development Economics, Anjum Altaf. Journal of Economic Behavior and Organization 8(4), 1987.

Expectations and behavior under risk. Anjum Altaf. Discussion Paper, Applied Economics Research Centre, Karachi, 1987.

The strategic implications of varying environments: Aspects of decision making under instability, Anjum Altaf. Unpublished Ph.D. dissertation, Stanford University, 1983.

Expected ridge and shrinkage of the maximum entropy distribution under normality. Nadeem ul Haque and Jim Meisner. Economic Letters, 1980.

AGRISYSTEMS

AGRICULTURAL CONSULTANTS

Agrisystems (Overseas) Ltd
Star House, Oxford Road,
Stone, Aylesbury,
Bucks. HP17 8PL England.

Tel: (0296) 748660
Tlx: 837596 AGRI G
Fax: (0296) 747075

Agrisystems S.r.l.
Via Benedetto Croce 143,
00142 Rome, Italy.

Tel: (06) 5410052 / 5410226
Group Tlx: 837596 AGRI G
Fax: (06) 5421458

Agrisystems (International) Ltd
Trinity House, Bath Street,
St. Helier, Jersey,
Channel Islands, U.K.

Tel: (0534) 71423
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Agrisystems (Nordic) AB
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S-74300 Storvreta,
Sweden.

Tel: (018) 314043
Group Tlx: 837596 AGRI G
Fax: (018) 366035

GENERAL DESCRIPTION OF FIRM

AGRISYSTEMS is a consultancy group specialising in agricultural and rural development. The group undertakes consultancy, technical assistance, management, training assignments, market research and rural communication and extension projects.

AGRISYSTEMS commenced activities in 1979 with the establishment of **AGRISYSTEMS Srl**, in Rome, and a holding company, **AGRISYSTEMS (International) LTD**. At that time the major thrust of the company was in the area of agricultural engineering, in particular the full spectrum of agricultural mechanisation from hand tools and animal draft applications to large scale mechanisation with high horsepower tractors. In 1983 **AGRISYSTEMS (Overseas) LTD** commenced full trading operations in the UK and in 1987 **AGRISYSTEMS (Nordic) AB** was set up in Sweden to provide consultancy and agricultural management services to the Nordic Aid Agencies. Each year since its formation **AGRISYSTEMS** has expanded its activities in terms of the number of assignments completed, the number of clients, and the extent of expertise offered.

In the period 1979 to date, expertise has progressively been broadened to include a wide range of technical skills covering agricultural economics, agronomy, land use planning, soil surveying, crop storage and processing, seed production, livestock development, agricultural credit, training, rural communication and production of audio-visual materials, extension, marketing, local manufacture of appropriate technology tools and equipment, and rural structures.

KEY PERSONNEL

Directors

I.J. Clarke, BSc
C.B. Fraser, NDA
D.A.N. Hopkins, BSC, DTA
I.O.Jonsson, MSc
T.A. Morrison, MA
J.R. Robinson, BSc

Consultants

P.C. Baker, Dip Ag Eng
R.W. Bickley, BA
R.A. Bishop, MA
J.A. Blair, HND
P.M. Blakeley, BSc, MSc
F. Costa, Dip. Ag. Mech.
T.J. Cree, BSc
R.A. Davis, BSc, MSc
P.M. Forrest, BSc
P.R. Guyver, BSc
W. Hancox, BSc
P. Lavery, BSc
R.F.S. Limbrey, BSC
L.P. Maguire, BSc
J.H. Miller, NDAE
R.A. Purcell, MA
H.R. Quantick, FRAeS
F.P. Smyth, ADA, MSc
G.W. West, BSc, MSc
A.K. Whitaker, BA

CAPABILITIES

* AGRICULTURAL ENGINEERING

- Field Mechanisation
- Workshops and Spare Parts Systems
- Local Manufacture of Tools & Equipment
- Rural Structures
- Land Use Planning

* AGRO-PROCESSING AND STORAGE

- Small Grains, Fruit and Vegetables
- Dairy Products
- Tree Crops
- Coffee and Tea

* COMMUNICATION AND EXTENSION

- Planning, Multi-media Communication
- Audio-visual Materials Production
- Rural Radio and TV Broadcasting

* TRAINING

- Machinery Operation, Maintenance & Repair
- Workshop Management and Administration
- Project Formulation and Analysis
- Rural Communications

* AGRICULTURAL CREDIT

- Rural Credit and Small Farmer Schemes
- Credit in Kind

* AGRONOMY

- Dryland and Irrigated Agriculture
- Horticulture
- Agro-Forestry and Tree Crops

* ANIMAL HUSBANDRY

- Livestock Development
- Project Evaluation
- Fodder Production

* AGRICULTURAL ECONOMICS

- Farm and Project Financial and Economic Analysis
- Agricultural Surveys
- Pricing Policy

* PROCUREMENT

- Supervision of Local and International Procurement
- Writing of Documents and Specifications
- Bid Evaluation

* AVIATION IN AGRICULTURE

- Crop Protection
- Pollution
- Insect Control

TYPICAL PROJECTS

Algeria	Provision of a communication specialist to evaluate health education material impact for UNICEF
Botswana	Evaluation of soil mapping and advisory services
Brunei	Review of potential role of aircraft at Mulaut Mechanised Rice Project
Chad	An emergency appraisal of the mechanical failures experienced by FAO/OSRO's fleet of famine relief trucks during transit through Cameroon
China	Review, Proposals and Supervision of the farm mechanisation component of the Heilongjiang Grain Base Project
Congo	Land clearance and estate rehabilitation supervision for the private sector palm oil industry
Egypt	Participation in the World Bank appraisal mission reviewing the role of agricultural mechanisation
Ethiopia	Economic assessment of the Resettlement Programme's impact on land degradation in the North East Highlands
Ghana	Identification, procurement, support and implementation of rehabilitation works for the Asutsuare Irrigation Project mechanical infrastructure
Guinea	Participation in a joint UNDP/FAO/Government evaluation mission of the N'Dama cattle Improvement Project
Indonesia	Project preparation mission to study all inter-related components in a major private sector rural development project
Indonesia	Feasibility study into the establishment of a new sugar estate, covering all mechanised operations
Jordan	Provision of farm mechanisation expert on contract to GTZ to provide technical assistance and training
Kenya	An appraisal of past and future phases of the FINNIDA - supported Rural Dairy Development Programme
East Africa and Morocco	- A marketing study of opportunities for Indian-made agricultural tools and equipment, on behalf of the Commonwealth Secretariat
DPR Korea	Participation in formulation mission concerned with direct seeding of rice and subsequently responsible for machinery installation and commissioning
Madagascar	A review of local production opportunities for rice machinery capable of reducing post-harvest losses
Mozambique	Provision of a seed production specialist responsible for all national seed production (except cotton) and seed imports, under SIDA aid
Nepal	review of economic aspects of project preparation for provision of credit and inputs to small farmers in the mid-hills
Pakistan	Input design, supervision and computerisation of a remotely-conducted Agricultural Survey of Afghanistan, conducted for the Swedish Committee for Afghanistan
Pakistan	Fact finding mission to review proposals for the development of post-harvest fruit and vegetable marketing infrastructure on behalf of ADB

Pakistan	Technical assistance to the Laboratory Equipment Maintenance and Repair Unit, funded by FAO
Peru	An evaluation by a communication specialist of the work of the National Centre for Audio-Visual Service for Training
Sri Lanka	Review of the sericulture industry and proposed development strategy
Sudan	Training of bank staff in agricultural project formulation, analysis and monitoring for BADEA
Tanzania	Provision of Technical Assistance/Management Team for the AfDB's Zanzibar Rainfed Rice Development Project
Thailand	Project coordination, materials procurement, accreditation and training under the BAAC's Agricultural Credit Project
Uganda	Provision of specialist team to review requirements for Agricultural Research Planning
Vietnam	Provision of team leader on UNDP Evaluation Mission to assess performance of post-harvest protection of Agricultural Foodstuffs
Zambia	Provision of a team to formulate a national oxenisation strategy and promote local manufacture of appropriate implements for SIDA

AGRISYSTEMS GLOBAL EXPERIENCE

Since 1979 AGRISYSTEMS have been contracted for assignments in the following countries:

Algeria
Angola
Bangladesh
Barbados
Bhutan
Botswana
Brunei
Burundi
Cameroon
Cape Verde
Chad
China
Colombia
Congo
Costa Rica
Dominica
Djibouti
Egypt
Ethiopia
Equatorial Guinea
Gambia
Ghana
Guinea Conakry
Honduras
India
Indonesia
Iraq
Ivory Coast
Jamaica
Jordan
Kampuchea
Kenya
Korea
Laos
Liberia
Libya
Madagascar
Malawi
Malaysia
Mali
Mexico
Morocco
Mozambique
Nepal
Niger
Nigeria
Pakistan
Peru
Philippines
Portugal
Saudi Arabia
Senegal
Sierra Leone
Solomon Islands
Somalia
Sri Lanka
Sudan
Swaziland
Syria
Tanzania
Thailand
Tunisia
Turkey
Uganda
Vietnam
Yemen A.R.
Yemen P.D.R.
Zaire
Zambia
Zimbabwe

SECTION II

RESUMES OF SHORT-TERM SPECIALISTS

Page

Achagzai, Mohammad Tahir 151
Ashley, Marshall D. 153
Barfield, Thomas J. 159
Berg, Elliot 163
Billings, Martin H. 171
Connor, Kerry M. 177
Dixie, Grahame Beaumont Richard 181
Duncan, Brian 185
English, Richard 189
Fletcher, Lehman B. 193
Freed, Dennis E. 199
Gibson, Richard E. 201
Gilmore, Richard 207
Gow, David D. 213
Hansen, Alec L. 223
Hughes, David R. 229
Issaq, Ahmad Farid 237
Khaleeq, Babrak 241
Lindauer, Gerhard D. 245
Mackie, William E. 251
Menegay, Merle R. 255
Masody, M. Moosa 265
Mickelwait, Donald R. 267
Miller, Bradford R. 273
Morain, Stanley A. 275
Naimi, Khan Aqa 279
Neese, Harvey C. 287
Nelson, Eric R. 295
Phillips, Lawrance Denzil 301
Rashid, Mohammad Zekria 305
Roth, Alan D. 309
Scott, Richard B. 315
Stauss, Benjamin G. 321
Tacon, John Michael 323
Toder, Miles F. 327
Viktor, Cary F. 331
Wilcock, David C. 335
White, Gene F. 343
Wolf, James M. 349

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MOHAMMAD TAHIR ACHAGZAI

WORK EXPERIENCE: Twenty yearsin broadcast and television medda

DETAILS OF EXPERIECE:

01/80-06/84
Position:
Director of Educational programs in Radio Afghanistan.
Duties:
Editing and checking radio programs in Pashto and Persia which titled Labor, Families Life,Agriculture, Villagers Life, Religion, History and Geography Of Afghanistan, Childrens' and Teenagers programs, Science,The Activitie of Welfare Organisations of Afghanistan and the World Re -Cross.
Supervising the producers of these programs.

09/78-01/80
Position:
President of Afghanistan Television Broadcast.
Duties:
fully responsible for all T.V. broadcast of Aghanistan.

01/76-09/78
POsition:
Director of External services of Radio Afghanistan.
Duties:
Responsible for checking, editing and planning the contents of all the external programs which were broadcast in Urdu,English, Arabic, German and Russian.
The contents of these programs were news, commentaries, history and life of the people of Afghanistan,etc.

01/73-06/75
Position:
Speaker and translator, Pashto program in Radio Peking-China.

08/68-01/73
Position:
Assistant Director of Educational Programs of Radio-Afghanistan.
Duties:
As mentioned under the title of Director Educational Programs.

06/67-08/68
Remained as student at B.B.C. for Overseas Broadcasting Course in London.

03/64-06/67
Position:
Producer of Educational Programs.
Duties:
Producing Childrens.Program for Radio Afghanistan.

EDUCATION:
Ghazi High School, Kabul- Afghanistan. Diploma awarded (1958)
B.A. (Law) Kabul University (1962)
B.B.C. Overseas Broadcasting Course (1967) certificate awarded.

SKILLS: Can speak, read and write English, Pashto and Persian and translate and interpret from one into the other. Also can communicate in Urdu.

NOTE: Escaped from Afghanistan to Pakistan in June, 1984 and stayed in Pakistan until May, 1987. On May 7, 1987 with family (wife and three sons) entered the United States under the U.S. Refugee Program.
In the begining of 1987 started recording interviews with the Afghan Mujahideen for the Voice of America, Pashto Service. Also was cooperating with the U.S. Consulate General in Karachi, Refugee Section interpreting the Afghan Refugees.
At present works with the Voice of America, Pashto Service as a P.O.V.

75

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CURRICULUM VITAE
for

Marshall D. Ashley, Ph.D.

Present Employment: Forest Management Consultant to the Haitian Government for the World Bank

Education:

Ph.D. Civil Engineering and Math-Statistics 1969
from Purdue University

M.S. Civil Engineering and Math-Statistics 1968
from Purdue University

B.S. Forest Management 1965
from the University of Maine

Several workshops on Administration and Personnel Management and on Technical, Professional interests

Professional Experience:

Long Term

Forest Management Consultant to the World Bank for the Projet Forestier National in Haiti. 1987 to present

Team Leader for the USAID Agroforestry Outreach Research Project in Haiti. 1985 to 1987

Traditional Agroforestry Systems Researcher for the USAID Agroforestry Outreach Research Project. 1985 to 1987

Principal Investigator and organizer of an Agroforestry Animater Training Program in Haiti for the Univ. of Maine and UMCOR. 1982 to 1988

Teacher and Researcher at the Univ. of Maine in remote sensing, forest measurements, statistics and international conservation. 1969 to 1985

Curriculum Vitae
Marshall D. Ashley

Acting Director of the Division of Forestry, college of Forest Resources, Univ. of Maine. July to December, 1982

Associate Director for Administration of the School of Forest Resources, Univ. of Maine. 1977 to 1982

Scientist and Training Officer for the New Zealand Forest Service. 1981

Director of Summer Field Training programs for the School of Forest Resources, Univ. of Maine. 1970 to 1980

Field Survey Supervisor for the Forest Engineering Dept. of the International Paper Company, Northern New England Division. 1965 to 1966

Short Term

Design of improved communications system for the Pan American Development Foundation's Projet Piebwa. Haiti

Design of improved national agricultural crop survey. Winrock International/Univ. of Arkansas ADS II Project. Haiti

Design of a radio-telephone communications system and advice on agroforestry systems outreach program for Save the Childrens' agroforestry project. Haiti.

Design of improved aerial photography and mapping systems for the Fiji Pine Commission and the Government of Western Samoa.

Organizer and teacher for a national, multidisciplinary workshop on the uses of color infrared aerial photography. New Zealand

Organizer and teacher of eight annual workshops for engineers and natural resource managers on the latest developments and uses of aerial photography and multispectral scanner imagery. USA

Languages:

English - native
French - fair to good speaking and reading
Haitian Creole - good speaking and reading

Curriculum Vitae
Marshall D. Ashley

Professional Committees:

Member of the University of Maine committee to review USAID or other donor agency proposals in agriculture

Chairman of the University of Maine Haiti Committee

Chairman of the University of Maine Personnel Policy Review Committee

Chairman of the Forestry and Agriculture Committee for the American Society of Photogrammetry

Member of the Northeastern United States Resource Planning Act Subcommittee for setting national and regional resource study priorities

Member of the Governor s select Mapping Advisory Committee for Maine

Chairman of the Remote Sensing Interest Group of Maine

Chairman of the Maine State Board of Registration for Professional Foresters

Chairman of the Aerial Photography Task Group for the U.S. Forest Service resurvey of Maine

Member of the Data Collection Plan Advisory Committee to the Maine State Planning Office

Courses Taught:

International Conservation
Photogrammetry and Remote Sensing
Advanced Remote Sensing
Field Measurement Practices in Forestry
Forest Mensuration
Statistics and Sampling Methods

Hobbies and Other Interests:

Microcomputers
Licensed private pilot
Amateur radio operator
Sailing & Celestial Navigation
Off road motorcycle riding

Further Background

for

Marshall D. Ashley

This background presents more detailed information on a few aspects of my background which are only briefly alluded to in my curriculum vitae. Over the past twenty five years I have worked on several projects involving the study of natural resources, remote sensing, cartography, statistical analysis, forest inventory and management, agriculture and wildlife surveys and agroforestry. My employment has been as a consultant, contractor or regular employee wi'h various private, university and governmental entities. Over this time I also served for seven years as a communications and electronics specialist with the U.S. Air National Guard.

My work at the University of Maine included teaching, research and administrative assignments. My teaching was in the areas of remote sensing, natural resource surveys, statistics and international conservation. I also developed and presented several adult, continuing education courses in these areas. Further, for several years I was responsible for the curriculum development and implementation of field training for the University's forestry and wildlife students.

My international work has been primarily in Haiti and the South Pacific region. My experience has included the development of a natural resource inventory- remote sensing program for natural resource managers and the reorganization of the forest insect and disease branch of the New Zealand Forest Service. In Haiti, I developed and organized over a five year period an animater training program to implement tree planting with small farmers. This program has been taken over and run very successfully since 1987 by a Haitian staff trained through the project. I have also served as the Chief of Party and as an agroforestry systems researcher for the USAID sponsored Agroforestry Outreach Research Project. Following this I worked as a consultant to the ADS II, national agricultural survey project, to develop improved sampling techniques for coffee and sugarcane. My most recent employment has been with the Haitian Forest Service as forestry advisor to the World Bank sponsored Projet Forestier National (PFN). My work has involved training sixty technicians and field workers and supervising their inventory of some 11,400 ha of the Foret des Pins National Forest, training staff to use microcomputers to derive the inventory statistics and for cost accounting, training counterparts in forest management techniques, writing a management plan for the Foret des Pins and writing the Government's draft proposal for an eight year extension of the PFN.

Further Background
Marshall D. Ashley

Much of work has been interdisciplinary in nature and has included extensive work with specialists in agronomy, soils, wildlife management, forest management, plant disease and insect problems, civil engineering, and meteorology. Further, I am a qualified single engine pilot and aerial photographer and have conducted extensive research and consulting on the uses of aerial photos and satellite imagery in making national resource surveys.

I enjoy working in developing countries, particularly on projects that require fieldwork. I grew up in a very rural area of northwestern Maine and feel comfortable living and working in almost any conditions. I am skilled at driving motorcycles and four wheel drive vehicles and can do field repairs for most of the mechanical problems encountered with them. Sailing is my principle avocation and I teach boating safety and celestial navigation as a public service.

Development Alternatives, Inc.

THOMAS J. BARFIELD

Graduate and Undergraduate Degrees

Harvard University, Cambridge, MA
1978 - Ph.D. in Social Anthropology
1974 - M.A. in Social Anthropology
Minor Field of Concentration: Archaeology
University of Pennsylvania, Philadelphia, PA
1972 - B.A.

Academic Positions

Harvard University, Department of Anthropology
Associate Professor, 1986-present
Assistant Professor, 1982-85
Wellesley College, Department of Anthropology
Assistant Professor, 1981-82

Fieldwork

Altai Region, Xinjiang Province, Peoples Republic of China:
- Preliminary survey of Kazakh nomads focusing on the impact of privatization of land and pasture on pastoral nomadism. Signed agreement for future film production on Kazakh life with III Kazakh Television. Summer 1987.

Kunduz and Badakhshan provinces, Afghanistan: Doctoral dissertation research on Arab pastoral nomads and their adaptations to a changing environment and a developing regional economy; nomadic pastoralism and its development into market oriented ranching; the relationship of nomads to the state; ethnic identity in a plural society. The research was conducted between January 1975 and October 1976 after two preliminary surveys of the region in the summers of 1973 and 1974.

Teaching and Research Interests

Pastoral nomadism in the Near East and Central Asia; cultural ecology; economic anthropology; political systems --particularly links between traditional and modern systems; ethno-archaeology; anthropological approaches to historical method.

Grants and Awards

Aga Khan Foundation grant for completion of technical work on *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 1988
Tozier Fund Research Grant for survey of Kazakh tribes of the Altai region, Xinjiang, Peoples Republic of China, 1987

Fulbright-Hays Doctoral Dissertation Research Grant for Afghanistan, 1975-76.
Hagop Kervorkian Memorial Prize for Middle Eastern Archaeology, University of Pennsylvania, 1972.

Academic Research Positions

Faculty: Committee on Higher Degrees in Inner Asian and Altaic Studies, 1985-present.
Faculty: Center for Middle Eastern Studies, Harvard University, 1982-present.
Faculty: East Asian Studies, Harvard University, 1982-present.
Associate in Research, Fairbank Center for East Asian Research, Harvard University, 1978-82.

Applied Research Positions

Project Anthropologist: Ronco (Washington, D.C.) for U.S. Agency for International Development to evaluate and redesign a project for the post-war reconstruction of agriculture in Afghanistan and repatriation of refugees, October-November 1988.
Consultant: Script rewriting for WGBH Television *Nova* series film *Horsemen of China*, Fall 1986
Assistant Director: Cultural Survival (Cambridge, MA) project to assess the social impact of development on ethnic minorities for the U.S. Agency for International Development, 1978-80.
Project Archaeologist: Institute for Conservation Archaeology, Peabody Museum, Harvard University, for field research in Watertown, Massachusetts in 1978 and 1980.
Project Anthropologist: Institute for Conservation Archaeology in cooperation with A.D. Little, Inc. for an evironmental assessment of the East Ghor Canal Project in Jordan, 1979.
Consultant: United Nations Development Program, Badakhshan Project, Kabul, Afghanistan, July 1976.
Archaeological Fieldworker: Smithsonian Institution's Missouri River Basin Survey in North Dakota, summers of 1966 and 1967.

Publications

Books and Monographs:

under contract *The Nomadic Alternative*. Englewood Cliffs, N.J.: Prentice-Hall. scheduled for 1990 release.

in press (with Albert Szabo) *Afghanistan: An Atlas of Indigenous Domestic Architecture*. Austin: University of Texas Press.

in press *The Perilous Frontier: Nomadic Empires and China*. New York and Oxford: Basil Blackwell; and [in Chinese translation] Shanghai: Shanghai People's Publishing House, History division

1982 (with Russell Barber) *The Amphitheater Site: A Late Archaic Settlement in Watertown, Mass*. Cambridge: Peabody Museum Institute for Conservation Archaeology.

1981 *The Central Asian Arabs of Afghanistan: Pastoral Nomadism in Transition*. Austin: University of Texas Press.

Articles:

forthcoming: "Inner Asia and Cycles of Power in China's Imperial Dynastic History."

in press: "Tribe and State Relations: The Inner Asian Perspective." *Tribe and State Formation in the Middle East*, edited by Philip Khoury and Joseph Kostiner (Cambridge: Harvard University Press)

1984 "Weak Links on a Rusty Chain: Structural Weaknesses in Afghanistan's Provincial Government." In *Revolutions and Rebellions in Afghanistan*. Edited by Nazif Shahrani and Rober Canfield. Berkeley: Institute of International Studies, #57, pp. 170-183.

1984 "The Hsiung-nu Imperial Confederacy: Organization and Foreign Policy" [in Chinese translation]. *Hsi-tei: min-tsu hsueh-yan hsuah-pao* 4:154 ff.

1984 "Introduction: NOMADS--Stopped in their Tracks?" *Cultural Survival Quarterly* 8:2-5

1983 "Nomads." *Symbols* Fall 1983.

1981 "The Hsiung-nu Imperial Confederacy: Organization and Foreign Policy." *Journal of Asian Studies* 41:45-61.

1980 "Afghans Fight Old Battles in New War." *Asia* 2/6:12-15, 40-47.

1980 "Iran and Afghanistan" In *Social Impact of Development on Ethnic Minorities*, a project report for the *Agency for International Development*, Washington, D.C. (AID/otr g-1683), edited by David Maybury-Lewis and produced by *Cultural Survival* of Cambridge, MA, pp. 28-69.

1979 "The Impact of Colonial Disputes on Isolated Populations in the Upper Oxus: The Case of the Central Asian Arabs." *Journal of South Asian and Middle Eastern Studies* 3:20-25.

1978 "The Impact of Pashtun Immigration on Nomadic Pastoralism in Northeastern Afghanistan." In *Ethnic Processes and Intergroup Relations in Contemporary Afghanistan*. Edited by John Anderson and Richard Strand. Occasional Paper of the Asia Society's Afghanistan Council, #15.

Reviews:

in press, *Law in Afghanistan* by Mohammad Hashim Khan for *The Middle Eastern Journal*

1987 *Economic Structures of the Ancient Near East* by Morris Silver for *American Anthropologist* 89:194-95.

1986 *Afghan Alternatives* edited by Ralph Magnus for *Contemporary Sociology* 15:4:676-677.

Development Alternatives, Inc.

ELLIOT BERG

Elliot Berg has been involved with the issues and problems of economic development since 1952. As an Assistant Professor of Economics at Harvard in the early 1960s, he taught one of the first courses on African economic development. Though considered an Africanist by virtue of his academic background and his practical experience, Dr. Berg has also worked in Asia and the Caribbean. For two years in the mid-1960s he was the head of an advisory group at the Ministry of Planning in Liberia, and has since then spent some five years in Africa in shorter stays -- carrying out research, teaching, and consulting assignments. He was Professor of Economics at the University of Michigan between 1966 and 1983, and from 1970 to 1978 directed its Center for Research on Economic Development (CRED). Dr. Berg was the coordinator and main author of the World Bank report, *Accelerated Development in Sub-Saharan Africa* (1981), and in 1982 was a resident scholar at the International Monetary Fund, studying privatization issues. He has written extensively on development problems, and has served on numerous advisory bodies and panels: in 1983, for example, he was Senior Economic Advisor to the Secretary of State's Commission on Foreign Assistance. He has held the post of Visiting Professor at Georgetown University in Washington, D.C. and teaches regularly at the University of Clermont-Ferrand in France.

PROFESSIONAL EXPERIENCE

Teaching Experience:

Université de Clermont-Ferrand, France, Visiting Professor, 1978 - present (since 1986, teaching course on National Economic Management in LDCs).

University of Michigan, Professor of Economics and Director of Center for Research on Economic Development (CRED), 1966-1983 (on leave 1980-1983).

Harvard University, Teaching Fellow in Economics (1959-1960); Assistant Professor of Economics (1962-1964).

Other Visiting Professorships: Georgetown University; University of Ghana; University of Ibadan, Nigeria; Columbia University, New York.

Guest Lectures: Approximately twenty universities since 1980.

Other Employment:

U.S. Government: Senior Economic Advisor, Secretary of State's Commission on Foreign Assistance (Carlucci Commission), 1983.

World Bank: Coordinator of Special Study on Africa, August 1980 - December 1981.

Harvard Advisory Group, Republic of Liberia: Project Director of a United Nations-financed, Harvard-executed project of technical assistance and economic planning to the Liberian Central Planning Agency, 1964-1966.

United World Federalists and Foreign Policy Association, New York: public education in world affairs, 1950-1952.

Consultancies (Sample List):

World Bank

Planning and Budgeting in Mauritania (1987 and 1988, on-going).

Lectures on structural adjustment and World Bank policy to: Transport Policy Symposium (May 1987); Eastern African Management Retreat (June 1986); Western Africa Management Retreat (November 1986); and numerous Bank staff and training courses.

Papers for *World Development Report* (1986): Fertilizer Subsidies, Flexible Markets in Niger, African Policy Reform.

West African Public Management Unit: Management-Project Development, Senegal (1986), Mauritania (1987).

Economic Development Institute: Revision of Curriculum for EDI course on National Economic Management (1985-1986). Lectured at EDI-COFEB course, Dakar (1986), Clermont-Ferrand (1987), and Washington (1984-1987).

West African Region, Elaboration of Proposal for a Bank-Financed African Research Facility (1986).

Public Management Unit: Prepared study on divestiture of state-owned enterprises (1985-1986).

Special Office on Africa: Monitoring Institutional Reform (1985).

Education Department: Panel on education policy in Africa.

Country Policy Department: Critical Assessment of Structural Adjustment Lending (1985).

West African Public Enterprises: Study of Privatization in Niger (1984).

Onchocerciasis Control Program: Economic Evaluation, Post-Program Development Strategy (1978, 1984).

East African Agricultural Projects: Somali Grain Marketing Study (1984).

Latin American/Caribbean Agricultural Project: Haiti Agricultural Policy (1984).

West Africa Country Programs: Cameroon Input Supply Study (1983).

Organization for Economic Co-operation and Development (Paris)

Study (six country studies and synthesis) of Cereals Policy Reform in the Sahel (1984-1986).

Study of Absorptive Capacity, Concepts, and Applicability to Sahel (1983).

U.S. Agency for International Development

Zaire: Assistance with USAID country assistance strategy (1988).

Madagascar: Evaluation of the Economic Reform Program and Proposed Private Sector Programs (1987).

Southern African Regional Trade Study (1987).

Burkina Faso: Strategy for Private Sector Development (1986).

Madagascar: Assessment of Agricultural Policy Reform (1986-1987).

Kenya: Evaluation of USAID Structural Adjustment Program (1985).

Niger: Cereals Marketing Study (1983-1984).

Haiti: Agricultural Policy Reform (1983-1984).

Zimbabwe: USAID Strategy Assessment (1983).

A.I.D./Washington: Program and Policy Coordination Bureau: Policy-Based Lending Study (1983).

Somalia: Private Sector Study (1982).

Liberia: USAID Strategy Assessment (1980).

Club du Sahel: Agricultural Prices/Marketing Study (1976-1977).

Study of Drought Impact on Sahel (1975).

Government of Guinea: Macro Policy (1963).

Task Force on Labor Programs in Africa (1962).

United Nations Development Programme

Lecturer, Senior Seminars, UNDP Resident Representatives (The Hague, 1982; Stockholm, 1986).

Senegal: Evaluation of Economic Planning Project (1976).

Mauritania: Evaluation of Economic Planning Project (1971).

Ford Foundation

Mali: Assessment of Work Program of Rural Evaluation Unit (1975).

Vietnam: Assessment of Need for Assistance to University Economics Department and Planning Ministry (1974).

Nigeria: Assessment of Assistance in Manpower Planning (1973).

Kenya: Economic Advisor to Government Salaries Commission (1966-1967).

LANGUAGES

Dr. Berg is fully fluent in spoken and written French.

EDUCATION

Dr. Berg earned his PhD in Economics from Harvard University in 1960. Before that, he was awarded his Masters degree, also in Economics, from Columbia University in 1955 and an A.B. degree in Economics from New York University in 1949. In addition, Dr. Berg carried out interim academic studies at the Institut d'Etudes Politiques at the University of Paris from 1952 to 1953.

3/89

PUBLICATIONS

"The Liberalization of Rice Marketing in Madagascar," December 1988, for special issue on Privatization in World Development.

Editor, Regional Organizations in Africa, 2 volume study prepared for AID, 1988.

Competitiveness of Sahelian Agriculture, with Kenneth Shapiro and Patricia Kristjanson, for OECD, 1988.

Editor, Policy Reform and Equity, Institute of Contemporary Studies, San Francisco, 1988.

"Privatization and Equity," in Elliot Berg, ed., Policy Reform and Equity, Ibid.

Are African Economic Reform Programs Failing? Paper presented to the First Sino-U.S. Conference on Africa, Beijing, June 1988.

"Development Strategies and Development Assistance: Recent Trends and Issues." Paper prepared for The USA, the USSR and World Economic Development, jointly authored volume sponsored by the American Council of Learned Societies and the Soviet Academy of Sciences, 1988.

"Cereals Policy Reform in the Sahel: Reform and Current Issues," in Seminar on Food and Nutritional Strategies, ed. by R. Delleré and J. J. Symoens, Brussels, Royal Academy of Overseas Sciences, Technical Centre for Agricultural and Rural Co-operation, 1988.

"Assessment of the Economic Reform Program in Madagascar." Report prepared for USAID/Madagascar, October 1987.

The Non-Military Uses of Military Forces in Africa. Paper prepared in a joint project with the Rand Corporation, October 1987.

Security Expenditure in Senegal: an Analysis of National Data (with Alexander Berg and Diaw Adama). Paper prepared in a joint project with the Rand Corporation, October 1987.

Transport Policy and Structural Adjustment. Paper (and lecture) presented to the World Bank Transport Sector Symposium, Baltimore, Maryland, May 1987.

The Political Economy of the Military" (with Alexander Berg), March 1987. Paper prepared for World Bank study, The Political Economy of Poverty, Equity and Growth, forthcoming.

Divestiture in Developing Countries, World Bank Discussion Paper No. 11, March 1987.

The Role of the World Bank and the IMF in Africa. Paper presented at Meetings of Western Economics Association, July 1986.

"The World Bank Strategy," in Africa in Economic Crisis, John Ravenhill, ed., Macmillan Press, 1986.

Cereals Policy Reform in the Sahel, Synthesis Volume and Niger Country Study, Club du Sahel, Paris, 1986.

"Policy Reform in Africa: Some Misconceptions." Statement prepared for presentation before the Subcommittee on International Development Institutions and Finance of the Committee on Banking, Finance and Urban Affairs, U.S. House of Representatives, August 1986.

Economic Planning and Decision-Making in African Economies. Paper prepared for the Economic Development Institute, IBRD, 1986.

Institution Building and Institutional Decay: A Case Study of Development Budgeting in Liberia, 1964-1975. Paper prepared for the Economic Development Institute, IBRD, 1986.

"Des politiques agricoles inadaptées?" Paper presented at conference on Asia and Africa, Médecins Sans Frontières, Paris, November 1985. Published in S. Brunel, ed., Asie-Afrique: Greniers Vides, Greniers Pleins, Paris: Economica, 1986.

The Rationale for U.S. Cooperation in African Development. Paper presented at University of Michigan conference on the 25th anniversary of the Peace Corps, October 1985.

Divestiture of State-owned Enterprises in LDCs. A Report for the World Bank, November 1985.

Liberalizing Agricultural Markets in LDCs. Prepared for the World Bank, May 1985.

Evaluation of USAID Structural Adjustment Program in Kenya. Prepared for the U.S. Agency for International Development, April 1985.

Onchocerciasis Issues: A Framework for Evaluating Rural Development Impact of Onchocerciasis Control. A Report for the World Bank, August 1984.

Structural Adjustment Lending: A Critical View. Prepared for the World Bank Country Policy Department, January 1985 (with Alan Batchelder).

Privatization in Niger. A Report for the World Bank, December 1984.

The Potentials of the Private Sector in Africa. Paper prepared for Conference on Rehabilitation and Recovery in Sub-Saharan Africa, Paris, November 14-16, 1984. (Published in volume of that title, OECD, Paris, 1985. Reprinted in Washington Quarterly, October 1985, pp. 73-83, and in Journal of Economic Growth, Third Quarter 1986.)

World Bank View of Development and its Critics: Agricultural and Food Problems. Paper presented to Soviet-American Symposium on African Policies, Moscow, June 25-30, 1984. (Published as "Accelerated Development Revisited" in Africa Notes, a publication of the African Studies Program of the Georgetown University Center for Strategic and International Studies, No. 31, August 5, 1984.)

U.S. Economic Assistance: Trends and Issues. Paper presented at the Hudson Institute/Atlantic Institute for International Affairs Conference, "The West: Resource Issues and the Soviet Union in the Third World," OECD, Paris, June 21-24, 1984.

Elites politiques et développement économique, Conférence de Clôture, Congress of Economists of the French Language, Clermont-Ferrand, May 1984.

Haiti: Agricultural Policy Reforms, PL 480 Title III Project Paper Background Document, April 1984.

Report of the Joint Somali Government and World Bank Study of Agricultural Incentives and Grain Marketing in Somalia, January 10, 1984 (with Alan Batchelder).

Absorptive Capacity in the Sahel. A report for the Club du Sahel, Organization for Economic Co-operation and Development, April 1983.

Changing the Public-Private Mix: A Survey of Some Recent Experiences in LDCs. A report for the International Monetary Fund, Fiscal Affairs Department, February 22, 1983.

Accelerated Development in Sub-Saharan Africa, World Bank Report, 1981 (coordinator, main author).

"Esquisse d'un modèle bureaucratique du choix des projets" (Outline of a Bureaucratic Model of Decisionmaking on Projects), Annales Economiques (Clermont, France), 1980, No. 14, pp. 149-158.

Africa, the U.S. and the New International Economic Order. Paper presented at conference on An African Foreign Policy for the United States, Harvard University, April 1977 (published in proceedings of this conference, 1981).

"Some Problems in the Analysis of Urban Proletarian Politics in the Third World," Comparative Urban Research, April 1976.

The Recent Economic Evolution of the Sahel, CRED, University of Michigan, 1975.

"Structural Transformation vs. Gradualism: Recent Economic Development in Ghana and the Ivory Coast," Patterns of Modernization in Ghana and the Ivory Coast, D. Foster and A. Zolber, eds., University of Chicago Press, 1971.

"Wage Structure in Less-Developed Countries," Wage Policy Issues in Economic Development, Anthony D. Smith, ed. (Also CRED Discussion Paper No. 1, January 1968.)

"Socialist Ideology and Marketing Policy in Africa," Markets and Marketing in Developing Economies, Moyers and Hollander, eds., 1968.

"The Economics of Migrant Labor in West Africa," Urbanization and Migration in West Africa, H. Kuper, ed., University of California Press, 1965.

"Socialism and Economic Development in Tropical Africa," Quarterly Journal of Economics, November 1964.

"Trade Unions," Political Parties and National Integration in Tropical Africa, with J. Butler, J.S. Coleman and C. Rosberg, eds., University of California Press, 1964.

"The Character and Potential of African Economies," The United States and Africa, American Assembly, Walter Goldschmidt, ed., revised edition, New York: Praeger, 1964.

"Real Income Trends in West Africa, 1939-1960," African Economies in Transition, M. Herskovits and M. Hurwitz, eds., Northwestern University Press, 1964.

"Backward-Sloping Labor Supply Functions in Dual Economies--the African Case," Quarterly Journal of Economics, August 1961.

A New American Policy for Africa. Written for the Africa League, with David Apter, Rupert Emerson, Ruth Schachter, Immanual Wallerstein, 1960.

"The Economic Basis of Political Choice in French West Africa," American Political Science Review, June 1960.

Development Alternatives, Inc.

MARTIN H. BILLINGS

Martin H. Billings, a senior associate of Development Alternatives, Inc. (DAI), is a highly skilled and experienced agricultural economist who has carried out primary data collection and performed quantitative and thematic policy analyses during more than 22 years of international experience in the developing world. Dr. Billings, who holds a Ph.D. degree in agricultural economics from Michigan State University, has participated in activities leading to the formulation and implementation of policies affecting the production, pricing, and marketing of crop and livestock commodities in Sudan and other arid and semi-arid zones throughout Africa. He has identified, designed, analyzed, and managed agricultural development projects of all levels of complexity. Dr. Billings has worked with counterparts from farmers to ministers, and has advised host country government and parastatal organizations on agricultural data needs, analytic techniques, and policy options. He has served with DAI on several previous assignments and is a proven expert on agricultural production systems, agricultural and economic policy, and economic and statistical analysis. Dr. Billings's quantitative skills are highly developed and were brought up to date during the year he spent at Michigan State as a visiting professor (1985-1986).

PROFESSIONAL EXPERIENCE

Senegal: Team Leader
Harza-Devres (January-March 1989)
Led a team and served as agricultural economist for a feasibility study to identify potential irrigation perimeters along the middle and upper Senegal River.

Senegal: Team Leader
Harza-Devres (October-December 1988)
Prepared a monitoring and evaluation plan for the Bakel Irrigation Project.

Somalia: Team Leader/Agricultural Economist
Somalia/USAID (August-October 1988)
Analyzed Somalia's fertilizer policy, including appraisal of supply and demand, government policy and regulations, and farmer use.

Morocco: Economist
Development Alternatives, Inc. (June-July 1988)
Prepared logical framework, scopes of work for implementing team, development of criteria for selection of dams sites, and economic annex for a small dams-irrigation project paper.

Sri Lanka: Chief Economist
Development Alternatives, Inc. (April-May 1988)
For the Sri Lanka Rehabilitation Project Paper, work focused on irrigation systems damaged during civil war. Prepared cost-benefit analysis of irrigation, cost-effectiveness of housing proposal, and logical framework.

Pakistan: Regional Economist
Master Plan for Barani Area Development Project, Pakistan, DAI/Asian Development Bank (August 1987-March 1988)
Directed subsector studies of farm production and distribution systems; collected, analyzed, and integrated agronomic and demographic data; supervised economic geography component, and performed cost/benefit analyses for two project design/feasibility studies, as contributions to a 10-year strategy plan for the rainfed area of Punjab.

Central African Republic: Team Leader/Agricultural Economist
Labat-Anderson, Inc. (April-May 1987)
Led a team for the evaluation of first phase of USAID Postharvest Storage Project using appropriate technologies developed *in situ* during life of project. The work focused on dry-land crops. Gathered and analyzed farm and market-level data to assess project management.

Sahel: Agricultural Economist
Development Alternatives, Inc. (October-December 1986)
Responsible for the packaging of a project paper undertaken to examine the feasibility of extending the Sahelian Agro-climate Project -- AGRHYMET -- which provides advice to governments, farmers, and other user groups through both public and private channels at the national and local level. Conducted a representative cost-benefit analysis of the objectives established by AGRHYMET, including complex modeling analysis for a 40-year period, and examined the status and utility of the individual pilot projects being considered or actually implemented in Burkina Faso, Mali, Niger, and Senegal.

Senegal: Agricultural Economist
Institute of Developmental Anthropology (July-September 1986, January 1987)
Conducted a rapid evaluation study of contract farming in Cameroon and Senegal consisting of 25 farm surveys and interviews with institutional buyers, processors, and middlemen; responsible for preparing three chapters of a book to be published that includes all eight case studies produced under the project in the context of development theory and practice. Gathered, aggregated, and analyzed farm, household, and market-level data and produced reports based on these analyses.

Visiting Professor in Agricultural Development Economics
Michigan State University (September 1985-June 1986)
Participated in numerous seminars and discussion programs as both participant and resource person; produced a joint study of the Sahel Development Program to determine why substantial investments have failed to move the Sahelian countries toward food self-sufficiency; enrolled in graduate-level agricultural economic courses to remain abreast of current developments and tools, both quantitative and qualitative, in the field of agricultural economics in the developing world.

Career Officer
United States Agency for International Development (September 1967-September 1985)

Côte d'Ivoire: Agricultural Officer, Regional Economic Development Services Office (REDSO/W) (November 1982-September 1985)
Supported the selection, design, implementation, monitoring, and evaluation of agricultural, rural development, and other projects in the 19 countries in the

region and in particular in those countries whose programs were too small to justify a full mission. In the latter countries, responsibilities included identifying developmental needs, designing responsive projects, formulating supporting policies, and conceptualizing approaches and strategies. Activities included river navigation, fish farming, rural markets, crop storage, agricultural research, maize production, and fertilizer policy. Carried out assignments in Congo, Gambia, Sao Tome and Principe, Senegal, Sierra Leone, Togo, and Zaire.

Philippines: Project Officer, USAID/Manila (May 1979-June 1982)
As Project Officer for the Agriculture Education Outreach Project (AEOP), supported the development of seven colleges and universities on four islands in the country. The $14-million dollar project, in addition to construction, upgrading of libraries and laboratories, and teacher training, included a credit fund upon which students could draw to initiate money-earning projects in their home areas. These student projects ultimately led to over 1,000 varied schemes, including a chain of cooperative retail stores on Palawan. The project was cited by Searca as a model. IRRI and AVRDC were both involved in technical support. Between the Central Project Office in Manila and the seven colleges, 192 persons worked with or were assigned to the project.

Also was responsible for establishing a project monitoring system for the mission's principal project, an integrated effort that included four major components divided into 146 sub-activities. This system was implemented by NEDA, the executing implementing agency, and proved very effective. It gathered and analyzed data on project impacts on farmers and rural communities to measure the effects of programs, projects, and policies promoted by the AEOP.

Finally, the mission desired to engage in some significant but undetermined activity in fisheries. The identification of a suitable project involved close cooperation with ICLARM, BIFAR, provincial governors, and Ministry of Natural Resources, as well as numerous visits to particular areas of the country. An international seminar was held in support of the search. Building upon this, produced a project identification paper that has led to the creation, on Leyte, of the first tropical fish-stock assessment institute in the world.

Kenya: Chief, Project Design, Regional Economic Development Services Office (REDSO/E) (June 1975-April 1979)
Supported the design and planning of many AID-supported agricultural and rural development projects in countries of eastern and southern Africa and the Indian Ocean. At times, was team leader, for example, on Botswana animal traction project. This work included a feasibility study, infrastructure development, training, credit, and equipment trials and was supported by a team of six people. Supervised five direct-hire Ph.D.-level professionals. Wrote the country program statements for Burundi, Djibouti, Mauritius, and the Seychelles. Prepared the preliminary project document for a $45-million farm mechanization project in Egypt. Worked with projects in areas such as agricultural marketing, agricultural education, crop development, peat as an alternative energy source, and animal traction. Also worked in Rwanda, Somalia, Tanzania, Yemen, and Zanzibar.

United States: Agricultural Economist, USAID/Washington, Office of Development Services (September 1972-May 1975)
Worked with the Director of the Office for Development Services, Africa Bureau,

and was assigned to the Sahel situation as soon as it became recognized as an important problem. This assignment led to five long trips to the Sahel and one to Sudan, plus one to northeast Brazil to examine that country's drought relief program. The Sahel work included extensive reconnaissance of the drought areas; close work with the EEC, FED, FAC, and U.N. organizations in Rome, Brussels, and Paris; and with the Club du Sahel. Took lead in AID in promoting use of remote sensing as a tool in development work. This led to participation in several conferences on the subject and close work with National Academy of Science to encourage use of ERTS and other satellite resources. In addition, carried out assignments in Sudan, Guinea, Senegal, and Tunisia.

India: Agricultural Economist, USAID/New Delhi (November 1969-May 1972)
Led all-India study, planning, and implementation of fruit, nuts, and vegetable production and marketing with a view toward identifying opportunities for AID initiatives in the sector (as a second phase of the Green Revolution). The budget for the studies was about $1 million (Rs 7 million) per year. The research involved the development of methodology and then engaging Indian scholars and research centers to complete field investigations. The Indian Institute of Management, IIM/Ahmedabad, was the major contractor, focusing upon the most significant production areas -- Himachal, Pradesh, Maharashtra, South Arcot, and other areas. Carried out a survey of vegetable marketing in Utar Pradesh and Haryana that included meeting with dealers in the "sybzi mandhi" or vegetable markets. A consumption study was done by Hindustan-Lever. The work was not completed because of the termination of the U.S. foreign assistance program in India in 1972.

Graduate Researcher
Michigan State University and the University of Nigeria (June 1962-September 1967)
While in full-time pursuit of a Ph.D. degree in agricultural economics, conducted an 18-month study of the economics of the commercial poultry industry in eastern Nigeria, funded by an ADC grant. Studied all aspects of the sector -- feed, chicks, veterinary, extension, production, marketing, and consumption. Undertook four sub-studies:

- 100-farm survey of management and entrepreneurship;
- Four urban consumption studies (Onitsha, Enugu, Port Harcourt, and Calabar); and
- Entrepreneurial study of input supply of chicks, feed, etc.

Also conducted a study into the supply of maize for commercial poultry in Nigeria as a private consultant during this time.

EDUCATION

Martin Billings holds a Ph.D. in agricultural economics from Michigan State University, which he earned in 1967. He received an M.A. degree from Howard University in 1961. Tufts University awarded him a B.A. in history and geology in 1956.

Dr. Billings completed an academic year at Michigan State University in 1985-1986 as a visiting professor. He taught agricultural economics at the University of Nigeria, Nsukka (1965-1967) to senior students and the African area course at Georgetown University (1973-1975). In addition, he attended advanced studies in development at Harvard University (1970) and in project evaluation at the University of Pittsburgh (1984).

RELATED PROFESSIONAL SKILLS

Dr. Billings has been tested at a Foreign Service Language Institute rating in French of 4 for both reading and speaking. He has a thorough knowledge of micro-computers and software, including word processing (WordPerfect), spreadsheet (Lotus), and statistical analysis programs (SPSS). His quantitative skills include numerous cost/benefit methodologies, statistical analysis techniques, and linear programming and modeling.

RELEVANT REPORTS AND PUBLICATIONS

Articles in Economic and Political Magazines (India):

"Effects of Farm Mechanization in Punjab and Maharashtra Agriculture" (1969)
"The Green Revolution and Employment in Punjab Agriculture" (1969)
"Tax Incentives and Agricultural Investment in India" (1968)

AID Reports:

Opportunities for Use of Remote Sensing in Sahelian Planning (1973)
Alternative Projects in Philippine Fisheries (1981)
Alternative Dry-Land Strategies for the Sahel (1974)
The Recurrent Cost Problem - Or, Is There Life After EOPS? (1985)

Books:

Evaluation of the Sahel Recovery Program and the Club du Sahel, in preparation, MSU series, co-author

Contract Farming as a Development Tool, in preparation, IDA, co-author

Fertilizer in India, AID and Bombay, 1969, co-author

4/89

Development Alternatives, Inc.

Resume

Kerry M. Conner

Educational Background

1976 B.A. (History) - University of Nebraska-Omaha
1979 M.A. (History) - University of Nebraska-Omaha
1987 Ph.D. (Geography) - University of Nebraska-Lincoln

Experience

Consultant to the Swedish Committee for Afghanistan (Peshawar, Pakistan). Preparation of feasibility study and program recommendations for refugee women in the health, education, and/or income generation sectors. On-going.

Consultant to Volunteers in Technical Assistance (VITA) (Peshawar, Pakistan). Preparation of profiles of selected Agricultural Rehabilitation Schemes in Afghanistan, including written reports and map sets. Develop field survey training program and train field surveyors. On-going.

Consultant to the Agency Coordinating Body for Afghan Relief (ACBAR) (Peshawar, Pakistan). Collected data for and prepared position paper on the potential for utilizing traditional councils as implementation agencies for reconstruction in Afghanistan. March through May 1989.

Consultant to UNICEF (Peshawar, Pakistan). Designed and implemented skill inventory of female Afghan refugees in the North West Frontier and Baluchistan provinces trained in the health and education sectors. Developed inventory guide; trained and supervised 24 interviewers. Supervised one computer programmer, four data enterers, four translators, four drivers. Prepared report evaluating available skills, need for upgrading skills, program recommendations. August through December 1989.

Deputy Director, EIL-UNHCR Education Project (Quetta, Pakistan). January through June 1988.

Advisor and collector of resource materials for Afghan Special Collection, University of Nebraska-Omaha. On-going.

Advisor to Refugee Studies Programme, Queen Elizabeth House, Oxford University. On-going.

"Noshe Djan" (book review). Afghanistan Forum, 14, Sept 1987.
"Anniversary of the Panjdeh Incident". Voice of America (Pashtu Service), 29 March 1986.

"Food in the Acculturation Process of Afghan Refugees in the United States". Southwestern Journal of Folklore, forthcoming.

"A Spatial Analysis of the Settlement Patterns of Afghan Refugees in Peshawar, Pakistan". Association of American Geographers Abstracts, 1985.

"Afghan Refugees in Peshawar". Afghanistan Forum, 13, March 1985.

"Afghan Refugees in Pakistan: Why They Fled". South Asian Studies Abstracts, University of Wisconsin, 1985.

A Background to the Afghan Crisis with David Champagne and John F. Shroder, Jr. Occasional Paper No. 2, Center for Afghanistan Studies, University of Nebraska at Omaha, 1981.

"Afghan Refugees in the United States: A Spatial Analysis". Association of American Geographers Abstracts, 1982.

"Journey Through Afghanistan" (book review). Afghan Council of the Asia Society, Fall 1981.

"The Panjdeh Crisis". Middle Eastern Studies Association Abstracts, 1980.

Honors and Awards

Visiting Research Fellowship, Refugee Studies Programme, Queen Elizabeth House, Oxford University, on-going.
University of Nebraska Regents Scholarship, 1985-87
Gretchen Bechtol Lee Fellowship, University of Nebraska, spring, 1986
Presidential Fellowship, University of Nebraska system, 1983-84
Donald Walters Miller Fellowship, Univ. of Nebraska, 1982-84
Maude Hammond Fling Fellowship, University of Nebraska, 1982-83
Happold Travel Grant, University of Nebraska, 1982.
Most Outstanding Graduate Student Award/Stipend, University of Nebraska at Omaha, 1978
Fulbright-Hayes Fellowship (Afghanistan), 1978

Visiting Assistant Professor, Department of Geography, University of Vermont, Burlington, VT 05405-0114, USA. August-June 1986-87.

Consultant to Heating Research Company. Researched and prepared report on alternative cooking methods in fuel-scarce countries. September through November 1985.

Instructor, Department of Geography, University of Nebraska-Omaha, Omaha, NE 68182, USA. January-June 1985.

Consultant to the International Rescue Committee (Peshawar, Pakistan). Researched and developed recommendation plan for design of educational programs for Afghan refugees. Summer 1984.

Instructor, Department of Geography, University of Nebraska-Lincoln, Lincoln, NE 68588-0132, USA. Jan-May 1982.

Assistant Director of the Afghanistan Relief Committee (New York, NY). Recruited and supervised volunteers; established Board of Directors; initiated and supervised fund-raising activities. Fall/Winter 1978-79.

Conducted fifteen month research project (1983-84) on refugee residential choice behavior in Peshawar, Pakistan. Trained and supervised three person team to conduct 1,000 interviews of heads of families. Funded by the University of Nebraska.

Publications

"Factors in the Residential Choices of Self-Settled Refugees from Afghanistan in Peshawar, Pakistan". International Migration Review, forthcoming.

Skill Inventory of Afghan Female Refugees in the North West Frontier and Baluchistan Provinces. UNICEF, 1989.

A Preliminary Investigation of Contemporary Afghan Councils with Dr. Lynn Carter. Agency Coordinating Body for Afghan Relief, June 1989.

Geographic Bias in Refugee Treatment Within Host Countries. Network Paper No. 2, Refugee Studies Programme, Queen Elizabeth House, Oxford University, May 1988.

"Islam and the Resistance in Afghanistan" (book review) by Olivier Roy. The Afghanistan Studies Journal, Center for Afghanistan Studies, University of Nebraska at Omaha, Spring 1988.

"Rationales for the Movement of Afghan Refugees to Pakistan". Afghanistan Resistance: The Politics of Survival, Grant M. Farr and John G. Merriam, eds., Boulder, CO, Westview Press, 1988.

Development Alternatives, Inc.

GRAHAME BEAUMONT RICHARD DIXIE

Grahame Dixie is a well-known agricultural marketing specialist and agronomist with over 14 years of experience in international agricultural production and marketing throughout the world, but particularly in the Middle East and Gulf States. His assignments as a marketing and horticultural expert have taken him to 24 countries to carry out appraisals, feasibility studies, designs, and advisory consultations in marketing, export marketing, new crop introduction, and appropriate horticultural technologies. By virtue of his assignments to Saudi Arabia, North Yemen, Kuwait, United Arab Emirates, Bahrain, and Qatar, Mr. Dixie has accumulated a wealth of knowledge about Gulf marketing opportunities and realities.

His expertise covers both tropical, sub-tropical, and temperate fruits and vegetables. Mr. Dixie is thoroughly familiar with the production concerns of small horticultural farmers and their marketing needs and strategies in developing countries. He has worked with clients as diverse as the FAO, World Bank, International Trade Center, IFAD, the Swiss Development Corporation, and United Kingdom farmers, wholesalers and importers, insurance companies, and the Agricultural Training Board.

PROFESSIONAL EXPERIENCE

Independent Horticultural/Agronomy Consultant

Numerous international and domestic (United Kingdom) assignments for banks, development corporations, and private firms in 24 countries (1982-present)

Illustrative missions include:

Barbados: Horticulturist for the Caribbean Development Bank (January-March 1988) assessing the horticulture market to develop crop diversification through regional export of crops.

Trinidad: Horticulturist for the European Development Fund (June-Sept 1987). Conducted survey of tree and crop diversification program. Assessed feasibility of developing a tropical fruit market for local, West European, and U.S. markets.

Egypt: Horticulturist for the FAO (April 1987) looking at potential for exporting products from Ismailia on the Suez Canal to European and Gulf markets.

Iraq: Horticulturist for the Small Farmer Credit Project for ULG/IFAD (1987). Examined opportunities for loans for citrus, grapes, pistachio, olives, and assorted pome and stone fruit.

Saudi Arabia, United Arab Emirates: Team Leader for Demeter/COLEACP (1986) of a group of potential East African horticultural exporters on a study tour of the markets in Saudi Arabia and the United Arab Emirates. The mission identified market opportunities, prices of potential products, packaging and quality requirements, alternative transport arrangements, and reliable import companies.

Pakistan: Team Leader for the Swiss Development Corporation (1985-1986) for a fact-finding mission to Pakistan as the first stage of a Fruit Development Project. The study included an assessment of both the agronomic and the market opportunities with emphasis on establishing the needs of farmers from an extensive interview program.

United Kingdom: Market Analyst/Horticultural Consultant for several private farmers and fruit importers in Cornwall, Berkshire, and Essex, United Kingdom (1982,. 1983, 1985)) to help in identifying market opportunities for new vegetables and bulbs in the United Kingdom and diseases on imports of pineapples. Additionally, provided assistance in the planning and design of pick-you-own farms including crop selection, direct marketing, capital investments, cash flows, and site layout.

Pakistan: Horticulturist for the Asian Development Bank/Pilgrim Associates (1984) on a study of agro-industrial constraints in Pakistan covering fruit and vegetable processing and export marketing.

Southern Africa: Advisor for the International Trade Center (1983-1984) in addressing issues of post-harvest handling and export-marketing strategies for fruits and vegetables in **Kenya, Zambia, Swaziland, and Tanzania.**

Arabian Gulf: Horticulturist conducting a study for the FAO (1983) in the Arabian Gulf that covered consumption levels, seasonal variations in prices, market trends, significance of local production, sources of imports, and market structure. Market opportunities for regional producers and exporting countries were also identified.

Syria: Horticulturist/Agronomist with private U.K. firms for the Ministry of Agriculture in Syria (1983) preparing a projection of future production and demand levels of fruit crops as a planning aid in the first stage of a fruit production project aiming to plant 19,000 hectares of fruit trees. Devised a computer data-base program to calculate production levels based on yield data and the country's planting program. The study was able to identify future market opportunities for Syria's fruit crops.

Seychelles: Market Specialist for a feasibility study for FAO (1983) of a potential hydroponic vegetable production unit in the Seychelles Islands. Vegetable supply to the local tourist trade and to the Arabian Gulf export markets were explored. The study included a tour of potential markets and enterprises in the Gulf, an assessment of local market potential, consideration of the existing vegetable production farms, and a technical assessment of the viability of hydroponic production in the country.

Jamaica: Market Analyst/Horticulturist for Landell Mills Associates (1983) to conduct a feasibility study that would produce fruit and vegetable crops in Jamaica for markets in North America and Europe. The study outlined a farm plan, capital requirements for the operation, and projections of profitability.

North Yemen: Horticultural Specialist/Market Analyst for a private client (1982) to conduct a pre-feasibility study of a potential agricultural marketing company in North Yemen that would distribute horticultural produce locally and to export markets within the Arabian Gulf. The study included identifying the principal production areas, major crops, crop seasonality, and market opportunities. Assessments were made of the existing marketing system with an analysis of margins at each stage in the production and marketing chain.

Pakistan: Team Leader
World Bank and IFAD (1983-present)

Providing new technologies for a horticultural project under the auspices of the Agricultural Development Bank of Pakistan. Emphasis is on small horticultural farms engaged in the production of deciduous fruit crops, tropical and sub-tropical fruit crops, and vegetables. New technologies were aimed at improved fruit planting material, water-saving irrigation techniques, and plasticulture for vegetables, and included semi-dwarfing apple rootstocks coupled with stool bed propagation and chip budding, drip irrigation, mini and walk-in polythene tunnels, and plastic soil mulching. Examples were established on progressive commercial farms and now the project is promoting the build-up of credit for these technologies.

Caribbean: Horticultural Consultant/Agronomist
LG Consultants/Laurence Gould Limited (1977-1981)

Specific assignments included phased consultancies in **Antigua** and the **Bahamas** to establish each country as an exporter of fruit and vegetables; agricultural development trials in the Sahara Desert of **Egypt** as the irrigation agronomist to develop production techniques to ensure correct vegetable timing and quality; and an assessment of the potential financial, economic, and agronomic benefits of a transplanting machine and its likely market potential to Dutch and British vegetable farmers. A selection of assignments completed by Mr. Dixie included:

- Appraisals of horticultural businesses, covering costs and sales, selection of alternative crops, consideration of yields and agricultural techniques, and plans for profitability improvements;

- Production plans for vegetables and soft fruit; issues included soil cultivation, selection of varieties, crop protection, weed control, irrigation techniques and timing, fertilizer, harvesting techniques, yield, and output estimates;

- A study of the importance of groundwater for arable and vegetable crops and the possible agronomic implications of groundwater extraction;

- Investigations of crop failure in fruit and vegetables; identification of problems such as pests, disease, malfunction of agricultural chemicals, and air pollution;

- Advice to farmers and growers on technical and management issues;
- Technical appraisals of new technology, consideration of both agronomic and economic benefits. Studies covered automatic transplanter of vegetable crops, alternative energy sources for glass houses, and cooling systems for protected cropping; and
- Market studies of export opportunities for fruit and vegetable crops.

EDUCATION

Mr. Dixie holds a Master of Science degree in horticulture from the University of Bath, England, and a Bachelor of Science with Honors in botany from the University of Wales in Aberystwyth.

SELECTED PUBLICATIONS

Mr. Dixie has published technically oriented articles on fruit and vegetable production and marketing, and general agricultural topics in handbooks and magazines and for the Agricultural Development Bank of Pakistan.

Dixie, Grahame; "The Development and Use of Hard-Harvesting Aids in Agriculture," *Appropriate Technology*, 1978.

Dixie, Grahame; "Pick-Your-Own Farming in the 80's," "Nitrates, Vegetables & Cancer," *Horticulture Now*, 1982.

Dixie, Grahame; "Alfalfa Sprouts, A New Crop," *The Grower*, 1982.

Dixie, Grahame; "Greenhouses in the Middle East," *Middle East Agribusiness*, 1983.

Dixie, Grahame, "The Major Markets for Fruits and Vegetables in the Arabian Gulf," FAO, 1984.

Dixie, Grahame, "Vegetables," *ADBP Technical Handbook No. 1 and* "Fruit," *ADBP Technical Handbook No. 2*, Agricultural Development Bank of Pakistan, 1986.

Curriculum Vitae

Development Alternatives, Inc.

NAME: **BRIAN DUNCAN**

SPECIALISATION: SENIOR ECONOMIST

DATE OF BIRTH:

NATIONALITY: BRITISH

QUALIFICATIONS: BSc (Hons.) Agriculture, London, 1956
MSc Agricultural Economics, London, 1986
Dip Applied Economics, London, 1969

SUMMARY OF EXPERIENCE

Brian Duncan has 30 years of experience as an agricultural economist and planner in Africa and Asia. For the last 10 years his work has been mainly concerned with sectoral and project appraisal and evaluation in both rainfed and irrigated agriculture. He has considerable experience of project identification, preparation and analysis for multilateral and bilateral agencies, having worked on studies for the World Bank, EDF and ODA, usually as a leader of multi-disciplinary teams. Since mid 1986 he has been Principal Economist with Minster Agriculture Limited.

CONSULTANCY ASSIGNMENTS

1987: Economist, Agricultural Master Plan, Great Man-Made River Project, Libya. Responsible for crop, livestock and farm budgets, financial and economic analysis of plan.

Team Leader for study of export market potential for fresh and processed tropical fruit and vegetables from Sri Lanka and Malaysia to Europe, the Middle East and the Pacific Basin. Visited Hong Kong, Japan, the United States and Holland for market assessments.

Agricultural Economist, responsible for:

- providing economic/financial analysis for report on cashew production and processing, Sri Lanka.
- supervision of pre-feasibility report on dairy project, Bahamas.

1986: Agricultural Economist responsible for supervision of economic aspects in reports on: fruit, flower and foliage production in Sri Lanka; agricultural extension in Togo; rice

irrigation in Zanzibar; and rubber production in Zambia.

1984-85: Team Leader/Agricultural Economist, World Bank Irrigation Study, Malawi. The Phase I pre-feasibility studies covered rehabilitation and possible extension of 16 existing rice irrigation schemes, five self-help schemes, three pilot borehole schemes, and a 200 ha pilot scheme. The aim was to advise on which schemes were viable and worthy of further investigation, and also to report on irrigation sector issues. Phase II consisted of detailed technical designs and planning as a basis for preparation for funding by aid agencies.

1984: Economic Adviser, Transmigration Technical Advisory Group, Indonesia. Responsible for co-ordinating within the Technical Advisory Group the drafting of the project proposal for the next tranche of World Bank financing (Trans V loan) to assist in the planning of the Indonesian Government's transmigration programme. The planning component included remote sensing studies, land use planning, settlement projects and economic appraisals.

Agricultural Economist, Tumlingtar Irrigation Project, Nepal. This study advised the Nepal Government and ODA about the feasibility of gravity irrigation (2,000 ha) of the river terrace at Tumlingtar, and included liaison with the socio-economists of the local consulting firm. A variety of economic issues in the area were investigated, including food supplies, transport, and social welfare.

1983: Team Leader/Economist Planner, Review of Rural Development Areas Programme (World Bank) Swaziland. The six-month study reviewed the multi-donor funded RDAP to assess its effectiveness, to identify achievements and constraints, and to suggest remedial measures. The team included specialists in sociology, livestock, erosion and agronomy, and the study included infrastructure, research, extension, credit, input supplies, irrigation and water supplies.

1982-83: Southern Africa Regional Representative, Hunting Technical Services Limited, Zimbabwe. Liaison with potential clients, including government and

commercial organisations, and representatives of aid agencies in Zambia, Malawi, Botswana, Lesotho and Swaziland. Participated in a number of short studies in Zimbabwe, and in a feasibility study of an irrigation scheme for the Ndzevane Refugee Settlement in Swaziland.

1981: Team Leader/Agricultural Economist, Estate Credit Study (EDF) Malawi. The study advised the Malawi Government on the desirability of establishing a specialised credit institution for the estate sector (tobacco, tea, sugarcane) and on the structure, operations and finances of the institution within the context of existing national and sectoral institutions and policies.

1980-81: Project Manager/Agricultural Planning Economist, Final Designs and Detailed Cost Estimates of Mahaweli System C, (World Bank) Sri Lanka. Managed a team of sixteen specialists working closely with the Mahaweli Development Board on the irrigation, settlement and infrastructure plans, design and cost estimates for a 70,000 ha area, for which a feasibility study had earlier been undertaken

1979-80: Project Manager/Agricultural Planning Economist, Mahaweli System C Feasibility Study (ODA) Sri Lanka. Managed a team of 25 specialists which prepared plans, including land capability, settlement and social infrastructure for a 70,000 ha area. Proposals and evaluations involved alternative development options, including rice, sugarcane and rainfed crops. Reports included sociology, credit, management systems, extension, training, farm power, labour, storage and processing, marketing and settlement procedures.

1979: Agricultural Economist, Western Savannah Development Project, Sudan. The project involved the establishment of a Development Corporation and the reorganisation of sedentary and nomadic farmers in an area of ten million hectares of South Darfur Province. This input was concerned with revision and re-evaluation of the project for the aid agencies.

1978: Agricultural Economist, Mahaweli System C: Preliminary Feasibility Study, Sri Lanka. Study of market prospects for agricultural commodities, evaluation of proposals for cropping patterns and

farm categories, and economic and financial analyses of development proposals.

1977-78: Agricultural Economist, Dairy Farming Study (ODA) Jordan. The study entailed appraisal of production and marketing in the whole country.

1977: Agricultural Economist, Feasibility Studies in the Desert and Southern Highlands Irrigation Scheme (ODA) Jordan. This project entailed studies of production and marketing of fruit, vegetables, cereals and fodder crops, as well as economic and financial analyses of four groundwater irrigation schemes.
Team Leader/Agricultural Economist, Agro-Industrial Potential Study, South Chad Irrigation Project, Nigeria. The study included marketing investigations for the main products (wheat, rice and cotton) and feasibility studies of vegetable processing, beef feedlots, dairying and large-scale mechanised farming, for 62,000 ha of irrigation.

1970-77: Chief Economist and Head of Economics Department, NFU, Zimbabwe. The Department provided economic policy advice to the NFU and included a computer-based Management Accounting Service giving advice to farmers on all aspects of business management; the collection and analysis of statistical data on market factors; commodity marketing; price negotiations; producer price stabilisation; low cost foods for human nutrition; and sectoral economic surveys (beef, dairying, coffee).

1956-69: Agriculturalist, then Farm Management Specialist, Zambia/Zimbabwe. Initially co-ordinated a 100,000 hectare settlement scheme in Zambia and then participated in investigations of management aspects of the tobacco industry in both countries. After this he undertook farm management advice including a farm accounts scheme for smallholders.

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RICHARD ENGLISH

Richard English, an associate of Development Alternatives, Inc. (DAI), is an anthropologist with experience in project management, social impact assessment, proposal and report writing, and survey and sampling methods. Dr. English's special areas of expertise include relief and self-reliance project planning and implementation, small-scale agricultural development and rural marketing, and economic anthropology and rural sociology. He has spent the last three years as program officer in Peshawar, Pakistan, administering the United Nations High Commission for Refugees suboffice, where he was responsible for monitoring assistance programs in 65 Afghan refugee camps throughout Pakistan's North West Frontier Province. He recently served on DAI's evaluation and redesign team for the Tribal Areas Development Project. In addition to working in Pakistan, Dr. English has worked in Nepal conducting a lengthy study on the social economy and agricultural development of the eastern hill region. He holds a Ph.D. degree in anthropology from the New School for Social Research. Dr. English has good skills in Dari, Pashto, and Nepali, and also speaks Hindi/Urdu and French.

PROFESSIONAL EXPERIENCE

United Nations High Commission for Refugees (UNHCR), Islamabad, Pakistan, and New York
Team Leader and Project Administrator (March-July 1989)

Responsible for the supervision and management of information gathering and analysis required by the UNHCR to plan a comprehensive repatriation program for Afghan refugees. This work involves project administration; data-base and information management; project planning and design; and supervision of several teams, including a 30-person team of Afghan enumerators.

U.S. Agency for International Development, Pakistan
Member of DAI Evaluation and Redesign Team, Tribal Areas Development Project (November-December 1988)

Assessed the sustainability and capability of local institutions responsible for operations and maintenance; assessed effect of the project on the beneficiary population by Tribal Area, and indicated redesigns for a follow-on project.

UNHCR, Pakistan
Consultant Team Leader, Repatriation Task Force (April-June 1988)

Responsible for developing a computerized information data base on Afghanistan; assessing the conditions affecting the repatriation of Afghan refugees; and, in consultation with concerned governmental and nongovernmental agencies, establishing a basic repatriation plan for implementation by UNHCR.

World Bank, Pakistan
Study Director, Social Impact Study of the First Income Generating Project for Refugee Areas (IGPRA) (February-April 1988)

Responsible for the design, implementation, and reporting of findings of an eight-week study evaluating the impact of joint UNHCR/World Bank-financed development projects in areas of Afghan refugee settlements in Pakistan.

UNHCR, Pakistan
Program Officer, Suboffice, Peshawar (February 1985-January 1988)

Monitored UNHCR-funded assistance programs in 65 Afghan refugee camps throughout Pakistan's North West Frontier Province; managed province-wide construction and infrastructure maintenance program in UNHCR camps employing Afghan labor; served as liaison with governmental and nongovernmental implementing agencies. Also responsible for budgeting and financial reporting.

School of International Affairs, Columbia University
Research Associate & Lecturer, Southern Asian Institute

Primary responsibilities included research, writing, and lecturing on topics relating to social and economic development in South Asia. Administrative duties included curriculum development, grant writing, and conference planning and coordination.

Renewable Resources Associates. wich, VT
Research Associate (1981-198

Prepared socioeconomic background data for consultants participating in a USAID/Government of Pakistan forest development feasibility study.

Center for Nepal & Asian Studies, Kathmandu, Nepal
Research Affiliate (1979-1980)

Conducted 20 months of independent field-research on the social economy and agricultural development of Nepal's eastern hill region under the auspices of the Department of Anthropology, The New School for Social Research.

EDUCATION

Ph.D., Anthropology	The Graduate Faculty of the New School for Social Research (1982)
M.A., Anthropology	The Graduate Faculty of the New School for Social Research (1977)
B.A., Sociology	Colby College (1973)

SPECIAL TRAINING

UNHCR Emergency Management Training Seminar, Islamabad, Pakistan (May 1987)

SELECTED PAPERS AND PUBLICATIONS

"The Economic Impact of Afghan Refugees on Tribal Society in North West Pakistan." Unpublished Ms. (1987).

"Himalayan State Formation and the Impact of the British Raj in the Nineteenth Century." Mountain Research and Development, 5(1) (1985).

"Local-Level Alternatives in Regional Development: Hydro-Development and Reafforestation in the Indian Himalayas." Paper prepared for the Society of Economic Anthropology annual meetings (1985).

"Nepal and the Gurkhas: Mercenary Employment and the Village Economy." Southern Asian Institute Colloquium, Columbia University (1982).

"The Development of Rice Agriculture in Nepal." Resource Policy Center, Dartmouth College (1981).

LANGUAGES

Dari -- good conversation, good understanding
Pashto -- good conversation, good understanding
Nepali -- good conversation, good understanding, fair reading and writing
Hindi/Urdu -- elementary conversation, good understanding
French -- fair conversation, good understanding, good reading

Development Alternatives, Inc.

CURRICULUM VITA

NAME **Lehman B. Fletcher**

EDUCATION

University of Florida, B.S., 1954
University of California (Berkeley), Ph.D., 1960

PRESENT POSITION

Professor of Economics, Iowa State University
Teach graduate and undergraduate courses in economic development and planning, microeconomics, and technology and social change. Research and supervise graduate students in economic and agricultural development.

PREVIOUS

External Examiner, Faculty of Economics and Management, University of Agriculture, Malaysia, 1986-1987

Visiting Professor, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, December 1986-January 1987

Campus Scientific Director, Zambia Agricultural Training, Planning, and Institutional Development Project, 1981-1986

Coordinator of U.S. University participation in a collaborative project to develop the Latin American Planning Network (funded by AID), 1977-81

Brookings Institution, 1976

Chief, Division of Economics and Sector Planning, Office of Agriculture, Technical Assistance Bureau, USAID, Washington, 1973-75 (supervised 10 professionals involved in research and technical assistance in all phases of agricultural and rural development)

Visiting Scholar, Stanford University, 1970

Visiting Professor, Economics Institute, University of Colorado, 1968

Visiting Professor, Postgraduate College of the National School of Agriculture, Chapingo, Mexico, 1965-66

Assistant and Associate Professor, Iowa State University, 1960-66

FOREIGN LANGUAGES Spanish

OTHER PROFESSIONAL EXPERIENCE

Consultant, USAID, 1976-80, 1981, 1982, 1983, 1986
Consultant, ECID-SIECA Guatemala, 1977-79
Consultant, FAO Rome, 1972-74, 1982, 1985
Consultant, World Bank, 1973
Consultant, USAID/Panama, 1972-73
Consultant, USAID/Guatemala, 1968-72
Consultant, InterAmerican Development Bank, 1969-70
Consultant, Ford Foundation, 1966-68
Summer Research Fellow, USAID Washington, 1967
Consultant, U.S. Department of Agriculture, 1966-67
Research and advisory experience in: Mexico, Guatemala, Honduras, Panama, Peru, Argentina, Uruguay, Indonesia, Korea, Philippines, Dominican Republic, Sri Lanka, Portugal, Spain, Malawi, Zambia, Nepal, Pakistan, Sudan, Thailand, Malaysia and Swaziland
Numerous short-term visits and consulting assignments in other countries with public and private organizations
Have supervised completion of approximately 75 Ph.D. and M.S. theses since 1960

ADMINISTRATIVE EXPERIENCE

Director of Graduate Studies in Economics, Iowa State University, 1966-71
Departmental Committee on Teaching Effectiveness, 1971-72
Chairman, Departmental Planning Committee on Graduate Programs, 1967-69
Chairman, Departmental Faculty Budget Advisory Committee, 1972-73
Economics Council, 1963-65, 1971-73; Chairman, 1972-73
Iowa-Peru Committee, 1966-72
Economic Theory Prelim Examination Committee, 1964-65, 1966-69, 1971-72, 1977-80
Departmental Curriculum Committee, 1968-70
Science and Humanities Curriculum Committee, 1969-71
Science and Humanities Committee on Distinguished Professors and Outstanding Teachers, 1966-68
Graduate Faculty Cabinet, 1968-70, 1971-73
Graduate College Social Science Subcommittee, 1966-69; Chairman, 1968-70
Science and Humanities Dean's Search Committee, 1971-72
Science and Humanities Committee on Evaluation of International Studies, 1969-70
Graduate Faculty Membership Selection Committee, 1970-71
Graduate Student-University Relationships Committee, 1971-72
Chairman, Graduate Council, 1972-73
University International Studies Committee, 1972-73
Science and Humanities Committee on Faculty Improvement Leaves and Foreign Travel Grants, 1972-73
ISU Liaison Officer, Danforth Foundation, 1978-80
Departmental Seminar Committee, 1978-82
Technology and Social Change Program Committee, 1978-
Sciences and Humanities Faculty Development Committee, 1980-83
President, Iowa State Chapter, Society for International Development, 1981-84

ADMINISTRATIVE continued

Departmental Representative to Science and Humanities Representative Assembly, 1982-85
Member, Faculty Policy Committee, World Food Institute, 1984-

OTHER PROFESSIONAL ACTIVITIES

Vice-President and President, Iowa State University, AAUP, 1971-72
Editorial Council, American Journal of Agricultural Economics, 1972-75
Chairman, North Central Research Strategy Committee, 1970-72
Have organized and participated in numerous seminars, workshops, conferences, inter-university research committees, etc.
Panel member, ISU News Forum, 1971-72
NSF Science Faculty Professional Development Fellowship Selection Committee, 1977
Member, Editorial Committee, Revista de Economia Rural, 1978-80

AWARDS

Faculty Improvement Leave, 1969-70
Wilton Park International Service Award, Iowa State University, 1967
Travel Award, American Agricultural Economics Association, 1964
Danforth Fellow, 1954-60
Phi Kappa Phi

PUBLICATIONS

1. RESEARCH ARTICLES, BULLETINS, MONOGRAPHS, AND BOOKS

Growth and Adjustment of the Los Angeles Milkshed (with C. O. McCorkle, Jr.), Calif. Ag. Exp. Station Bulletin 787, June 1962.
"Factors Influencing Firm and Regional Adjustments in the Los Angeles Milkshed," Journal of Farm Economics, May 1962.
Adjusting Grain Marketing Facilities and Practices in Argentina (with R. Phillips), Agri-Research, 1962.
"Evolving Public Policy Issues in Food Marketing," Journal of Farm Economics, December, 1963.
Market Organization of the Grain Industries in the North Central Region, MO Agr. Exp. Station Bulletin 847, 1964.
"Soybean Processing Industry" (with D. Kramer), in Market Structure of the Agricultural Industries, ISU Press, 1966.
Least-Cost Egg Marketing Organization Under Alternative Production Patterns (with B. Sanders), Iowa Agr. Exp. Sta. Bul. 547, 1966.
The Marketable Surplus of Rice in Indonesia (with Mubyarto), Monograph 4, ISU, International Studies in Economics, 1966.
Firm Growth Processes and Market Structure Changes in the Grain Industries (with D. Kramer), Iowa Agr. Exp. Sta. Bul. 557, 1967.
"A Generalization of the CES Production Function" (with Yao-Chi-Lu), Review of Economics and Statistics, November, 1968.
"Pricing and Allocative Efficiency in Agricultural Development," American Journal of Agricultural Economics, December 1968.

PUBLICATIONS continued

Latin American Agricultural Development and Policies (with W. Merrill), Monograph 8, ISU International Studies in Economics, 1968.

Guatemala's Economic Development: The Role of Agriculture (with E. Graber, W. Merrill, and E. Thorbecke), ISU Press, 1970.

The Uruguayan Agricultural Sector: Priorities for Government Policies and Investment Programs (with W. Merrill), InterAmerican Development Bank, Washington, D.C., 1970, Agr. Dev. Report No. 9.

"A Cobb-Douglas Production Function with Variable Returns to Scale" (with E. Ulveling), American Journal of Agricultural Economics, Vol. 52, No. 2, May 1970.

Location and Efficiency of the Iowa Feed-Manufacturing Industry (with A. Warrack), Iowa Agr. Exp. Sta. Res. Bull. 571, 1970.

"Plant-Location Model Supotimization for Large Problems" (with A. Warrack), American Journal of Agricultural Economics, November 1970.

"From Hedging to Pure Speculation: A Micro Model of Optimal Future and Cash Market Positions" (with R. Ward), American Journal of Agricultural Economics, February 1971.

"Effects of Supply Variations on Costs and Profits of Slaughter Plants" (with L. Daellenbach), American Journal of Agricultural Economics, November 1971.

"Agricultural Development and the Structural Transformation of the Latin American Economies," in Population Policy and Growth in Latin America, D. C. Heath, 1971.

Panama's Economic Development: The Role of Agriculture (with Merrill, Hoffman, and Applegate), ISU Press, 1974.

"A Model of Agricultural Production and Trade in Central America," (with C. Cappi, R. Norton, C. Pomareda, and M. Wainer), in Studies in Economic Integration Central America, Cline and Delgado, eds., Brookings, 1978.

Economic Growth, Equity and Agricultural Development in the Dominican Republic (with E. Graber) Monograph 12, International Studies in Economics, Iowa State University, 1980.

Honduras Rural Roads: Old Directions and New (with J. Hamilton, N. Chapin and M. DeMetre) Project Impact Evaluation No. 17, Agency for International Development, Jan. 1981.

Planning for Rural Development with Popular Participation (with Luis Ampuero) Monograph 15, International Studies in Economics, Iowa State University, 1982.

Improving Planning and Policy Analysis Capabilities in Developing Countries: Implications of the Latin American Planning Network. Monograph 16, International Studies in Economics, Iowa State University, 1982.

2. CHAPTERS IN RESEARCH CONFERENCE VOLUMES

"Market Structure and Market Power," in Farmers in the Market Economy, ISU Press, 1964.

PUBLICATIONS continued

"Commodity Markets and Marketing," in Economic Development cf Agriculture, ISU Press, 1965.

"Cooperatives as Instruments of Market Reform - The Economist's View" (with J.T. Scott), in Agricultural Cooperatives and Markets in Developing Countries, Praeger, 1969.

"Conglomerate Growth and Public Policy: Discussion," in Economics of Conglomerate Growth, L. Garoian, ed., Oregon State University, 1969.

"Product Markets: Discussion" (with W. Merrill) in Institutions in Agricultural Development, Blase, ed., 1971.

"External Assistance and National Capacity for Agricultural and Rural Sector Planning and Policy Analysis," (with W. Merrill) in Agricultural Sector Analysis in Asia, University of Singapore Press, 1981.

3. OTHER PUBLICATIONS

"Output Management for Agriculture?" (with A. Paulsen and E. Heady), Iowa Farm Science, April, 1961.

"Farm Coops: How Special a Status?" Iowa Farm Science, June 1961.

Agricultural Market Control Under Federal Agreements and Orders, M-941, Cooperative Extension Service, Iowa State University, November, 1961

"Concept and Importance of Bargaining Power," in Bargaining Power in Agriculture, CAEA Report 9, Iowa State University, 1961.

"Implications of Needed Adjustments in Market Structure to Research on Agricultural Cooperatives" (with R. Phillips), in Research and Teaching Conference in Agricultural Cooperation, University of Nebraska, 1962.

"Mexican Economic and Agricultural Development: Implications for Research and Planning," in Proceedings of Western Farm Economics Association, Las Cruces, 1967.

"Price Policies for Agricultural Development," published paper prepared for U.S. Agency for International Development, 1967.

Effects of Agricultural Pricing Policies in Mexico (with B. Sanders), unpublished report submitted to ERS, USDA, 1967.

The Agricultural Economics Program of CIMMYT, unpublished report presented to CIMMYT and the Ford Foundation, 1967.

Economics of Grades and Standards: Research Problems and Priorities, unpublished report presented to ERS, USDA, 1968.

"Potential Use of Agricultural Marketing Boards in the United States," in Agricultural Organization in the Modern Industrial Economy, NCR-20, 68, Ohio State University, 1968.

"Vegetable Production and Marketing in Guatemala" (with W. Merrill), unpublished report prepared for USAID/Guatemala, 1971.

PUBLICATIONS continued

"The Guatemala Sector Study: Economic Development and Policy Under Agricultural Dualism" (with W. Merrill and E. Thorbecke), paper presented at ADC Sector Analysis Seminar, Iowa State University, May, 1971.

"Research Issues Related to Price Policies in Developing Economies" (with W. Merrill), paper presented to ADC Seminar on Rural Marketing, University of Kentucky, October 1971.

"Needs and Opportunities for Agricultural Sector Analysis in Developing Countries," FAO, Rome, 1975.

"Usefulness and Applicability of Agricultural Sector Analysis in Developing Countries," workshop on Agricultural Sector Planning, Teheran, 1975.

"New Dimensions and Potentials for AID-University Cooperation," Proceedings of Western Agricultural Economics Association, Ft. Collins, 1976.

"The Nonformal, General Equilibrium-Consistency Approach to Sector Analysis," FAO, 1978.

"Agricultural Sector Analysis and Sector Lending by the U.S. Agency for International Development," FAO, 1978.

Sri Lanka: Agricultural Sector Assessment (with R. Newberg, E.Simmons, D. Kemper, E. Auchter), USAID, 1978.

Portugal: Priorities for Agricultural Development (with K. Newberg and H. Ream) MASI, Washington, D.C., 1979.

"Analyzing Price and Market Intervention Policies," paper presented to IICA Seminar, Paipa, Colombia, August 1980.

Malawi's Agricultural and Rural Development. An Assessment of Priorities for AID Assistance (with W. Merrill) report prepared for USAID, December 1980.

"Agricultural Planning and Policy Analysis in Developing Countries: An International Perspective." Paper presented to FAO Conference on African Experience in Agricultural Sector Planning. Nairobi, March 1983.

"Formulating National Agriculture, Food and Nutrition Strategies in Developing Countries." Paper presented to National orkshop, Kandy, Sri Lanka, April 1983.

"Food Production and Pricing in the ECOWA Subregion of West Africa." A review and project proposal prepared for FAO and ECOWAS, 1983.

"Analysis of Agricultural Pricing and Market-Intervention Policies." Paper presented to the Third FAO Conference on Agricultural Sector Planning Experience in Africa, 10-14 September 1984, Lusaka, Zambia.

"An Assessment of Food Aid as a Development Resource in Nepal" (with D. Sahn) Community Systems Foundation, 1984.

Food Security Issues and Policy Options in the CORECA Region (with D. Greene, J. De la cruz, and R. Hager), Department of Economics, Iowa State University, Ames, 1985.

Contributions and Constraints of Agricultural Price Policies to SADCC Food Security, report prepared for the SADCC Regional Food Security Program, Harare, Zimbabwe, 1987.

Second Mid-Term Evaluation, Cropping Systems Research and Extension Project, Swaziland (Co-authored), Washington, International Resources Consultants, May 1987.

Development Alternatives, Inc.

Dennis E. Freed

PROFESSIONAL OBJECTIVE: To acquire an export/import management position in a manufacturing or trading company with South and Southeast Asia as target countries for sales and/or sub-contracted manufacturing of finished goods and components. My professional expertise and related experience in all areas of international trade is demonstrated by the following.

ACHIEVEMENTS:

Designed and managed the procurement and logistics for the United States Government's Cross Border Humanitarian AID Program for "War Affected Afghans".

Managed U.S. and foreign source financing, procurement, warehousing, shipping, clearance and insuring of a wide variety of products including heavy machinery, medical supplies, pharmaceuticals, transportation assets, educational supplies, food handling equipment and bulk food products.

Created a product line of computer cabinetry for sale in the United States. Directed the pre-qualification of manufacturers in Taiwan and supervised the shipping, insuring, product distribution and marketing.

Built a U.S. trading company from an idea into a company with sales exceeding $17 million in four years.

Successfully participated in U.S. government sales through international formal and negotiated bidding.

Developed and managed procurement services under U.S. government contract for developing countries in Africa, Southeast Asia, South Asia, Middle East and the Caribbean. Procured a wide variety of U.S. AID funded products, insuring on-time shipment, conformity to specifications, and within budget.

Contracted the largest single sale in the history of Stanley Tools, the second largest single sale of domestic model sewing machines in Singer Company history, and the largest sales for a large number of lesser known companies.

Designed and implemented a successful U.S. trading operation with emphasis on U.S. AID funded tenders for an Egyptian trading company (Pan Trade Associates).

Cultivated strong relationships and culturally sensitive communication skills in Southeast Asia, South Asia and the Middle East. (With particular emphasis on Islamic countries)

Lived with my family in Cairo, Egypt and Islamabad, Pakistan where we learned to respect and adapt to diverse cultural and economic differences as compared to the U.S.

SUMMARY OF EMPLOYMENT HISTORY:

1986 to Present	Procurement Officer U.S. AID Representative, Afghan Mission
1980 to 1986	CEO for Export Associates International, Bothell, Washington
1978 to 1980	Vice-President for Pan Trade Associates, Cairo, Egypt
1976 to 1978	Administrator of Cairo American College, Cairo Egypt

EDUCATIONAL HISTORY:

1970 to 1972	Masters of Arts, Eastern Montana College
1964 to 1969	Bachelor of Arts, Seattle Pacific University

REFERENCES AVAILABLE ON REQUEST

PERSONAL RESUME

RICHARD E. GIBSON, Ph.D., P.E.

Development Alternatives, Inc.

General Experience:

A 35 year career highlighted by achievements as Senior Consultant and Chief of Party for technical assistance projects in Somalia, Indonesia and Afghanistan, as Professor and Chairman of a university engineering department, consulting engineer, small business owner, and military construction advisor in Taiwan. A total of 13 years international experience.

Managerial and technical background includes planning, design and construction supervision of major civil and structural engineering projects, as well as project evaluation based on engineering and socioeconomic considerations. Strong experience in computer applications and software development in the above areas, and in financial management.

Legal registration as a professional engineer and active participation in professional society affairs.

Present Position:

NEW TRANSCENTURY FOUNDATION (NTF) and TRANSCENTURY CORPORATION (TC), Washington, D.C.

For over eight years, have served TransCentury in the several positions listed below. Elected NTF Vice President in 1981, Senior Vice President in 1987.

May 1987 - Present: Civil Engineer/Business Development Specialist from home office. Co-authored proposals for technical assistance (USAID) and general services (US State Department). Travelled extensively gathering project data and forming subcontract teams with US and foreign firms.

November 1984 - May 1987: On-site Manager and Team Leader of NTF refugee self-reliance project in Northwest Somalia. The project was intended to generate employment for refugees fleeing famine and civil war in Ethiopia; and concurrently, to improve the economic climate of northwestern Somalia through provision of basic infrastructure. With four person expatriate staff, hired, organized, trained and supervised local staff of 40 persons engaged in engineering surveys and design, contracting, financial monitoring and direct construction activities with heavy machinery. Projects included new rural roads, road rehabilitation and maintenance, urban drainage works, deep waterwell drilling, shallow well and subsurface dam construction, local fabrication of gabions and agricultural development at refugee camps. Supervised a U.S. subcontractor in conducting a regional water exploration program using modern geophysical methods.

The project was implemented under difficult circumstances, including equipment and fuel shortages, travel and import restrictions, civil unrest and armed insurgency. Notwithstanding these problems, all project targets were exceeded. Over 1000 project staff and contract laborers were employed during some periods. The remarkable success of the project attracted other donors. In addition to USAID, the UNDP, UNHCR, UNICEF and CARE funded portions of the work.

During short periods of released time from the Somalia assignment, served as short-term consultant to the Ford Foundation of Indonesia for evaluation; to USAID/Egypt for participation in study and report "Operations and Maintenance, Road Infrastructure and Municipal Services"; and to USAID/Yemen for project redesign studies.

August 1979 - November 1984: Team Leader and Rural Development Engineer in Jakarta, Indonesia. Supervised up to 11 long-term consultants posted in eight locations in Indonesia and several short-term consultants, who assisted the Indonesian Ministry of Manpower in constructing up to 1200 rural projects annually. Funding was by USAID.

The program was established to provide employment for rural workers in the agricultural off-season. Labor-intensive methods were used to construct and rehabilitate farm-to-market roads, irrigation canals and flood control facilities. The principal objective of the technical assistance was to insure that beneficial infrastructure was provided (as a by-product to employment generation) in order to increase agricultural production.

The approach used to insure technically sound and useful projects was to establish new procedures and provide appropriate training in project selection, engineering design, construction supervision and post-construction evaluation. During 1983-84 a considerable amount of personal effort was devoted to development of the ongoing evaluation system, which systematically assesses the technical quality and socioeconomic impact of projects constructed each year. This system is described in the second article listed under publications, below.

Additional responsibilities while in Indonesia included marketing and supervision of NTF and TC services. Projects included a regional planning study funded by a major US Oil Company and procurement of agricultural equipment. Co-authored a number of proposals and served NTF and TC as civil engineering consultant, with short assignments in the Philippine Islands, North Yemen and Washington, D.C.

Previous Positions:

BELL GALYARDT AND WELLS, Rapid City, S.D. and Omaha, Nebraska.

May 1978 - August 1979: Consultant to company's project managers on all civil and structural engineering projects. Project manager for rehabilitation of five-million gallon reinforced concrete water reservoir in Lincoln, Nebraska, retensioning of several pipeline suspension bridges over Missouri and Platte Rivers and for expressway design in Omaha, Nebraska. As Director of Business Development, Omaha office, supervised preparation of proposals for various kinds of engineering and architectural projects.

UNIVERSITY OF NEBRASKA, Omaha and Lincoln, Nebraska.

For over 14 years, served the University in the several positions listed below. Promoted to Full Professor and awarded tenure in 1970.

January 1978 - May 1978: Returned to earlier teaching post in Department of Civil Engineering. For one semester, taught undergraduate and graduate courses in computer programing, reinforced concrete design and finite element methods.

August 1974 - December 1977: Chief of Party for university advisory team in Kabul, Afghanistan. Responsible for supervising Nebraska Team, consisting of nine full-time and 12 short-term consultants, who assisted a large counterpart group from Kabul University in developing new curricula, conducting applied research and improving administrative systems. A principal objective of the technical assistance was to get the University Faculties involved in applied research and consulting services which would be of immediate use in the development of Afghanistan. Team was comprised of full and associate professors in Engineering, Agriculture, Teacher Education, Business Administration and Medicine.

Concurrent with duties as Chief of Party, directly assisted in the establishment and organization of a consulting services group composed of the Faculty of Engineering staff at Kabul University. This group offered engineering consultancies to government ministries for the improvement and expansion of infrastructure (primarily roads, buildings and bridges) throughout Afghanistan.

Worked closely with USAID, who funded the project. Assisted them in designing several new projects in engineering education, agriculture and teacher education.

January 1971 - August 1974: Chairman, Department of Civil Engineering, Omaha Campus. Responsibilities included supervision of academic programs in structural, sanitary, construction, transportation and water resources engineering. Led the department to full accreditation in 1973. Department had 7 to 9 faculty, approximately 200 undergraduate and 80 part-time graduate students. Also taught courses in structural and earthquake

engineering. Outside consulting work included design of bridges, buildings, highways, airports, digital computer analysis, development of training programs and expert testimony for lawsuits.

Also part owner and Vice-President of Omega Homes, a franchised dealer of manufactured houses. Activities included sales, site work, supervision of erection and maintenance of houses throughout eastern Nebraska.

February 1964 - January 1971: University of Omaha (which became University of Nebraska at Omaha in 1968). Assistant to Full Professor of Civil Engineering. Taught undergraduate and graduate courses in structural and earthquake engineering, numerical analysis and digital computers, surveying, soil mechanics and foundations. In 1971, established Consulting Engineering Services, a small corporation of faculty members engaged in part-time expert consultation work in several engineering fields. Served as President of firm through 1974. On leave of absence for 15 months during 1968 and 1969 to finish Ph.D. studies at the University of Colorado as a National Science Foundation Fellow.

KIRKHAM, MICHAEL AND ASSOCIATES, Omaha, Nebraska

September 1959 - February 1964: Project Civil Engineer. Project Manager for preparing engineering feasibility studies, designs, specifications, cost estimates and construction scheduling for airport facilities, interstate highways, railroad and highway bridges, housing projects, water supply and sewerage projects. Performed structural design for multi-storied buildings and bridges. Designer and Resident Engineer for major pavement, drainage and utilities projects at Eppley Airfield, Omaha, Nebraska (1960-61). Project Engineer for the design of two major interstate highway segments in Oklahoma (1962-63).

HOWARD, NEEDLES, TAMMEN AND BERGENDOFF, Kansas City, Missouri

August 1958 - September 1959: Bridge Designer. Engineering design, detailing and quantity estimates for river bridges and highway interchange bridges in Washington, DC and Shreveport, La.

UNITED STATES AIR FORCE

December 1952 - August 1958: 2nd Lieutenant to Captain. Varied positions in civil engineering, including two year assignment in Taiwan as Resident Engineer Advisor to Chinese Air Force for runway construction, Chief of Design Standards Division for Hq. Air Training Command in San Antonio, Texas, and supervisor of air base maintenance and minor construction at Vance Air Force Base, Oklahoma. Air Force graduate student in Civil Engineering at University of Illinois, 1954-55.

BLACK AND VEATCH, Kansas City, Missouri

August 1952 - December 1952: Structural Engineer. Participated in structural design for a coal-fired power plant, Richmond, Indiana. Also worked during undergraduate vacation periods as draftsman, 1950-52.

Education:

University of Colorado
Ph.D. Structural Engineering 1969

University of Illinois
M.S. Structural Engineering 1955

University of Kansas
B.S. Architectural Engineering 1952

Professional Registration:

Nebraska, Professional Engineer No. E-2072 (Civil Engineering Examination)
Oklahoma, Professional Engineer No. 2561

Publications:

"Resource Development for Refugee Self-Reliance in Northwest Somalia", by Richard E. Gibson. Semi-Annual Reports I through V submitted to the Government of Somalia and the United States Agency for International Development, 1985 - 1987.

"Selection and Evaluation of Small Scale Rural Infrastructure Projects," by Richard E. Gibson. April 1986 issue of Bulletin of Indonesian Economic Studies, published by the Australian National University, Canberra.

"Proyek Padat Karya Gaya Baru -- A Project Contributing to the Quality of Rural Life and Increased Agricultural Production in Indonesia," by Richard E. Gibson. Semi-Annual Reports I through IX submitted to the Government of Indonesia and the United States Agency for International Development, 1979 - 1984.

"Moving Toward Relevance - Progress in Education, Agriculture and Engineering at Kabul University." Report submitted to United States Agency for International Development, 1977.

"Free Vibration of an Unsymmetrical Multi-storied Building Modeled as a Shear Flexible Cantilever Beam," by R.E. Gibson, M.L. Moody, R.S. Ayre. February 1972 issue of the Bulletin of the Seismological Association.

"Response Spectrum Solution for Earthquake Analysis of Unsymmetrical Multi-storied Buildings," by R.E. Gibson, M.L. Moody, R.S. Ayre. February 1972 issue of the Bulletin of the Seismological Association.

Foreign Languages:

Good speaking, reading and writing ability in Indonesian
Fair speaking ability in Afghan Farsi (Persian or Dari)
Fair speaking and reading ability in Spanish

Professional Societies:

National Society of Professional Engineers - Eastern Nebraska Chapter
Member: 1960 - Present
President: 1973 - 1974

American Society of Civil Engineers
Member: 1958 - Present

Honors and Awards:

Engineering and scientific societies: Sigma Xi, Tau Beta Pi, Sigma Tau, Chi Epsilon

Outstanding Service Award - Eastern Chapter, Professional Engineers of Nebraska - 1971

U.S. National Science Foundation Fellow for research and graduate study at University of Colorado - 1968 and 69

U.S. Army Commendation Medal for runway construction work on Taiwan - 1957

Selected by U.S. Air Force Institute of Technology for graduate study at University of Illinois - 1954 and 55

Personal Data:

Date of Birth:

Family: Wife - Thyra Dobson Gibson

Five grown children

Hobbies: Computer programing, tennis, downhill skiing, flying, hunting and fishing.

GIC AGRICULTURAL GROUP
208 NORTH WASHINGTON STREET
ALEXANDRIA, VIRGINIA 22314

AGRIBUSINESS
MANAGEMENT/ MARKETING

RESUME

NAME: Richard Gilmore

CITIZENSHIP: U.S.A.

EDUCATION: Ph.D., International Economics--Trade, Graduate Institute of International Studies, Geneva, Switzerland, May, 1971.

M.A., International and Development Economics, Johns Hopkins University School of Advanced International Studies, May, 1967.

B.A., Columbia College.

ASSOCIATIONS: American Society of Agricultural Consultants
Cosmos Club

LANGUAGES: English, French, German and Italian

EXPERIENCE:

1980-Present President, GIC Agricultural and GIC Trade, Inc. Management and technical responsibilities in agribusiness consulting services. GIC is a fully integrated agribusiness firm with an expert staff of agricultural economists, investment analysts and commodity traders. The Ag Group specializes in marketing, trade and investment issues. GIC project experience includes work on production management, processing, storage and marketing of agricultural products in developing and industrial countries. GIC Trade, in conjunction with other merchandisers, has assisted in the marketing of agricultural products worldwide.

1979-1980 Senior Associate, Carnegie Endowment for International Peace. Completion of a book on the grain trade and international agricultural policies and several articles on agricultural issues.

1977-1979 Visiting Fellow, Overseas Development Council, Research and writing on food policy project under grant from the Rockefeller Foundation.

1977 Guest Scholar, Rand Corporation. Research and writing of UN report on U.S. policies and their impact on foreign investment in developing countries for American food and beverage industries.

1973-1977 Professional staff member/Senior economist, Senate Foreign Relations Committee. Responsibilities included analysis and report writing concerning trade and investment issues, and U.S. foreign assistance programs.

1971-1973 Legislative assitant to former Senator Hubert H. Humphrey with principal responsibilities in international trade and U.S. foreign assitance programs.

1969 Part-time research assistant and economist for the Institue of Labor Studies, International Labor Organization, Geneva, Switzerland. Responsible for development of information and data for model agricultural management center in Asia.

1966-1967 Agronomist in the U.S. Department of Agriculture, Economic Research Service, Foreign Trade and Development Section. Responsible for report on cotton production and pricing policies in developing countries.

Project Field Work

1987 Barbados/Antigua.
"Caribbean Baking Project". US AID Private Sector. On site inspection of catering facilities and review of investment proposals with local partners.

1985 Guinea.
"Investment/Project Evaluation for Cocoa, Coffee, Rubber and Palm Oil". UNDP/UNCTC.

Local research on feasibility study, assessment and evaluation of investment proposals for production, processing and marketing of these crops.

1984 Jamaica.

"Investment Feasibility Study for Local Rice Industry".

Review of local rice industry from production to final distribution with extensive market survey. Evaluation of profitability for potential rice investors.

1984 China, Philippines, Indonesia, Malaysia, Taiwan, Singapore, Hong Kong.
"OPIC Baking Equipment Survey".

Venture involved leasing of used and new baking equipment in the Far East, A comprehensive market survey, identification of potential distributors and analysis of financial requirements were undertaken.

1981 Mexico.
"Export Sales and Import Procurement Opportunities for CONASUPO".

Market analysis of sorghum, analyses of futures and cash prices to determine net benefits of flexible vs. fixed price contract.

1981 Saudia Arabia.
"Rice Market Survey".

In-country rice market survey, including consumer preferences, price differentials, evaluation of packaging, distribution and sales representation.

PUBLICATIONS

Books:

A Poor Harvest: The Clash of Policies and Interests in the Grain Trade (Longman, New York: 1982; TBS Britannica, Tokyo, 1982).

USSR and Grain, U.S. Senate Foreign Relations Committee, April, 1976.

"Wheat and Coarse Grains--Stabilization or Status Quo?," A New International Commodity Regime, Edited by Geoffrey Goodwin and James Mayall; Croom Helm Ltd., 1979.

Articles:

"Agricultural Surpluses," Newsweek International, December 1, 1986.

"Creating a Favorable Climate for Small Business Exports," Economic Development Abroad, International Center, Academy for State and Local Government, December, 1986.

Faces Behind the Figures/ Forbes Magazine, July 14, 1986.

"Chernobyl's Market Fallout," Financial Times, June 5, 1986.

"A Declining Dollar: Prospects for U.S. Agricultural Prices," Brookings Institution, April, 1986.

"Rice Accord Gives U.S., Taiwan a Breathing Spell," California Farmer, June 16, 1984.

Interview, Pro Farmer, January 14, 1984.

"U.S. Agricultural Exports to Parts of the Far East Rise," Feedstuffs Magazine, September 12, 1983.

"Baking Equipment Report on the Far East Market for Overseas Private Investment Corporation," Milling & Baking News, August 16, 1983.

"Japan's Food Security on the Brink," Chuo-koron, Tokyo, March, 1983.

"International Food Security: The Challenge Ahead," co-author with Barbara Huddleston of the International Food Policy Research Instititute, Food Policy, London, February 1983.

"U.S., Japan: wipe Slate Clean on Beef, Citrus," Journal of Commerce, January 31, 1983.

"Food Security: A Prime Japanese Concern," Journal of Commerce, January 28, 1983.

"U.S. Agricultural Trade Policy: Help for a Sagging Farm Economy?," Forum Report, Drexel, Burnham & Lambert, October 19, 1982.

"U.S. Grain Industry," **Canadian Grains Institute**, October, 1982.

"Cereal Import Procurement Practices and Alternatives for Developing Countries," **United Nations World Food Council**, June, 1982.

Market Commentary, biweekly column, Milling & Baking News, 1981-1982.

"Reagan Right in Lifting Grain Embargo, Journal of Commerce, May 1, 1981.

"Swallowing the Medicine," Journal of Commerce, April 28, 1981.

"National Food Stabilizaiton--At What Price?," Trends, U.S. Information Agency, February, 1981.

"Growing Food for Japan," Mainichi Newspapers, Tokyo, January 12, 1981.

"All Wise Washington," Journal of Commerce, October 28, 1980.

"Grain in the Bank," Politique Etrangère, Fall, 1980.

"The Grain Outlook," Saskatchewan Business, May-June, 1980.

"Grain in the Bank," Foreign Policy, Spring, 1980.

Commentary--An Interview with Richard Gilmore, Japan Economic Survey, United States-Japan Trade Council, January 31, 1980.

"Why a Food Embargo Won't Work," Washington Post, December 27, 1979.

"Grain for Russia," New York Times, December 10, 1979.

"Trading Hunger for Grain," **President's Commission on World Hunger**, March 28, 1979.

"U.S. Food and Beverage Industry Report," **United Nations Center on Transnational Corporations**, January, 1978.

"Symbiosis between Multinational Corporations and Governments: A U.S. Perspective," **International Studies Association**, 1976.

"U.S. Trade and Investment in the Soviet Union and Eastern Europe," **U.S. Senate Foreign Relations Committee**, December 20, 1974.

Development Alternatives, Inc.

DAVID D. GOW

David Gow, a staff member of Development Alternatives, Inc. (DAI) since 1976, is a social anthropologist with unusually diverse experience in consulting, applied research on development issues, and project planning and management. His experience in the Latin American and Caribbean region includes three years' residence in highland Peru, where he carried out research on land reform, peasant movements, and the role of religion in social change, and consulting assignments in nine countries of the region. He has also directed a 10-person technical assistance team on a large agricultural production and marketing project in central Africa and provided short-term technical services in east Africa, west Africa, and south Asia.

Dr. Gow has served as principal investigator or research analyst on several multi-country interdisciplinary studies financed by the U.S. Agency for International Development, and has concentrated on local-level organizational development and community-based mechanisms for resource management. He is especially well versed in the process of integrating the perspectives and analytic techniques of different disciplines to achieve practical approaches to development problems. He currently serves as Program Coordinator for DAI's Development Strategies for Fragile Lands Project, which focuses on lands at risk in Latin America and the Caribbean.

PROFESSIONAL EXPERIENCE

Senior Professional Staff Member
Development Alternatives, Inc. (1976-present)

Latin America and the Caribbean: Development Strategies for Fragile Lands (DESFIL) (December 1986-present)
Program coordinator for centrally funded AID project designed to address the inter-related problems of sustainable development on the steep hillsides and humid tropical lowlands of Latin America and the Caribbean. Specifically, the project promotes policy dialogue, strategies for natural resource management, agricultural development, biological diversity, and sustainable land use.

Haiti: Agroforestry Project Paper Design (February-March 1989)
As team leader, was responsible for management and overall direction of the 12-person design team. Dr. Gow coordinated all field travel, ensured that reporting requirements were met, supervised secretarial staff, and managed all logistics. He ensured that all design issues of the project identification document were addressed and scopes of work for the individual team members were fulfilled. He was also responsible for writing the project paper and editing the two volumes of analyses.

Haiti: Agroforestry Project Identification Document Design
(August-September 1988)
Leader and design specialist on a team charged with preparing the project identification document for the follow-on to the Haiti Agroforestry Outreach Project. The proposed program components include nursery production; seed and germplasm improvement; applied research, monitoring, and technology generation; outreach extension and environmental education; institution building; and training.

Costa Rica: Environmental Assessment (February-March 1988)
Team leader and social anthropologist on a nine-person team conducting an environmental assessment of the Northern Zone Consolidation Project in the northwestern region of Costa Rica. The assessment recommended the addition of an environmental management component to the project that included land-use planning and environmental monitoring, watershed management, community-based production forestry, wildlands and wildlife conservation, and environmental education and extension.

Peru: Biological Diversity (November 1987)
Team leader and social anthropologist on a six-person team charged with assessing the status of biological diversity in Peru, with emphasis on the tropical forests. Four possible program areas were recommended: conservation policy and education, conservation and development, research, training, and institution building.

Pakistan: Institutional Analysis (November 1986)
Member of a large technical assistance team involved in the design of a master plan for the rainfed areas of the Punjab. Specifically, responsible for the analysis of one of the key institutions included in such development -- the Agency for Barani Area Development.

Rwanda: Social and Institutional Profile (June-September 1986)
Team leader and social anthropologist on a five-person team responsible for analyzing sociological factors and institutions involved in certain key sectors of the Rwandan economy of particular interest to AID: specifically, agriculture, population and health and education and training. The Social and Institutional Profile provides an analytic framework at the program level for the planning of future AID development assistance in Rwanda.

Bolivia: Rural Capital Formation Project Design (April-May 1986)
Leader of three-person team to assess an earlier rural credit project and refine its mechanisms; recommended new mechanisms to generate increased local investment in rural-based production enterprises, and provided social soundness and administrative and institutional analyses for project paper.

Morocco: Range Management and Livestock Sector Assessment
(September-October 1985)
Leader of four-person team responsible for evaluating the Range Management Improvement Project implemented by Utah State University. Particular attention was paid to the institution building and applied research components of the project. In addition, the team also assessed the extensive livestock sector and made recommendations for a small, long-term program, building on the experiences of the range management project.

Somalia: Refugee Resettlement Study (August-October 1984)
Leader of a nine-person team that was fielded to design two refugee resettlement projects. However, as many important policy questions had not been resolved with the government -- including settlement strategy, availability of land, and necessary institutional arrangements -- the team produced a report focusing on the strategic issues requiring resolution as a prerequisite to a sound refugee resettlement assistance program.

Institution Building Study of Private Voluntary Organizations (July-August 1984)
Research analyst on a team responsible for assessing the effectiveness of institution-building efforts by two private voluntary organizations -- International Voluntary Services, Inc. and the Institute for International Development, Inc. This study was commissioned by AID to examine the ability of private voluntary organizations to create and strengthen organizational capacities in the indigenous organizations they assist. Responsible for field work and analysis of case studies in Costa Rica and Ecuador, and contributor to overall synthesis report.

Study of Cooperative Development Organizations (February-April 1984)
Research analyst on a team examining the impact and lessons learned from U.S.-financed cooperative interventions in the developing world, with responsibility for the agricultural sector. As a result of this study, recommendations were made to the U.S. cooperative movement that were subsequently incorporated into a strategy statement for the next decade.

Niger: Project Identification (November-December 1983)
Social and institutional analyst for a study to identify the training needs of rural blacksmiths to upgrade existing skills and provide the necessary inputs to service and maintain animal traction equipment.

Zaire: Chief of Party, North Shaba Project (August 1982-October 1983)
Chief of Party for a 10-person team providing technical assistance to the North Shaba Rural Development Project, an agricultural production and marketing project in an isolated area of eastern Zaire. The major components of this project are agriculture (adaptive research, seed multiplication, and extension) and infrastructure (roads and bridges). The smaller components are concerned with marketing support and farmer group development. In addition to managing the expatriate team, Dr. Gow also served as adviser to the Zairian project director.

Worldwide: Research on Rural Development Management
(October 1978-August 1982)
Consultant and research specialist on the core team for a major DAI/AID contract to provide consulting services and perform applied research on the organizational and administrative problems encountered in integrated rural development projects. Among other aspects, emphasis was placed on the importance of timing, personnel constraints, decentralization and participation and timing. Worked in Colombia, Ecuador, Nepal, Panama, and Zaire; wrote reports and articles; and edited a book.

Zaire: Project Evaluation (February 1982)
Social scientist for an internal, formative evaluation of the North Shaba Rural Development Project with particular emphasis on sustainability and replicability. Responsible for analyzing agricultural extension and farmer group activities as well as editing the final report.

Burkina Faso: Agricultural Strategy Assessment (November 1981)
Social anthropologist on a team assisting in the preparation of an agricultural sector strategy report. Examined the evolution of development activities at the village level, and assisted with preparation of a project identification document for AID activities in the agricultural sector for 1983-1988.

Panama: Team Leader/Project Design (May-June 1981)
Leader of a seven-person team responsible for designing an integrated rural development project in Sona, a frontier region of Panama, with emphasis on agriculture, livestock, and reforestation. Analyzed the proposed institutional arrangements, including inter-ministerial coordination requirements.

Ecuador: Management Information Systems (April 1981)
Collaborator in designing an information system for Ecuador's national integrated rural development program, with particular emphasis on indicators to measure participation, coordination, and organizational capacity at the local, regional, and national levels.

Nepal: Management Information Systems (November 1979-April 1980)
Designer of an information system for the Rapti Zone Integrated Rural Development Project, including administrative arrangements for project planning, implementation, and evaluation.

Worldwide: Research on Local Organizations (1977-1979)
Research director and principal field investigator for a two-year, AID-financed study of alternative organizational development models for local-level farmer organizations. Helped design and field test the research methodology in Haiti and Guatemala. Included in the sample were various institutional models, including cooperatives, credit unions, and local development associations. Participated in survey and data collection trips to Burkina Faso, Cameroon, Guatemala, Jamaica, Peru, and the Yemen Arab Republic. Served as principal author of the two-volume final report, which included statistical analysis and 24 case studies.

Haiti: Social Analysis (February 1977)
Author of a social soundness analysis of donor-funded efforts to assist the rural poor in Haiti, as a contribution to AID's Development Assistance Program.

Afghanistan: Project Design (October-November 1976)
Design specialist on a team that assisted in the design and use of separate socioeconomic data collection documents for villages, heads of households, and women. Helped integrate the findings into the project design.

Haiti: Project Evaluation (June-August 1976)
Member of a team evaluating community organization and designer of a base-line data-gathering system to track changes in project benefits accompanying development, for the Haitian American Community Help Organization.

Dominican Republic: Project Design (April 1976)
Social impact specialist on a design team conducting a social impact survey in support of an agricultural project.

Guatemala: Project Evaluation (November 1975)
Social soundness specialist analyzing resettlement projects for Guatemalan Indian farmers.

RELATED PROFESSIONAL EXPERIENCE

Dr. Gow has spent over five years in Latin America, particularly Peru, researching such topics as land reform, peasant movements, and the role of religion in social change. He has published several articles on these topics in professional journals in Peru, Mexico, and the United States.

In 1985, Dr. Gow took a leave of absence from DAI to teach in the Institute for Environmental Studies at the University of Wisconsin-Madison, where he offered two courses. The first, entitled "The Social Perspective," examined the relationships between social factors and environmental problems within a cross-cultural context. The second, entitled "Anthropology, The Environment, and Development," assessed what anthropology has contributed to the solution of environmental problems in particular and rural development problems in general within the context of the contemporary Third World. Case study material was drawn from specific areas of the world where development anthropology has made important contributions: the semi-arid tropics of West Africa and the humid lowland tropics of the Amazon Basin -- with particular reference to drought and deforestation.

LANGUAGE SKILLS

Dr. Gow is proficient in both Spanish and French at the S-3/R-3 levels.

EDUCATION

Dr. Gow holds a Ph.D. in Development Studies from the University of Wisconsin (1976). He earned an M.A. in Ibero-American Studies (sociology and anthropology) from the University of Wisconsin in 1971 and an M.A. in English from the University of Aberdeen (Scotland) in 1964.

4/89

BOOKS

1985. *Implementing Rural Development Projects: Lessons from AID and World Bank Experience.* Westview Press. (Coedited with Elliott R. Morss.)

CHAPTERS IN BOOKS

1989. "Development of Fragile Lands: An Integrated Approach Reconsidered." *Fragile Lands of Latin America: Planning Sustainable Development Strategies for the 1990s.* John Browder, ed., Boulder, Colorado. Westview Press. (Forthcoming.)

1989. "Rapid Rural Appraisal: Social Science as Investigative Journalism. *Methods for Social Analysis for Projects in Developing Countries.* Kurt Finsterbusch, Jay Ingersoll, and Lynn Llewellyn, eds., Boulder, Colorado. Westview Press. (Forthcoming.)

1985. "Decentralization and Participation: Concepts in Need of Implementation Strategies," in *Implementing Rural Development Projects*, pp. 107-147. (With Jerry VanSant.)

1985. "Ineffective Information Systems," in *Implementing Rural Development Projects*, pp. 175-197. (With Elliott R. Morss.)

1985. "Sustaining Project Benefits," in *Implementing Rural Development Projects*, pp. 217-243. (With Elliott R. Morss and Christopher Nordlinger.)

1983. "Problemas Criticos de la Ejecucion: Definicion, Manifestacion, y Alivio" (Critical Implementation Problems: Definition, Manifestation and Alleviation) in *Capacitacion en Administracion de Proyectos: Problemas de Implementacion de Proyectos*, ed. by Ernesto F. Betancourt. Washington, D.C.: World Bank, Economic Development Institute. (With Elliott R. Morss.)

ARTICLES

1988. "Development Anthropology: In Quest of a Practical Vision," *Development Anthropology Network*, vol. 6, no. 2, pp. 13-17.

1988. "The Notorious Nine: Critical Problems in Project Implementation," *World Development*, vol. 16, no. 12, pp. 1399-1418. (With Elliott Morss.)

1988. "The Provision of Technical Assistance: A View from the Trenches," *Canadian Journal of Development Studies*, vol. 9, no. 1, pp. 81-103.

1987. "Sustainable Development of Fragile Lands: The Case of Extensive Livestock Production in Africa," *Agricultural Administration and Extension*, vol. 24, no. 1, pp. 3-32.

1983. "Participation in Community Development," *Journal of Community Action*, vol. 1, no. 6, pp. 47-51. (With Jerry VanSant.)

1983. "Technical Assistance Alternatives for Rural Development: Beyond the Bypass Model," *Canadian Journal of Development Studies*, vol. 4, no. 2, pp. 221-240. (With George Honadle and Jerry Silverman.)

1983. "Beyond the Rhetoric of Rural Development Participating: Can It Be Done?," *World Development*, vol. 2, no. 5, pp. 427-446. (With Jerry VanSant.)

1982. "Managing Staff to Promote Participation," *Rural Development Participation Review*, vol. 3, no. 2, pp. 4-6. (With Jerry VanSant and Thomas Armor.)

1981. "Local Organization, Participation, and Rural Development: Results from a Seven-Country Study," *Rural Development Participation Review*, vol. 2, no. 2, pp. 3-7. (With Elliott R. Morss.)

1980. "The Roles of Christ and Inkarri in Andean Religion." *Journal of Latin American Lore*, vol. 6, no. 2, pp. 279-298.

1979. "Simbolo y Protesta: Movimientos Redentores en Chiapas y los Andes Peruanos." *America Indigena*, vol. 39, no. 1, pp. 47- 80.

1978. "Verticality and Andean Cosmology: Quadripartition, Opposition, and Mediation." *Actes du XLII Congres International des Americanistes*, vol. 4, pp. 199-211.

1975. "La Alpaca en el Mito y el Ritual." *Allpanchis Phuturinqa*, vol. 8, pp. 141-164. (With Rosalind C. Gow.)

1974. "Taytacha Qoyllur Riti: Rocas y Bailarines Creencias y Continuidad." *Allpanchis Phuturinqa*, vol. 7, pp. 49-100.

1973. "Reforma Agraria y Sistema de Cargos." *Allpanchis Phuturinqa*, vol. 5, pp. 131-158.

RECENT PAPERS

1989. "Time for a New Beginning: Fragile Lands and Sustainable Development." Submitted for publication in the *1989 Conference of Latin American Geographers' Yearbook.*

1989. "Collaboration in Development Consulting: Stooges, Hired Guns, or Musketeers?" Paper presented at the Annual Meeting of the Society for Applied Anthropology, Santa Fe, April 5-9.

1989. "Promoting Rural Growth: People, Places, and Priorities." Keynote address at the conference on Market Towns and Rural Growth: Economic and Social Linkages, Yamoussonlero, Côte d'Ivoire, January 8-12.

1988. "Development of Fragile Lands: Theory and Practice." Paper presented at the conference, Fragile Lands of Latin America: The Search for Sustainable Uses, Tulane University, New Orleans, March 17-19.

1988. "Beyond the Project: The Quest for Sustainability." Paper Presented at the symposium Sustainable Development: In Search of Lasting Solutions, John F. Kennedy School of Government, Harvard University, April 22-23.

MAJOR REPORTS

1989. "The National Program for Agroforestry in Haiti." 3 vols. (Coauthor)

1988. "Project Identification Document: Haiti National Agroforestry Program." (Coauthor).

1988. "Environmental Assessment of the Northern Zone Consolidation Project No. 035 in Costa Rica," 2 vols. (Coauthor)

1987. "Peru: An Assessment of Biological Diversity." (Coauthor)

1986. "The Rwanda Social and Institutional Profile," 3 vols. (Coauthor)

1986. "Market Town Capital Formation in Bolivia Project Paper." (Coauthor)

1985. "The Range Management Improvement Project in Morocco: An Evaluation." (Coauthor)

1985. "Opportunities for AID in the Extensive Livestock Sector of Morocco." (Coauthor)

1984. "Refugee Settlement in Somalia: A Discussion and a Report." (Coauthor)

1984. "Private Voluntary Organizations and Institutional Development: Lessons from the Experience of IVS and IIDI." (Coauthor)

1984. "New Approaches to Animal Traction in Niger." (Coauthor)

1982. "Five Years Later: Progress and Sustainability in Project North Shaba." (Coauthor)

1982. "Agricultural Sector Assistance Strategy for Upper Volta." (Coauthor)

1981. "Differing Agendas: The Politics of IRD Project Design in Panama," an IRD project field trip report. (Coauthor)

1981. "IRD in Colombia: Making it Work," an IRD project field trip report. (Coauthor)

1981. "Integrated Rural Development: Nine Critical Implementation Problems," IRD Research Note No. 1. (Coauthor)

1980. A state-of-the-art report entitled: "Integrated Rural Development: Making it Work?" (Coauthor)

1980. "An Information System for the Rural Area Development - Rapti Zone Project," an IRD project field trip report.

1979. Principal author of "Local Organizations and Rural Development: A Comparative Reappraisal," 2 vols. (Principal Author)

1977. "The Rural Poor in Haiti: A Social Analysis."

1976. "An Evaluation of the Haitian American Community Help Organization." (Coauthor)

Development Alternatives, Inc.

ALEC L. HANSEN

Alec L. Hansen, a staff member of Development Alternatives, Inc. (DAI), is a development economist with extensive experience in developing countries. His specializations include transport economics, credit policy, public and private enterprise analysis, and econometrics. During two years as an economic advisor in Pakistan, he designed a series of urban infrastructure project components, calling for in-depth studies of credit markets, industry performance, and government institutions. In two separate studies in Peru, he helped develop a methodology to evaluate national investment alternatives in the transport sector, and analyzed transport policy options for the second-largest city. His Ph.D. dissertation models the effect of infrastructure investments on labor productivity in the urban industrial sector, focusing on labor market conditions, capital utilization, and technology choice. Mr. Hansen has taught courses in micro and macroeconomics at Boston University, supervised a 2,500 household survey, and conducted enterprise interviews. Mr. Hansen is an experienced programmer, specializing in microcomputer applications. He currently serves as industrial economist and systems analyst on DAI's Development Studies Project in Indonesia.

PROFESSIONAL EXPERIENCE

Development Economist (June 1985-present)
Development Alternatives, Inc.
Member of Development Staff engaged in policy analysis and cost-benefit studies. Provides home-office support in economics for DAI's short- and long-term projects.

Indonesia: Development Studies Project II
AID/DAI (September 1988-August 1990)
Serving as industrial economist and systems analyst on seven-person team advising the Ministry of Planning (BAPPENAS) and the Central Bureau of Statistics (BPS). As industrial economist, analyzes effect of regulations at the sector level; studies the effect of industrial concentration and the size distribution of firms on productivity; and calculates effective rates of protection to illuminate, for the Indonesian government as well as the donor community, the effect of trade policies. As systems analyst, advises Indonesian counterparts in the conversion of large data sets into reliable price, wage, and employment series; the use of statistical software packages and computer languages for aggregation and econometric analysis; and design of surveys for labor force size and productivity measurement.

Sri Lanka: Rural Income Study
(May-June 1988)
Analyzed income data from recent socioeconomic surveys and assessed the potential for using a regression-based methodology to generate annual estimates of mean rural income from regularly published data. Constructed a large database of agricultural and nonagricultural variables as proxies of income growth in the rural areas. Prepared a regression model to be tested upon the release of district-level data from two island-wide surveys. The final report describes policy applications of model results for monitoring donor activities in the rural areas and reported the urgent need for improved price indexes to build reliable income series.

Pakistan: Transport Advisory Project Design
(August 1986-February 1987)

Served as transport economist on a World Bank-sponsored urban transport advisory team. Designed a seven-year project to upgrade infrastructure and institutional implementation capability for the Lahore Development Authority (LDA), and provided technical assistance to LDA's planning unit. Mr. Hansen prepared internal rate of return calculations to meet World Bank appraisal criteria and trained LDA personnel in the application of the methodology. He examined credit policies intended to build up the bus fleet, and opened negotiations between private transporters and government-controlled commercial banks. He made recommendations to the Punjab provincial government regarding institutional alternatives and overall transport policy.

Washington, D.C.: Employment and Enterprise Policy Project
(May-June 1986; May-June 1987)

Assisted in preparation of state-of-the-art review of economic research into the impact of credit policy on the performance of small and medium enterprises in developing countries.

Eastern Caribbean: Road Rehabilitation Evaluation (August-September 1985)
Participated as transport economist on a three-person team evaluating road rehabilitation projects in St. Lucia and St. Vincent for USAID/Barbados. Evaluated the impact of infrastructure improvement on the transport and agricultural sectors, and performed a benefit-cost analysis of the project. Examined potential for inter-island transport of agricultural exports. Developed recommendations for future projects.

Washington, D.C.: Market Analysis (June-August 1985)
Responsible for the market analysis of a feasibility study for a sugar/ethanol project in Zimbabwe financed by the U.S. Trade and Development Program. Prepared forecasts of domestic and international consumption of sugar and analyzed its implications for the viability of the private smallholder estate component of the project.

Instructor of Economics
Boston University (1981-1985)
Awarded teaching fellowship. Responsible for two courses in macro- or microeconomics each semester. In addition, taught introductory economics in the Metropolitan College at Boston University and in the School of Business at Hellenic College in Brookline, Massachusetts. Received citation as outstanding teaching fellow from College of Letters and Sciences, Boston University.

Transport Economist
AB Volvo Transportation Systems (June 1979-July 1984)

Peru: National Cost-Benefit Analysis (June-July 1984)
Served on a special working group, directed jointly by the Swedish National Road Administration and Volvo Transportation Systems, to develop a methodology to evaluate investment alternatives in the transport sector in Peru. Helped design two modules of the system: a multi-modal network simulation module, and a cost-benefit module with a special emphasis on induced demand effects.

Peru: Urban Transport Planner (June-September 1981)
Member of a three-person urban transportation planning team sent to Arequipa, Peru, on behalf of ORDE Arequipa, the development authority for the second largest city in Peru. Prepared a report investigating operating characteristics and likely performance of the major private sector operators under various scenarios for government intervention. Special attention was given to the fiscal and system performance consequences of all-private versus mixed public/private ownership of bus fleets. Modified a route network analysis program (in FORTRAN) already used by Volvo in northern Europe for use in data environment of Arequipa, and used results to formulate two proposals for more efficient route networks under the all private and mixed ownership alternatives.

Sweden: Transportation Demand Analysis (June-July 1981)
Applied computer model of transport demand to public transportation systems in Luanda, Angola, and Abuja, Nigeria.

Pakistan: Transport Economist (May 1979-September 1980)
First designed, then participated in the first year of implementation of an eight-year development program for Lahore. Pakistan. The turn-key project was funded by the Swedish International Development Agency; in Lahore, the team proposed additional projects that were subsequently approved and funded by the World Bank. Directed the analysis of the urban transportation sector, entailing:

- Liaison with relevant governmental authorities including the Lahore Development Authority and the Ministry of Transportation and Communications;
- Institutional and financial analysis of existing public and private operators;
- Design, supervision, interpretation, and presentation of a 2,500-household transport demand survey;
- Preparation, with local counterparts, of urban infrastructure and route network design proposals;
- Review and recommendations on a five-year investment plan for Punjab Urban Transport Company, a public enterprise under ministry control. Recommendations included an incentive system for management, use of microcomputers for operations, scheduling and finance, and PERT planning for depot construction; and

- Author of initial study and co-author of three of the six year-end progress sub-reports.

Research Assistant
Department of Urban Studies and Planning, Massachusetts Institute of Technology (1979)
Performed econometric analysis of U.S. migration; data preparation and regression analysis used QUAIL stat package.

Urban Planner
Adibi-Harris Associates, Tehran, Iran (Sept 1978-Oct 1979)
Helped prepare master plan for the cities of Ahwaz and Bandar Abbas, based on the Echenique Land-use/Transportation Simulation Model. The work was interrupted by the Iranian revolution.

Research Assistant
Economics Department, University of California at Berkeley (Sept-Nov 1977)
Prepared data series using APL and performed regression analysis for labor market study of San Francisco industrial workers.

Computer Programmer
Committee for Arts and Lectures, University of California at Berkeley (1975-1978)
Computer programming, accounting, modification of management information system, preparation of budget reports.

EDUCATION

Ph.D., Economics, Boston University (expected, May 1988).
Dissertation Topic: "Estimating the Urban Productivity Effects of Infrastructure Investments in Developing Countries." A model traces the effect of reduced transport costs on firm behavior and performance in a segmented labor market, and explores implications for capital utilization, labor intensity, technology choice and industrial location.

M.A. Political Economy, Boston University, May 1986. Fields: Applied Microeconomics, Public Enterprise Analysis, Econometrics. Curriculum included coursework and directed study at M.I.T.'s Center for Transportation Studies.

B.A. Economics, University of California at Berkeley (9/74-5/78). Fields: Macroeconomics, Demography, Trade, and Development.

LANGUAGES

Mr. Hansen has excellent speaking, reading, and writing skills in Spanish, Swedish, and Danish; he also speaks French well and understands Farsi.

COMPUTER SKILLS

Mr. Hansen is an experienced programmer in BASIC, FORTRAN, C and APL, on both mainframe and microcomputers. He is familiar with most well-known applications packages, including SAS, SPSS, TSP, QUAIL, RATS, Lotus, and dBase. He has used portable microcomputers in the field and has trained counterparts in system maintenance of specialized programs and databases.

AFFILIATIONS

American Economic Association, member
National Research Council (TRB), associate

9/88

Development Alternatives, Inc.

DAVID R. HUGHES

David Hughes, a member of the Board of Directors of Development Alternatives (DAI), is an agribusiness specialist with 20 years of experience in international agricultural marketing and food policy. Dr. Hughes is an active partner in a firm growing and merchandizing fresh herbs to supermarkets and the hotel and restaurant trade in North America. He is a partner in several property development and management companies and a director of a firm that identifies and undertakes venture capital investments in developing countries. He has been closely associated with the development of integrated agricultural production and marketing systems for nontraditional export commodities. Dr. Hughes has worked throughout Africa and the Caribbean and in Korea as an agribusiness specialist, marketing consultant, and policy advisor. In addition, he has broad experience in the agricultural and food industries in North America and the European Community. He has written extensively on agribusiness issues, food marketing management, and agricultural and food policy.

PROFESSIONAL EXPERIENCE

Private Businessman

Dr. Hughes is a director and senior marketing manager of Herbonics, Inc., a firm growing and merchandizing hydroponic fresh herbs to the supermarket and hotel and restaurant trade in the United States. In addition, he is a director of Sterling Ventures Inc., a firm active in identifying opportunities for agribusiness investment in developing countries, sourcing venture capital finance, investing in overseas agribusiness investments, and merchandizing imports from developing countries in North America and Europe. Dr. Hughes is also a director of three companies that develop and manage property in the United States, Canada, and the United Kingdom.

Short-Term Assignments Completed in 1988-1989

Senior Agribusiness Advisor on a CIDA-financed project that focuses on encouraging joint ventures between Latin American and Caribbean private sector firms and North American agribusiness firms. Identifying and establishing mechanisms for food processing techology transfer and marketing representation in the export country are key elements of this innovative market-driven project.

Agricultural Marketing Specialist on a team training middle- and senior-management staff of the Cooperative and Rural Development Bank of Tanzania on loan appraisal methodology and practice (with emphasis on tea and sisal investments), for the Government of Tanzania and IBRD.

Senior Agribusiness advisor on a team that prepared an implementation plan for the privatization of components of the Gambia Produce Marketing Board, with emphasis on the divestiture of groundnut processing plants, for USAID.

Author of a chapter on "Marketing" in a World Bank-financed book on Agribusiness Project Analysis (for publication by IBRD/EDI in 1989).

Team Leader and Agribusiness Specialist for an evaluation of aspects of the Agro 21 Program in Jamaica (September-October 1988 and February 1989). The program is focused on removing constraints to agribusiness sector development and encouraging the expansion of non-traditional agricultural exports.

Team Leader and Policy Analyst for an equity financing study in El Salvador (June-July 1988). Analyzed the appropriateness of having FUSADES, a local voluntary organization, take equity participations in projects to which it lends, particularly agribusinesses. Based on experience by other development finance institutions in country, determined the impact of equity injections on the companies' financial profitability, the conditions under which equity investments should be undertaken, and the administrative requirements involved in managing an equity portfolio.

Development Alternatives, Inc. (April 1986-January 1988)

Chief of Party and Agribusiness Advisor for the USAID-financed $40-million High Impact Agricultural Marketing and Production (HIAMP) Project in the Eastern Caribbean (July 1986-present). The project represents a major incentive to structure export growth in non-traditional commodities through private-sector-led development. HIAMP has three major components: the provision of agribusiness investment and management advice to existing and potential agribusinesses in the region; a venture capital fund that is a source of equity finance for private sector agribusiness; and four major subprojects, covering tropical fruit export expansion, crop diversification, cocoa rehabilitation, and mariculture.

Member of DAI team that completed the Project Identification Document and Project Paper for the High Impact Agricultural Marketing and Production Project (December 1985-January 1986). For this assignment, Dr. Hughes completed the marketing analysis, a description of the Regional Tropical Fruit Subproject, and the economic analysis.

Director
Deloitte, Haskins and Sells (DH&S) Management Consultants, Kenya
(December 1983-December 1985)
Was responsible for coordinating management consulting activities in the agricultural and food sectors for the 11 African countries where DH&S is represented. He carried out the following assignments:

Project Director of a team assisting the Government of Ethiopia in implementing an emergency Drought Rehabilitation Program. Technical assistance was provided for program coordination; farm input marketing; design and implementation of agricultural credit procedures; and input storage evaluation, design, and construction (funded by IFAD and Belgium Survival Fund).

Project Director of a team preparing an implementation plan for the Agricultural Input Supply Marketing Company, Government of Ethiopia. This parastatal is responsible for supplying the major farm input needs for the Ethiopian agricultural sector (funded by IBRD and IFAD).

Senior Agribusiness Advisor on a team undertaking a feasibility study on the establishment of an agricultural credit bank to service the credit needs of the commercial agricultural sector in Malawi, for the Government of Malawi (funded by IBRD).

Project Director of a team that undertook a critical review of financial and administrative procedures and then designed and proposed procedural manuals for the International Livestock Center for Africa, Addis Ababa, Ethiopia.

Project Director of a team investigating the U.S. market potential for, and the availability of supply of, selected Zimbabwean leather, craft, and curio products, for the Government of Zimbabwe and the Commonwealth Secretariat.

Marketing Specialist on a team that reviewed the operations and performance, and designed a five-year action plan for the Agricultural Development Corporation, Kenya (funded by ODA).

Field Director of a long-term team designing and implementing training programs for grain and fertilizer marketing staff in a government parastatal and producer cooperatives, for the Government of Zambia and CIDA.

Senior Agribusiness Investment Advisor on the Kenyan Rural Private Enterprise Project, a three-year USAID-funded program designed to encourage industrial development in rural areas through the provision of credit and business advisory services, for the Government of Kenya and USAID.

Senior Agricultural Marketing Consultant on a multidisciplinary team that established an integrated rural development strategy in the Northern Region of Ghana, for the Government of Ghana and CIDA.

Senior Marketing Economist on a project to determine the marketing opportunities for Canadian reproductive technology and breeding stock in the Zimbabwe livestock sector, for CIDA.

Marketing Specialist on a DAI team carrying out an agricultural sector assessment in Grenada, for USAID.

Trade Policy Analyst investigating the impact on Canada agriculture of removing trade barriers in agricultural commodities and food products between Canada and the United States, for major Canadian farmer organizations.

Project Director of a team that designed an implementation plan for the establishment of a grower-financed extension and training service for estate farmers in Malawi, for the Government of Malawi (funded by ODA).

Principal
Deloitte, Haskins and Sells Associates, Canada (1981-1983)
Established the Caribbean regional office for DH&S and was responsible for coordinating and directing all management consulting activities in the agricultural and food sectors in the region. A selection of assignments completed by Dr. Hughes included:

Agricultural Marketing Specialist for DAI for the St. Lucia Agricultural Sector Project Paper design team. He conducted market research on nonbanana diversification crops and prepared a detailed report of his findings.

Marketing Consultant to the Caribbean Agricultural Trading Company Limited. Established a commercial company to trade in fresh produce and farm inputs throughout the Caribbean region, for IDB and the Caribbean Food Corporation.

Agribuiness Advisor on multi-disciplinary team that prepared a project paper to determine the financial and economic feasibility of an agricultural trading company in the Caribbean and to elicit a $5-million loan to launch the company, for USAID.

Marketing Specialist for the Government of Korea. Participated on team that prepared a beef and dairy products industry development strategy for the province of Gang-Weon.

Policy Adviser to the Barbados Marketing Corporation. Advised on national agricultural marketing strategy and the role of the public and private sectors in attaining food sector objectives.

Agribusiness Adviser for a joint Canadian/Zambian investment project. Identified agricultural development opportunities in the private and public sectors.

Project Director of a study that investigated the linkages between the agricultural sector and the tourist industry in selected Caribbean countries, and development of project activities aimed at increasing the usage of local food in the tourist sector, for Caribbean Development Bank.

Marketing Consultant for the Caribbean Development Bank and WINBAN. Prepared an implementation plan for merchandising Windward Island bananas within the Caribbean region. Designed and supervised pilot project to test the financial and logistical viability of the implementation plan.

Project Director of a team identifying export market opportunities for the Commonwealth Secretariat and the Government of Barbados. Developed an export-marketing strategy for exotic produce.

Vice-President and Director
Broadwith, Hughes and Associates, Ltd. (BH&A) (an agricultural and food management consulting firm) and Canadian Farm Surveys, Ltd. (an agricultural market research firm) (1975-1980).

David Hughes established these two companies in 1975 and was a major partner and Director of the Agricultural Marketing Services Division in North America and the Eastern Caribbean until sale of the companies to Deloitte, Haskins & Sells in 1981. He opened a branch office for BH&A in Barbados in 1978.

BH&A established itself as the major specialist agricultural management consulting and market research firm in Canada. It was a leading company undertaking agricultural and food policy research for government and trade associations in Canada, carrying out important work on barriers to trade for imported food products into Canada and on the economic impact of farm-gate regulatory agencies on food prices. Assignments in developing countries that David Hughes completed during this period included:

Senior marketing consultant on the Integrated Rural Development Project for the Barbados Agricultural Development Corporation. Planned and implemented a fresh produce marketing strategy for over 1,000 small-scale farms in Barbados.

Marketing analyst for IICA (the agricultural division of OAS). Prepared a detailed analysis of the hotel, restaurant, supermarket, and institutional sectors of the market for fresh and processed produce in Barbados.

Policy analyst for FAO study of the domestic and export huckster trade in the Eastern Caribbean. Developed recommendations for improving the performance of intra-regional segments of the fresh produce trade.

Market economist for the Caribbean Development Bank. Conducted overview of the market for meat, dairy products, eggs, fish, and fresh produce in the Windward Islands, Barbados, Trinidad, and Tobago, and identified constraints to market development.

Market economist for the Caribbean Community Secretariat. Developed a marketing strategy for Eastern Caribbean fresh, smoked, and salted fish products in Antigua, St. Lucia, Barbados, Trinidad and Tobago, and Guyana.

Senior marketing economist for the Caribbean Community Secretariat. Identified constraints to the development of the dairy and meat sectors in the Eastern Caribbean region. Critically assessed the efficiency of market channels for meat and dairy products. Identified investment areas that could contribute to enhancing development of the livestock sector in each territory.

Conducted an export market development study and implementation strategy for fruit and vegetable products in North American and European market for a major Eastern Caribbean farmer organization.

Dr. Hughes completed numerous major assignments in North America during the period 1975-1977. He was a consultant on marketing strategy to more than 20 of the major farm input and food manufacturing companies in Canada and the United States. He designed and successfully launched a syndicated market research survey of over 3,000 farmers across Canada, producing data on farmer buying behavior for farm inputs. Dr. Hughes undertook important research assignments analyzing North American agricultural and food policies for the Federal Government of Canada and several prestigious research institutions.

Director of Agricultural Research
Canadian Government Commission on the Food Industries (1974-1975)
In response to the rapid escalation in international agricultural commodity prices in 1973 and 1974, the Canadian Government established a federal commission of enquiry into food prices and the food industry. David Hughes was responsible for initiating, managing, and publishing the results of research into the conduct and performance of major sectors of the food industry.

Senior Marketing Economist
Federal Government of Canada, Department of Agriculture (1973-1974)
Responsibilities included monitoring and analysis of international agricultural commodity markets, and analysis of domestic and agricultural trade policies of North American and European food importing and exporting countries.

Professor of Agricultural Marketing
University of Newcastle-Upon-Tyne, United Kingdom (1970-1973)
In addition to teaching graduate courses on agriculture and food marketing, undertook marketing projects for private sector growers, processors, and distributors in the United Kingdom; investigated domestic and export market opportunities; and developed export marketing strategies for selected fresh and processed food products (with particular reference to food exports from the United Kingdom to France).

EDUCATION

Dr. Hughes holds a Ph.D. degree in agribusiness marketing management from the University of Newcastle-Upon-Tyne, United Kingdom; an M.S. degree in agricultural marketing, with specialization in management organization in agricultural cooperatives; and a B.Sc degree (Honors) in agricultural economics from the University of Reading, United Kingdom.

OTHER RELEVANT EXPERIENCE

Owner of a mixed cropping and livestock farm in Southern Ontario, Canada.

In 1987, Dr. Hughes was the Sir John Ormond Visiting Fellow at Lincoln College, University of Canterbury, New Zealand, teaching courses on food marketing, with particular reference to the export marketing of food products to Europe and North America.

David Hughes is a director of several firms, including:

- Director of Herbonics, Inc. (USA), a firm growing and merchandizing fresh herbs to the supermarket and HRI trade in North America.

- Director of Sterling Ventures Inc. (USA), a firm specializing in venture capital investments in developing countries and marketing products from developing countries.

- Director of Agribusiness Investments, Ltd. (United Kingdom and Canada), a firm specializing in direct investment in rural property and agricultural services in Canada and the United Kingdom.

- Director of Development Alternatives, Inc., Washington, D.C.

- Director of Sterling Property Inc. (USA) and Cumberland and York Investment Group Inc. (Canada) -- firms undertaking property development and management investments in North America and the United Kingdom.

PUBLICATIONS

David Hughes has published widely on many aspects of domestic and foreign agricultural policies and on issues in the agricultural production and marketing system in Canada and the United Kingdom, in trade publications, university and professional journals, and government and industry reports.

3/89

Development Alternatives, Inc.

AHMAD FARID ISSAQ

PROFESSIONAL EXPERIENCE

September 1984 to present — Member of Research group, ACTEL INC., USA

-conducted research in the field of electronic and rendered statistical analysis and characterized data.

-Wrote series of programs in basic, pascal, and research and programming languages to facilitate research and to analyse related data.

November 1983-January 1984 — Consultant, Transcentury Corporation, USA

Design of Baluchistan Area Development Project/Pakistan

-Assessed water resource potential of project area.

-Reviewed existing irrigation systems especially Karezes underground water channel and proposed technology for better utilization of existing systems.

-Participated in preparation of technical and economic feasibility report.

May-June 1983 — Consultant, World Bank, USA

-Reviewed Pakistan Kalabagh Dam project study consultants' proposed investigation/exploration report and analyzed/advised on: investigation adequacy, implementation scheduie, contract documents for field investigation.

June 1982 — Consultant/Irrigation Engineer, World Bank, USA

-Reviewed and submitted comments on finding of irrigation and argicultural studies interim evaluation report of Burma Paunghaung Hydropower Project, prepared by PRC/ECI.

January-March 1981 — Consultant/Irrigation Engineer, World Bank, USA

-Reviewed and analyzed the IBRD-financed last decade projects in irrigation and drainage subsector.

June 1979-
May 1980

Consultant/Water Resources Engineer, Water and Power Engineering Company of Afghanistan (WAPECA)

-Prepared hydrology and irrigation demand report for Warsaj Dam - IBRD - financed project. The project was jointly undertaken by WAPECA and the French firm of Conye-et-Bellier.

May 1977-
April 1978

Deputy Minister, Ministry of Water and Power, Afghanistan.

Managed and guided overall activities, such as:

-Survey, investigation, design and planning, including master plan and feasibility studies.

-Construction plans and construction operations.

-Administration of organizations.

-Attraction and promotion of assistance and aids for speedier implementation of development plans.

-Negotiation for loans, consultancy works and engineering services, etc.

-I was also in charge of Water and Power Engineering Company of Afghanistan (WAPECA) which was established as an autonomous company to provide engineering consultancy services in the field of water and power. The company gained considerable strength and recognition from international institution and other consulting firms and was awarded contracts of engineering services for a number of projects.

April 1973-
May 1977

President of Planning, Ministry of Water and Power, Afghanistan.

Managed, supervised and participated in activities, such as:

-Selection of basin and areas for master plan studies.

-Initiating and executing master plan and feasibility studies, maintaining and reviewing such studies progress and performance.

-Preparation of yearly and seven-year plan of water and power development.

-Assisting the lending agencies on project indentification and project appraisal.

-Negotiation with the lending agencies and consulting firms.

November 1971-
April 1973

President of Irrigation, Ministry of Irrigation and Agriculture, Afghanistan.

Guided and supervised activities, such as:

-Hydrology and hydrogeology studies and investigations.

-Survey of land resources.

-Planning and design of irrigation schemes.

-Construction of minor irrigation system.

November 1969-
November 1971

Co-manager of UN Water Management Project, Afghanistan.

In association with UN manager and assistance of nine UN experts, participated in:

-Coordination of irrigation water resources activities.

-Preparation of draft water code.

-Rendering assistance to irrigation and survey department by way of strengthening their planning and engineering capabilities.

March 1966-
January 1968

Senior Hydrologist, Water and Soil Survey Authority, Afghanistan.

-In association with USAID experts, prepared plan for improving and expansion of hydrological networks.

-Participated in field and office works, including compilation, computation and analysis of hydrology data.

-Participated in preparation of hydrological year books.

-Served as member of National Committee to International Hydrologic Decade (IHD).

November 1964-
March 1966

Irrigation Engineer, Ministry of Public Works, Afghanistan.

-Monitored field progress and analyzed projects' progress reports.

-Participated in writing technical bulletins.

1962

Hydrologist, Afghan Geological Survey.

-Assisted member of German Water Economic Mission in field and office work related to hydrological study of Kabul basin.

EDUCATION:

MS in Civil Engineering, University of Southampton, U.K., 1969.

BS in Civil Engineering , Colorado State University, USA, 1964.

Participated in a number of international conferences and seminars, such as UN Water Conference, UN Desertification Conference. Also participated in and led a number of negotiations with the World Bank, Asian Development Bank and other lending agencies. Recieved a medal by the Royal Government of Afghanistan for meritorious service.

BABRAK KHALEEQ
Consultant
Development Alternatives, Inc.

QUALIFICATIONS SUMMARY

Babrak Khaleeq has been a research oriented agronomist and horticulturist at Kansas State University since 1980, where he has been responsible for the pearl millet breeding program which is funded by the Agency for International Development and the International Sorghum and Millet Research program (INTSORMIL). Concurrently Dr. Khaleeq is participating in the sunflower breeding and improvement program. Emphasis in both programs is on the development of drought resistant lines and measuring genetic variability in the germplasm population. As a Visiting Lecturer at Kansas State from 1980 to 1984, Dr. Khaleeq was involved in all aspects of the International Wheat Breeding program. Previous to his graduate study he was Assistant and Acting Dean of the Kabul University's College of Agriculture (1974-1976). During his long career as an agronomist, Dr. Khaleeq has served as high school teacher in a vocational agriculture school in Baghlan Province, Afghanistan, where he taught classes in general agriculture, horticulture, botany and math; was visiting research scientist in Turkey, where he conducted research on various fungicides and insecticides; and he has worked in close collaboration with such research organizations as ICRISAT. Dr. Khaleeq received his Ph.D. in plant breeding and genetics from the University of Nebraska, his M.S. in field crop production from the University of Wyoming, and his B.S. in agronomy from the College of Agriculture, Kabul University. He is a native speaker of Persian and Pushtu, and can read and write Arabic and Urdu.

EDUCATION

Dr. Khaleeq received his Ph.D. in plant breeding and genetics from the University of Nebraska in 1980; his dissertation was on inheritance of yield, protean and lysine in three wheat crosses. His M.S. is in field crop production and was awarded by the University of Wyoming in 1970; the thesis dissertation was on the early development of corn, oats, barley, and wheat seedlings. Dr. Khaleeq received his B.S. in agronomy, with honors, from the College of Agriculture at Kabul University in 1966.

PROFESSIONAL EXPERIENCE

1980 - present Kansas State University

Research Associate Scientist: Fort Hayes Branch Experiment Station (1984-present)

Responsible for the pearl millet breeding program in which germplasm and lines from USA as well as from other parts of the world have been used. This program is supported by USAID and INTSORMIL. Elite lines suitable for semi-arid climates for Africa and Asia have been identified. Other responsibilities include planning, conducting, and analyzing research findings on a wide range of basic and applied problems. Also participates in the sunflower breeding and improvement program.

August 1980-July 1984 Postdoctoral Research Associate: Department of Agronomy

Had major role in setting up a research program funded by INTSORMIL for millet breeding for strains to be used in semiarid tropics; for improved stand establishment and drought resistance. Supervised field crews and was responsible for field research, data collection, computer data analysis and reporting of results.

1976-1980 Visiting Lecturer: Department of Agronomy

Was involved in all aspects of the International Wheat Breeding program. Pure lines with high protein and lysine were crossed in greenhouses and the pedigree and bulk methods were used for better genotype selection. Many cultivars were sent to 37 different countries.

August 1974 - March 1976 Kabul University, College of Agriculture, Assistant and Acting Dean: College of Agriculture

Served as Assistant Dean in August 1974 for one month after which he replaced the Dean in an acting capacity until the appointment of new dean in November 1975. During this period had administrative responsibility for 85 faculty members, 45 classified staffs and 817 students. University Farm income increased during this time by 26.5 percent. Scientists were sent for advanced education to the US and the American University of Beirut. A seven-year plan was prepared for an anticipated enrollment of 1400 students by 1982.

April 1973-June 1974 Visiting Research Scientist in Turkey

In conjunction with American and Turkish scientists, conducted research on the effects of various fungicides and insecticides on the germination and emergence of wheat. Was involved in all phases of work from field to evaluation. Program also included research on safflower breeding.

January 1966-March 1976 Associate Professor

Was employed by the College of Agriculture as an instructor immediately after graduation in 1966. In 1967 was sent for advanced education to the University of Wyoming through an AID-funded scholarship. After completion of M. S. in Agronomy in 1970 joined the college of agriculture at Kabul as Assistant Professor and taught classes in crop production, horticulture, general agronomy, range management, plant breeding, and general genetics. Was promoted to Associate Professor in 1975.

March 1961-February 1962 High School Teacher: Vocational Agriculture School, Baghlan Province

Was assigned to teach classes in general agriculture, botany, horticulture, and mathematics to junior and senior level students.

March 1963-December 1966 College Student, Kabul University

During undergraduate training assisted professors in Wheat, corn, and barley planting, data collection and harvesting. Had been raised on a farm and received practical experience in all phases of grain and vegetable production from a very early age with traditional methods.

RELATED ACTIVITIES

Striga Workshop, North Carolina State, (August 8-26, 1983).

ICRISAT, Gwalior, Pearl Millet Breeding program (April 25-May 11, 1986)

RELATED SKILLS

Dr. Khaleeq has vast experience in the use of computers for the analysis of data and has used SAS (Statistical Analysis System) on both main frame computers and person computers. He has operated farm machinery, is familiar with most farm equipment and has skill in farm machinery repair.

PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS

American Society of Agronomy, since 1980.
Crop Science of America, since 1980.
Sigma Xi, since 1982.

LANGUAGES

Dr. Khaleeq is fluent in reading, writing, and speaking Persian, and Pushtu, as well as English. He possesses fair knowledge in speaking, reading and writing in Turkish and can read and write Arabic and Urdu.

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GERHARD D. LINDAUER

Dr. Gerhard Lindauer is an economist and sociologist with 21 years of experience in international development. He is particularly qualified in the areas of country analyses, integrated rural development, irrigation, agribusiness, agricultural production, market analyses, and socio-economic field surveys. His extensive experience in South Asia includes several years spent in Afghanistan. From 1971 to 1972 Dr. Lindauer was the Team Leader/Senior Economist on a multidisciplinary planning mission to Paktia Province. From 1972 to 1974 he was the Advisor to the Minister of Agriculture for the Paktia Regional Development Project. He is currently leading a ten-person UNHCR/WFP team conducting a feasibility study on Project Market Place, a project designed to assist with the repatriation of Afghan refugees.

PROFESSIONAL EXPERIENCE

Independent Consultant (1986-present)

Pakistan/Afghanistan: Team Leader: Project Market Place (1989)
Leading ten-person team (four American, one Afghan, one British and three Pakistani) to perform feasibility study. Study to be used as basis for decision making by UNHCR, UNOCA and WFP on program for repatriation of Afghan refugees.

Jordan: Jordan Valley Irrigation Projects (1989)
Performed evaluation of irrigation projects for German Ministry of Economic Cooperation.

Indonesia and Cameroon: Project Evaluations (1988)
Conducted evaluations of rural and regional development projects for German Ministry of Economic Cooperation.

Cameroon: Lagdo II Irrigation Project (1987)
Led team to perform feasibility study. Coordinated six-person team, conducted economic and financial analysis, coordinated and negotiated with Government of Cameroon.

Mali: Lac Oro Irrigation Project (1987)
Led team to evaluate irrigation project for German Ministry of Economic Cooperation.

Mali and Tunisia: Project Evaluations (1987)
Conducted evaluations of rural and regional development projects for German Ministry of Economic Cooperation.

Turkey: Symposium on Experiences in the Implementation of Rural Development Projects (1987)
Organized and oversaw symposium, a case study of the Erzurum Integrated Rural Development Project. Negotiated with provincial and central authorities, monitored symposium and reported results, for FAO.

Niger: Special Country Programme, I (1986)
Led team on appraisal mission, for IFAD. Coordinated six-person team, negotiated and coordinated with government of Niger, assisted IFAD in writing of program brief for potential co-financer.

Cameroon: Lagdo II Irrigation Project (1986)
Led two-phase team to conduct pre-feasibility study and study of techno-economic variants.

Indonesia: Project Document DP/INS/85/037 (1986)
Wrote project document entitled "Assistance to the Entrepreneurship Development Institute" in Jakarta, for the Ministry of Industry of the Government of Indonesia and the UNDP.

Indonesia: Industrial Economist, Ministry of Industry/Government of Indonesia and UNDP (1982-1985)
Advisor to project: "Identification, Preparation and Implementation of Industrial Projects in Selected Regions," intended to promote private medium-scale industries outside Java. Worked throughout Indonesia in large range of industries. Identified potential private investors; conducted feasibility studies and created project outlines; conducted market and investment analyses; assisted investors with licensing procedures, scouting for foreign partners and financing enterprises; trained project, Ministry of Industry and mid-level state bank staff in project appraisal, feasibility studies, and financial and economic analysis.

Germany: Head of Agro-Industries and Renewable Energies Division, AGRAR-UND Hydrotechnik GMB (1974-1982)

Germany: Nuclear Research Plant (1982)
Led team to conduct project appraisal of regional biomass resources and their potential use as sources of energy in the district of Luchow-Dannenberg.

Burundi: Team Leader (1982)
Led appraisal mission for coffee growing and processing project, for Government of Burundi and World Bank.

Niger: Team Leader (1982)
Led preparation mission on irrigated rice cultivation and industrial rice milling.

Cape Verde, Gambia, Cote D'Ivoire, Mali, Mauritania, Niger, Senegal and Burkina Faso: Team Leader (1981 and 1982)
For CEAO/UNPD, USAID and French and German aid agencies: established tender documents for buildings and equipment, including engineering study for Regional Center for Solar Energy of the West African Economic Community (CEAO). Represented AGRAR-UND Hydrotechnic in international consortium of consulting firms.

Rwanda: MULPOC/Economic Commision for Africa (1981)
Conducted study on utilization of peat and other renewable resources in the economic community of the Great Lake Countries.

Burundi: Government of Burundi/Office du The/EDF (1981)
Conducted study of peat utilization in Burundi's tea factories.

Niger: Team Leader (1980)
Led country assessment team for the Application of Renewable Energies.

Burkina Faso: Team Leader (1980)
Led country assessment for the application of renewable energies.

Burkina Faso: Team Leader, Integrated Agricultural Development Project of the Department Centre-Ouest (1978-1979)
Led team for project preparation, for World Bank and the Government of Burkina Faso.

Bangladesh: Team Leader/Senior Economist, Chittagong Hill Tract Development Project (1978)
Led team and served as senior economist for project development, for Asian Development Bank.

Tunisia: Bou Heurtma Irrigation Project (1977-1978)
Conducted feasibility study and project preparation, for the Government of Tunisia. Macro-economic and impact analyses; market and demographic analyses; monitoring of computer programs; economic and financial justification.

Tanzania: Irrigated Rice Cultivation, Mkomazi Valley (1976)
Conducted pre-feasibility study for rice production project.

Tanzania:Irrigated Rice and Sugarcane Cultivation, Lower Pangani Valley (1976)
Conducted pre-feasibility study for rice and sugarcane production project.

Tanzania: Tanga Region Water Resources Master Plan (1974-1976)
Senior Project Economist responsible for macro-economic analyses; demographic analyses and forecasts; large-scale field surveys; industrial development and growth potential analyses; evaluation of water supply and irrigation project proposals; assessment of impact of proposed projects on national development; analyses of central places pattern; and forecast centers of high water consumption.

Jordan: Team Leader (1974)
Led feasibility study of sugar beet plantation and sugar factory.

Planungsgruppe Ritter, German Development Consultants (1971-1972)

Afghanistan: Paktia Regional Development Project (1972-1974)
Coordinator of then-biggest German technical assistance project in the world. Team consisted of ten agronomists, five foresters, eight micro-enterprise specialists, and five support staff, as well as equal number of in-country counterparts. Worked directly with economic advisor to Afghan Minister of Agriculture and Irrigation. Updated and evaluated all project activities; served as liaison to all Afghan donors' and cooperating institutions; Provided advice on agricultural credit to Afghan Fertilizer Company and Afghan Agricultural Development Bank; conducted macro-economic analyses for Afghan Minister of Agriculture and Irrigation.

Afghanistan: Paktia Province Planning Team (1971-1972)
Team Leader and Senior Economist on team of fourteen foreign experts. Established five-year development plan for Paktia Province, closely linked to development of the rest of the country; participated with nationwide expert panel on WIP/FFW activities; traveled extensively throughout Afghanistan.

Pakistan: Team Leader and Senior Economist, Agricultural Cooperatives Project, Multan (1971)
Served as team leader and senior economist for the evaluation of the Agricultural Cooperatives project at Multan.

Assistant Lecturer in Economics, Institute of Socio-Economics, University of Stuttgart (1966-1971)
Short-term assignments performed during this time were:

Ghana: Establishment of Country Program (1970)
Served as team leader and senior economist.

Afghanistan: Paktia Province Regional Development Project (1970)
Served as economist on three-person evaluation team for German Federal Ministry of Economic Cooperation.

India: FAO, Economist, Cooperative Processing of Agricultural Products (1969)
Conducted research into cooperative sugar and cotton milling in India and comparative research of cooperative meat processing in Germany.

Indonesia: German Federal Ministry of Cooperation, Economist and Assistant Team Leader (1968)
Investigated the possibilities to develop the small and medium scale industries in Indonesia.

EDUCATION

Dr. Lindauer was earned a PhD in Economics from the University of Stuttgart, West Germany, in 1969. He received a B.A. in Economics, Political Science, Sociology and Geography from the Universities of Freiburg, Germany; Vienna, Austria; and Hull, England. He pursued graduate work in Sociology at the University of Leeds and Oxford, England, between 1963 and 1964, and at the German Development Institute in Berlin between 1965 and 1966. He most recently completed a special course in the application of Logframe to project/program analysis at the German Foundation for International Development, in 1986.

LANGUAGES

Dr. Lindauer is fluent in German and English, and speaks, reads and writes French very well. He can read Indonesian, Spanish and Portuguese.

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WILLIAM E. MACKIE

EDUCATION:

Ph.D. Communications, University of Missouri, 1971
M.A. Radio-Television-Film, University of Missouri, 1960
B.S.Edu. Northeast Missouri State University, 1954

PROFESSIONAL EXPERIENCE:

Dr. Mackie has worked in radio, television and film for almost thirty years as a producer, writer, director, manager, educator and technician. He has specialized in the use of mass media for national development. He has worked in Malawi, Nigeria, Botswana, Pakistan and Liberia as a long-term adviser and consultant. He heads a media production company that produces educational films and videos.

1989-present	Independent media consultant, producer and trainer.
1988-89	Principal Research Scientist and Director of Communication Support Project, Institute for International Research. The CSP provides short-term services to USAID missions worldwide, assisting them in planning and evaluating communications projects, conducting seminars and workshops and apprising them of new developments in communications technologies and applications. To date, the CSP has provided assistance to Belize, Bolivia, Fiji, Guatemala, Guyana, Honduras, India, Indonesia, Jordan, Malalwi, Nepal, Pakistan, Peru, Senegal and the Yemen Arab Republic.
1986-89	Chief of Party and Project Director, Liberian Rural Communications Network, Institute for International Research. Worked two in years in Liberia as adviser to LRCN, a USAID funded network of three rural radio stations and a production center in Monrovia which has been broadcasting since 1986. The purpose of LRCN is to promote rural development through the presentation of locally produced programs in indigenous languages dealing with health, agriculture, community development and education.
1988	Resource person for electronic and print journalists in Pakistan on the role of mass media in encouraging greater public understanding of environmental issues. Presented paper, "Radio as a Tool for Promoting Environmental Awareness."
1988	Consultant to USAID/Malawi to draft IEC section of a project paper for a project designed to improve basic health care and provide clean water to Malawian villages.

1974-86	Associate Professor and Film Area Head, Department of Radio-Television-Film, University of Texas at Austin.
1985	Resource person for China Film Week, University of Texas at Austin, a visit by six motion picture dignitaries from the People's Republic of China, sponsored by the U.S. Information Agency.
1985	Associate coordinator, resource person and presenter for a training program for media administrators and instructors from the Asia-Pacific Institute for Broadcasting Development, University of Texas at Austin, sponsored by the U.S. Information Agency.
1984	Manuscript evaluator for a media text, Electronic Cinematography, published by Wadsworth Publishing Company.
1983	Resource person and presenter, Monterrey International Film Festival. Invited paper: "Some Elements of Persuasion in British and American Documentary Film."
1983	Media Production Consultant (USAID), Ministry of Education, Gaborone, Botswana. Produced classroom and teacher education radio programs, trained local broadcasters and advised on educational radio planning and development.
1980-81	Head of Department of Mass Communication, Bayero University, Kano, Nigeria. Administered department, taught media production and theory courses, specified equipment needs for new production complex. Consulted with Nigeria's national radio and television services.
1972-74	Writer, producer and director for Coronet Instructional Media, Chicago. Wrote and produced educational films for primary and secondary schools.
1970-72	Assistant Professor, Department of Radio-Television-Film, University of Missouri at Columbia.
1965-70	Chief of Party and Campus Coordinator, Malawi Mass Communication Project (USAID). Three years in Malawi as Chief of Party managing project, conducting training and advising government on broadcasting policy and development.
1962-65	Media producer, Agricultural Editors Office, University of Missouri Extension Division, Columbia, Missouri.
1960-61	Educational television producer, KOMU-TV, Columbia, Missouri.
1957-60	Television engineer, KOMU-TV, Columbia, Missouri.

1954-56	Special agent, electronics and photography, U.S. Army Counterintelligence Corps, Wurzburg, Germany.
1947-54	Announcer, copywriter, engineer, KIRX Radio, Kirksville, Missouri.

SPECIAL TRAINING:

1956-57	Broadcast technology, Central Technical Institute, Kansas City, Missouri. First Class FCC License.

SELECTED CREDITS:

1988	Produced video, "This is LRCN," for Liberian Rural Communications Network project.
1986-87	Conceived and produced radio and video materials for Liberia's population awareness, immunization, ORT and AIDS campaigns. Initiated the use of local musicians to record songs in support of development themes.
1983	Developed and produced radio spots for the Botswana Ministry of Health's "Clean Water" campaign.
1981	Wrote and produced an educational video, "Television Camera Operation," for Bayero University, Kano, Nigeria.
1982	Production coordinator and cameraperson for "Not Only Strangers," a mental health film on the problem of rape, designed for young adults. Also produced and directed films on retinal research, biomedical engineering, play therapy and public relations films for the University of Texas.
1977-79	Produced a series of children's art activity educational films for Coronet Instructional Media called "Art Adventures."
1966	Wrote and produced an agricultural demonstration film, "Dry Weather Crops," for the Malawi Ministry of Natural Resources.
1966	Helped develop and produce "The Radio Doctor," a program of health advice based on listener letters, for the Malawi Broadcasting Corporation and the Malawi Ministry of Health.

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MERLE R. MENEGAY

PROFESSIONAL INTERESTS

Applied Research on Agricultural Marketing Systems
and Small Scale Enterprises in Asia
Training in Rapid Marketing Appraisals
Development of Research Methodologies
Agri-business R & D in Asia
Monitoring and Evaluation of Projects
Development of Market Information Systems

EMPLOYMENT HISTORY

CONSULTANT (1987 - PRESENT)

Access Asia Inc.
(May, 1989)

Developed a "market-led strategy" for the Bicol Region component of the Rainfed Resources Development Project of USAID/Manila and the Department of Agriculture, Philippines.

Experience Incorporated
(April, 1989)

Drafted a Users Manual on the Fundamental Analytics of the Rapid Marketing Appraisal in the Philippines for the Bureau of Agricultural Statistics within the Accelerated Agricultural Production Project of USAID/Manila and the Department of Agriculture, Philippines.

SARSA/Clark University
(February - March, 1989)

Analyzed data, drafted materials and edited the report on the Rapid Marketing Appraisal on the corn marketing system in Southern Mindanao, Philippines.

Abt Associates
(January - February, 1989)

Assisted USAID/Nepal and its local contractor (No-Frills Inc.) to plan and conduct the Workshop on Agricultural Marketing Research Methodology and Information Forum in Nepal and to revise the work plan for their project on Marketing Research for Hill Cash Crops in Nepal.

Abt Associates
(November - December, 1988)

Developed and organized materials regarding USAID's experiences with "agribusiness" projects in the Asian and Near East Regions as a member of the team providing USAID/Asia and Near East Bureau the information and experience needed to formulate an agribusiness development strategy.

Experience Incorporated
(June - August, 1988)

Provided technical assistance to the Bureau of Agricultural Statistics, Philippines, in its design and implementation of the Marketing Information System Project with a "farmer-orientation".

Experience Incorporated
(February - May, 1988)

Participated in an Asian Development Bank Mission examining the Malaysian fruit and vegetable sector, including a case study of the Cameron Highlands vegetable production as linked to domestic and Singapore markets.

Experience Incorporated
(October - December, 1987)

Conducted a survey of the Postharvest Marketing Systems for Paddy, Maize, and Green Gram in the Mahiyangana Area, Sri Lanka, in the development of a PID for USAID/Colombo.

SARSA/Clark University
(July - September, 1987)

Provided technical guidance to the Philippine Chamber of Commerce and Industry's research team in the conduct of a Rapid Marketing Appraisal of the corn marketing system in Mindanao, Philippines.

Postharvest Institute For Perishables (PIP), University of Idaho
(June, 1987)

Led a 10 person team (2 members from PIP and 8 agricultural economists/pathologists from 4 Indian research institutions) to develop and field test a Postharvest Loss Assessment Methodology (fruits) suited for India's research environment.

USAID/Bureau of Science and Technology/Office of Rural and Institutional Development
(May, 1987)

Developed technical materials for the design of the networking, rapid appraisal, marketing research topics and pilot testing of innovations in the Agricultural Marketing Improvement Strategies Project (AMIS).

RESEARCH ASSOCIATE PROFESSOR (1986 - 1987)
Clark University
Center for Technology, Environment, and Development
Worcester, Massachusetts

From Clark University's office in Washington D.C., developed agricultural marketing research materials, reviewed research plans/scopes of work for proposed activities in Africa, and wrote proposals as part of the Settlements and Resource Systems Analysis (SARSA) Project's cooperative agreement between USAID/S&T/RD office and Clark University.

In Asia, led a multi-agency team of Filipinos in conducting a Rapid Marketing Appraisal of the corn and coffee commodity systems in the Bicol Region of the Philippines as part of USAID/Manila's Rainfed Resources Development Project and SARSA collaboration.

CONSULTANT (1985 - 86)

USAID/Bureau of Science and Technology/Office of Rural and Institutional Development
(December 1985 and January & April, 1986)

Provided background and support information for writing PIOTs for an agricultural marketing systems course and for the design an agricultural marketing project.

USDA/Office of International Cooperation & Development
(February - March, 1986)

Reviewed the progress of three provincial marketing studies for the USAID/Jakarta Secondary Food Crops Development Project in Indonesia and designed components for improving their research process and written outputs.

SARSA/Clark University
(January, 1986)

Compared the marketing research methodology used by SARSA in Ecuador to the Small Farmer Marketing Access Project's research methodology in Asia.

USDA/Office of International Cooperation & Development
(September - November, 1985)

Trained and led local research teams in the conduct of Rapid Marketing Appraisals on corn, sweet potato, and pineapple commodities in the Bicol region for the USAID/Manila's Rainfed Resources Development Project in the Philippines.

MARKETING ADVISOR (July, 1983 - August, 1985)
Small Farmer Marketing Access Project (SFMA)
United States Agency for International Development
Bureau of Science and Technology, Office of Rural & Inst. Dev.
Washington, D.C.

"Washington-based activities"

Developed methods for diagnosing marketing systems.
Co-ordinated SFMA activities within the Asian region, including:
a) identifying and contracting marketing consultants to provide technical assistance to USAID missions,
b) organizing and leading marketing assessment teams, and
c) reviewing USAID project documents related to agricultural marketing.
Participated in methodology development workshops, training courses, and various seminars.

"Overseas Activities"

Indonesia: (March, July - August, & December, 1984 and February - March & July -August, 1985)

To determine and establish a SFMA-USAID/Jakarta collaborative arrangement for field testing a marketing assessment methodology and then organize, co-ordinate, guide, and participate in the various phases of the assessments.

Philippines: (October, 1982, March & August - September, 1984, March & July, 1985)

To evaluate the Marketing Assistance Centers Component of the Integrated Agricultural Production and Marketing Project, to advise on marketing components of USAID/Manila projects, and to assist the Rainfed Resources Development Project in developing a research agenda for marketing assessments.

Thailand: (November, 1983, February, 1984, July, 1985)

To review the marketing components of USAID/Bangkok projects, to evaluate and commission a case study of the Lam Nam Oon Irrigation Project's innovative approach to marketing research/development/extension, and to review RTG's proposal for improvements in Thailand's agricultural marketing system.

Pakistan: (June & October - November, 1983)

To participate in the design of monitoring/evaluation and research/extension components of a proposed Northwest Frontier Provinces Fruit and Vegetable Development Board.

RESEARCH ASSISTANT (1981 - 83)
Department of Agricultural Economics
Michigan State University
East Lansing, Michigan

Analyzed the tomato and garlic subsectors in North and Northeast Thailand as part of the Rural Off-Farm Employment Assessment Project and designed methodologies for incorporating the marketing dimension in small scale industry studies.

MARKETING SPECIALIST (1980 - 81)
Center for Applied Economic Research
Kasetsart University
Bangkok, Thailand

As a member of the Rural Off-Farm Employment Assessment Project's research team in Thailand, participated in the design, implementation, and analysis of short-term and longitudinal surveys of several rural small scale industries. Responsible for the research design, data collection, analysis,and reports on select food processing industries, such as, noodle, bean curds, and fruit and vegetable processing and on town/village marketing research topics.

RESEARCH ASSISTANT (1977 - 79)
Department of Agricultural Economics
Michigan State University
East Lansing, Michigan

Compiled data, interviewed fishermen and fish marketing personnel, and wrote draft extension reports on Michigan State's Commercial Fishery as part of a study on the economics of the Michigan Fishery.

SCIENTIFIC ASSOCIATE (1976 - 77)
Asian Vegetable Research and Deveopment Center (AVRDC)
P.O. Box 42, Shanhua
Tainan, Taiwan 741

Conducted commodity surveys; developed and collaborated in the implementation of an agro-economic study entitled "Farming Practices Survey" (record-keeping methodology); participated in the FAO/RED Small Farmer Workshop and a meeting of International Center's Economists; worked on research committees; and taught agricultural economics courses to vegetable production trainees.

RESEARCH ASSOCIATE (1974 - 76)
(AVRDC)

Organized and managed AVRDC's Agricultural Ecomomics Department as well as developed its research program; participated in IRRI Multiple Cropping Workshop; and collected regional data while initiating professional contacts throughout Asia, i.e., the Philippines, Malaysia, Indonesia, Singapore, Thailand, India, Korea, Japan, and Hong Kong.

RESEARCH ASSISTANT (1971 - 73)
Department of Agricultural Economics
University of Tennessee
Knoxville, Tennessee

Developed, pretested, revised, administered, coded, and analyzed a personal interview survey of 100 Tennessee farm supply dealers in a research project entitled, "Influence of Farm Supply Dealers on Technological Change by High and Low Income Tennessee Farmers", supervised by Professor Frank O. Leuthold, Rural Sociologist.

AGRICULTURAL EXTENSION AGENT (1968 - 70)
Peace Corps Volunteer
Bangalore, Mysore State, India

Responsibilities and projects within the Ministry of Agriculture, Mysore State included: introducing improved seed material and cultivation practices, acting as liaison for local farmers in a subsidary canal project, and researching and supervising the construction of a village-level bulk storage facility.

LANGUAGES

German and Kannada (India): Fluent with Practice

Mandarin, Thai, and Bahasa Indonesia: Studied

EDUCATION

Doctorate	Michigan State University (1985)
	Major in Marketing and Farm Management
	Dissertation Title: "Improving the Performance of Procurement Systems for Fruit and Vegetable Processors in Thailand: A Case Study of Up-Country Picklers and Canners".
Masters	University of Tennessee (1973)
	Major in Agricultural Economics
	Thesis Title: "Communication Patterns of Tennessee Farm Supply Dealers".
Bachelors	Athenaeum of Ohio (1966)
	Major in Philosophy and Mathematics.

MEMBERSHIPS

International Agricultural Economics Association

American Agricultural Economics Association

Southern Agricultural Economics Association

Society for International Development

PUBLICATIONS

Menegay, Merle, Celeste Molina, Ratel Millendez, Rachel Quero, and Dong Calilung, **User's Manual on the Fundamental Analytics of the Rapid Marketing Appraisal in the Philippines**, Accelerated Agricultural Production Project (AAPP) and ARTCAM, (first edition) April, 1989.

Manalaysay, Rachel, Merle Menegay, et. al., **The Corn Marketing System - A Rapid Marketing Appraisal in the Southern Mindanao Region**, Philippine Chamber of Commerce and Industry and Department of Agriculture under the Accelerated Agricultural Production Project (AAPP), 1989.

Menegay, Merle and Celeste Molina, **Guidelines for Rapid Marketing Appraisals (RMA) in the Philippines**, ARTCAM, December, 1988.

Menegay, Merle, et. al., *The Corn Marketing System - A Rapid Marketing Appraisal in the Bicol Region of the Philippines*, Settlement and Resource Systems Analysis (SARSA) Cooperative Agreement (USAID), Clark University, April, 1987.

Menegay, Merle and Nittaya Wongtada, *The Fruit and Vegetable Processors of Northern Thailand — Focus on Traditional Pickling and Preserving Firms*, MSU-OSU Rural Off-Farm Employment Assessment Project (ROFEAP), Research Report No. 6, Kasetsart University, Bangkok, 1981.

Riley, James J. and Merle Menegay, "Intensive Agricultural Practices in Asia", *Journal of Food Processing and Preservation* 2 (1978), pp.197-203.

Menegay, Merle R., John H. Hubbell and Ray D. Williams, "Crop Intensity Index: A Research Method of Measuring Land Use in Multiple Cropping", *Hort Science*, Vol. 13, No. 1, February, 1976.

Menegay, Merle R., *Farm Management Research on Cropping Systems*, Techinical Bulletin, No. 2, Asian Vegetable Research and Development Center, 1976.

Menegay, Merle R., *Taiwan's Specialized Vegetable Production Areas: An Integrated Approach*, Technical Bulletin, No.1, Asian Vegetable Research and Development Center, 1975.

Menegay, Merle R., "Socio-Economic Factors Affecting Cropping Systems for Selected Taiwan Farmers", *Proceedings of the Cropping Systems Workshop*, March 19-20, 1975, International Rice Research Institute, Philippines.

Leuthold, Frank O. and Merle Menegay, "The Role of the Tennessee Farm Supply Dealers", *Tennessee Farm and Home Science*, January-March, 1974.

WORKING PAPERS AND CONSULTING REPORTS

Menegay, Merle and Ramesh Munankami, "Workshop on Agricultural Marketing Research Methodology and Information Forum in Nepal -- Trip Report", Abt. Associates, February, 1989.

Menegay, Merle, "Background Materials for: Study of the Agribusiness Sector in the ANE Areas (AID Experiences Since 1980)", Abt. Associates, January, 1989

Menegay, Merle, "Marketing Information System -- Trip Report", Experience Incorporated, August, 1988.

Menegay, Merle and ADB Study Team, "Case Study of Vegetable Production and Marketing in the Cameron Highlands", Experience Incorporated and Perunding Bersatu Sdu. Bhd., May, 1988.

Menegay, Merle and AICS Survey Team, "Study of the Post Harvest Marketing Systems for Paddy, Maize, and Green Gram in the Mahiyangana Area of Sri Lanka", Experience Incorporated, December, 1987.

Riesenberg, Lou and Merle Menegay, "Postharvest Losses in Fruits and Vegetables in India", Postharvest Institute for Perishables, June, 1987.

Menegay, Merle, " Philippines Assessment Trip Report", SARSA/Clark University, July 1986.

Menegay, Merle, "Indonesian Assessment Development Report", Small Farmer Marketing Access Project (SFMA), USAID, March, 1985.

Tabor, Steve, Kustiah Kristanto, Merle Menegay, and Karim Saleh, "South Sulawesi Palawija Crops Marketing Assessment: Phase II", Small Farmer Marketing Access Project, USAID, September, 1984.

Menegay, Merle, and Abe Waldstein, "Evaluation/Implementation Plan", (for North West Frontier Province Fruit and Vegetable Development Board, Pakistan), SFMA, August, 1983.

Beausoleil, Joseph, Hipolito Custodio, Merle Menegay, Emeline R. Navera, Melahi Pons, and Fermina Rivera, "Evaluation Report on the Market Assistance Centers Project", Bureau of Agricultural Economics, Ministry of Agriculture, Philippines, October, 1982.

Boomgard, James and Merle Menegay, "Marketing Patterns for Manufacturing Firms in Rural Towns: Survey Results", ROFEAP Conference paper No. 35, CAER, Kasetsart University (KU), Bangkok, 1981.

Menegay, Merle, et. al., "Noodle Processing Industries in Selected Areas of North and Northeast Provinces", ROFEAP Conference Paper No.30, CAER, KU, Bangkok, 1981.

Veerayangkul, Vinich and Merle Menegay, "Soybean Curd Processing Industry", ROFEAP Conference Paper No. 29, CAER, KU, 1981.

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M. MOOSA MASODY

Summary of Experience

- Director of Range Management and Livestock of Helmand Valley Authority
- Head of Agriculture Extension for improving varieties of wheat, corn and use of fertilizers as well as improving livestock through use of modern breeding processes
- Director General, Department of Planning, Animal Husbandry, in the Ministry of Agriculture, Afghanistan
- Supervisor, Self-Reliance Project of the International Rescue Committee, Pakistan: providing poultry units, fruit trees and apiaries to refugees to develop financial independence

EMPLOYMENT:

1985-1987 SELF-RELIANCE PROJECT, INTERNATIONAL RESCUE COMMITTEE (PAKISTAN)

Supervisor Assisted 16,540 refugee families. Provided jobs and means of being financially independent. Poultry units provided to 3500 families. About 100,000 fruit trees produced for distribution to families. Some 100 apiaries created.

1979-1985 FACULTY OF VETERINARIAN SCIENCE, UNIVERSITY OF KABUL (AFGHANISTAN)

Professor Taught all relevant subjects of Veterinarian Science to more than 900 students. 300 of these graduated with degrees in Veterinarian Science.

1974-1979 DEPARTMENT OF PLANNING, ANIMAL HUSBANDRY SECTION, MINISTRY OF AGRIGULTURE (KABUL, AFGHANISTAN)

Director General Responsible for all planning of the Animal Husbandry Section of the Ministry. Analysis and asssessment of work conducted in the livestock development plan; assistance in implementation of plan through allocation of money within budget developed by me and my staff.

Also lectured at the University of Kabul (cf. above) on reproductive physiology, artificial insemination, hygiene and livestock sanitation.

1970-1974 HELMAND VALLEY AUTHORITY (HVA), AGRICULTURE EXTENSION

Director — Responsible for the supervision of 800 workers in 80 extension centers. The work was to inform farmers of the results of using improved varieties of wheat, corn, and the use of chemical fertilizers. In addition, our mandate was to improve livestock through artificial insemination with improved bulls.

1958-1970 HELMAND VALLEY AUTHORITY (HVA), LIVESTOCK AND RANGE MANAGEMENT

Director General — In charge of research to study the Brown Swiss cattle and the native cattle of HVA. The studies focused on adaptation, feeding, and the effects of climatic conditions of the Helmand Valley area on these cattle. Results were applied to local stock through cooperation with farmers. Work also included land settlement and a newly started dairy project in the HVA. Supervised 30 staff at the breeding centers and 50 others in range management.

1956-1958 VOCATIONAL AGRICULTURE COLLEGE, ANIMAL HUSBANDRY DIVISION (KABUL)

Teacher — Taught fundamentals of Animal Husbandry, Veterinary Science and Forestry.

EDUCATION:

Vocational Agriculture College (Kabul)		1948 - 1952
B.Sc.	University of Wyoming, (USA) (General Agriculture and Animal Husbandry)	1952 - 1956
M.Sc.	University of Wyoming (Genetics in Field of Animal Breeding)	1962 - 1964

Development Alternatives, Inc.

DONALD R. MICKELWAIT

Donald R. Mickelwait has served as president and chief executive officer of Development Alternatives, Inc. (DAI) for 19 years. His background combines a current knowledge of development theory with 26 years of experience in field research, evaluation, and implementation of development projects. He has published and consulted on the strategy of equitable rural development and is a specialist in the design and implementation of computer-assisted information management for development. From an early concentration on the organization of small farmers into development activities, Mr. Mickelwait now designs projects driven by private sector enterprises and market mechanisms. His last four major project designs featured commercial development of the agricultural sector.

PROFESSIONAL EXPERIENCE

President and Chief Executive Officer
Development Alternatives, Inc. (1970-present)

Management Responsibilities (1970-present)

Mr. Mickelwait had prime responsibility for all activities of DAI until 1980, when sufficient growth allowed the introduction of Vice Presidents in a decentralized organization. In addition to overseeing the state of the corporation, he concentrates on providing management and technical assistance to DAI's long-term projects in Asia and the Eastern Caribbean.

Project Identification and Design

Team Leader for a 19-month master planning contract in Pakistan that identified and designed two large projects for consideration by the Asian Development Bank: the Potwar Integrated Agricultural Development Project (for rainfed agriculture in the province of Punjab) and the Riverain Development Project (for tubewell irrigated agriculture along the Indus River Basin) (June 1987-April 1988).

Leader of a DAI team designing the Mahaweli Agriculture and Rural Development Project and the Downstream Support Project, Sr. Lanka (March-May 1987).

Member of the DAI team that assisted the USAID Regional Office for the Caribbean with the identification of the High Impact Agriculture Marketing and Production Project. Served as a co-leader of the team that completed the Project Paper (August 1985-February 1986).

Leader of a DAI team that completed the Special Development Plan for Opium Producing Areas for the Government of Pakistan; the Plan was presented at a consortium of donors meeting in Paris and subsequently funded during 1984 (December 1983).

Member of the DAI team that completed the design of the Central Java Enterprise Development Project (1982-1983).

Leader of a DAI team that identified an area development project in Pakistan (October 1982) and then led the project design team for the Gadoon-Amazai Area Development Project (February-June 1983).

Leader of a DAI team that designed the Regional Finance and Planning Project, Sudan (June 1979).

Member of a DAI team that designed the Southern Manpower Development Project, Sudan (April 1978).

Leader of the team that completed the report, "A Design for the Logar Integrated Rural Development Project, Mohammad Agha District, Afghanistan (October 1976).

Team leader for the design of the Farm Management and Technology Project in the small farmers reform sector in Chile, resulting in an interim project report (May 1976) and a project paper (May 1977).

Team leader assessing the capacity of the Egyptian government's Organization for the Reconstruction and Development of the Egyptian Village (ORDEV) (January-February 1976).

Development Strategies and Policy Analysis

Project Leader for 12 expatriates and a large team of local consultants under a 19-month contract to develop a master plan for barani (rainfed) areas of the Punjab, Pakistan, with priorities, strategies, and projects identified for a 5-year action program and 20-year master plan. The four-volume plan, covering the water and agriculture sector, is to be published in 1,000 copies (June 1987-April 1988).

Contributor to the economic analysis of individual countries and synthesizer of the Country Development Strategy Statement (CDSS) for USAID's Regional Development Office/Caribbean (May-June 1985).

Leader of a DAI team that wrote the study, "Recommendations for a Revised Narcotics Strategy for USAID/Pakistan" (November 1982).

Leader of a team that studied development approaches and ongoing programs in Thailand with a report entitled, "Rural Development Strategies in Thailand: A Review of the Organization and Administration of Rural Development for AID" (May 1979).

Team leader for a study of project design requirements for REDSO/East Africa with a report entitled, "Personnel Requirements for Project Development in East and Southern Africa" (August-October 1977).

Leader of a DAI team that provided a conceptual framework for re-establishing an AID program in the Sudan, with a report entitled, "Strategies for the Reintroduction of Development Assistance to the Sudan" (July-October 1976).

Project Director for a 32-month research study for AID that provided design assistance for 12 rural development projects and then tracked their movement through the review and approval process into implementation (July 1975-February 1978). The final report was published by Westview Press as *New Directions in Development: A Study of U.S. AID* (1979).

Principal author of an AID-funded study of women's participation in development activities in seven countries of Africa and South America (1974-1975). Published by Westview Press as *Women in Rural Development* (1976).

Coauthor, field investigator and methodologist for a major AID-funded research study (1973-1975). Published by Westview Press as *Strategies for Small Farmer Development: An Empirical Study of Rural Development Projects* (1976).

Managing Information for Development

Feasibility study for the computerization of the information requirements of the Planning and Development Department, North West Frontier Province, Pakistan (November 1984).

Designer of a computerized information system to support the North West Frontier Area Development Project, Pakistan (October-November 1984).

Designer for a computerized monitoring and evaluation system that would capture output, impact, and benefits of the eight-province Provincial Area Development Project in Indonesia (December 1983, June and September 1984).

Member of a team that analyzed the information needs of the Provincial Area Development Project in Indonesia with a report entitled, "Toward an Improved PDP Information System" (April 1982).

Leader of a DAI team that designed an information system to assess the institutional impact of decentralization in rural Egypt while providing ongoing assistance to national, provincial, and local decision makers on the efficiency and effectiveness of development resource allocations (June-October 1980).

Author of state-of-the-art review of alternatives in data collection and analysis for project design and implementation with an article entitled; "Information Strategies for Implementing Rural Development" in the Praeger Press publication, *International Development Administration: Implementation Analysis for Development Projects* (1979).

Director of a major research project for AID on recent advances in information systems for policy makers in development, with field research in the Philippines (October 1976-May 1978). The two-volume report was entitled, "Information for Decisionmaking in Rural Development" (May 1978).

Leader of DAI team that designed a comprehensive data collection and analysis system entitled; "Farm Records as a Medium for Technical Assistance: A System for Land Reform Farmers in Chile" (September 1977).

Leader of a design team to develop a comprehensive information system to support ORDEZA, the earthquake rehabilitation agency in Peru (1974-1975).

Project and Program Evaluation

Team Leader for the second interim evaluation of the Tribal Areas Development Project in the Federally Administered Areas of the North West Frontier Province, Pakistan. This assignment resulted in major changes in the implementation of the project, and preparations for the design of phase II (November-December 1988).

Team Leader for the interim evaluation of the Tribal Areas Development Project in the Federally Administered Areas of the North West Frontier, Pakistan (October-November 1986).

Director of a study for AID of the efficacy of grant funding to the National Rural Electric Cooperative Association, with field work in the Philippines (November 1976-January 1977).

Team member and coauthor of an evaluation of an AID-sponsored development project in Afghanistan with a final report entitled; "Evaluation of the Rural Works Project, Phase I" (May 1976).

Agency for International Development (1962-1969)

Field assignment in Thailand including tours in the north and northeast in rural development programs.

U.S. Air Force (1956-1959)

Service as a Lieutenant in an operational flying squadron on Okinawa and in the Philippines.

RELATED PROFESSIONAL SKILLS

Mr. Mickelwait has a working knowledge of Thai. He is an experienced adapter of new computer technology to the requirements of management information systems, works in MS-DOS, and operates WordPerfect and Wang word-processing programs; Lotus 1-2-3 and peripherals; and Project Tracking software. He has a current knowledge of the possibilities of computer-aided tools for management of development programs and projects.

EDUCATION

Mr. Mickelwait completed all requirements except the dissertation for a Ph.D. degree in economics at George Washington University. He received an M.P.A. degree (economics) as a Littauer Fellow at the John F. Kennedy School of Government, Harvard University (1970). In 1960, he received an M.A. degree in the economics of international development from the University of Oregon.

In 1988, Mr. Mickelwait completed the nine-week Owners, Presidents, and Managers (O/PM) executive education course at the Harvard University Graduate School of Business Administration.

6/89

Development Alternatives, Inc.

BRADFORD R. MILLER

WORK EXPERIENCE

Project Manager	Experiment in International Living P.O. Box 363, Quetta, Pakistan
1/88 present	Direct the activities and provide technical support to the Agricultural Support Project to Afghan Refugees in Baluchistan. This project provides or supports income generating opportunities to over 5000 refugee families through its kitchen garden, livestock, tree nursery and women's components. Areas of Responsibility include: program development, supervision of 65 office and field staff, budget management and preparation, establishing reporting and monitoring systems for field activities, technical support to tree nursery and kitchen garden components, set-up of computer spread sheets and databases, liason with Home Office, UNHCR village leaders, other NGOs and U.S. State Department..
Executive Director	Windham County Humane Society P.O. Box 201, Brattleboro, VT 05301
9/86 1/88	Directed the daily activities and operations of the W.C. Humane Society. Areas of Responsibility included: recruitment and management of employees and volunteers, oversaw budget expenditures, formulated and implemented office procedures, planned and directed fundraising activities, wrote a weekly newspaper column and a quarterly newsletter, integrated a computer into operations including creation of mailing lists, spreadsheets, and donor database, investigated and prosecuted animal abuse cases.
Shipping Supervisor	Martin Sprocket and Gear 15 West Broad St., Bergenfield, NJ 07621
9/81-3/86	Set daily work schedules for shipping and machine shop personnel. Responsible for maintaining inventory of merchandise, supplies and materials. Coordinated the transportation of goods and raw materials between suppliers, plant and customers. Designed layout of new warehouse. Designed custom power transmission components. Advised customers on their power transmission needs.

Consultant Forester	Office of Planning and Statistics FSM National Government, Kolonia, Ponape 96941
4/83-6/84	Authored a Five-Year Forest Resource Development Plan for Kosrae State. Designed and completed an inventory of wetland timber resource. Wrote grant proposals for State forestry, agriculture and alternative energy projects. Trained government personnel in the operation of personal computers.
Forest Mgmt Specialist	U.S. Peace Corps/Micronesia Kosrae State, FSM, East Caroline Islands 96944
6/80-9/82	Managed a portable sawmill and trained personnel in its operation. Designed and oversaw construction of a wood treatment facility. Organized villagers into logging cooperatives for the procurement of timber for government construction projects. Advised Kosrae Farmer's Cooperative on the packing, grading, shipping and marketing of local produce. Assisted in the preparation of annual departmental budgets. Co-authored the agriculure, forestry and energy sections of the First Five-Year Economic Development Plan for the Federated States of Micronesia. Built a demonstration ethanol distillery.

OTHER WORK EXPERIENCE

Christmas Tree Grower	Established and maintain my own Christmas tree farm in New York State. 1979 to present.
Crew Foreman	Randall Lawn Sprinkler, La Salle, CO. Supervised a five-man crew in the installation of residential and small farm irrigation systems. 1980.
Forest Tech.	U.S. Forest Service, Cherokee National Forest. Collected and analyzed water and soil samples. Constructed a forest-wide watershed map. 1978 & 1979

EDUCATION

Diploma in Business Computer Programming. Computer Processing Institute, East Hartford, CT 1987

Candiate, M.A. International Administration. School for International Training, Brattleboro, VT 1986

Bachelor of Science in Forestry. University of the South, Sewanee, TN 1976

LANGUAGES

Kosrean - fluent, Spanish - Basic

Development Alternatives, Inc.

RESUME FOR

DR. STANLEY A. MORAIN
(Certified Photogrammetrist)

July 1988

EDUCATION

Ph.D. Geography, University of Kansas, Lawrence, 1970

B.A. Geography, University of California, Riverside, 1963

AWARDS AND HONORS

Nominated for Fellowship in American Association for the Advancement of Science/Geography and Geology Section, Spring 1988.

Nominated for Vice President, American Society of Photogrammetry and Remote Sensing, Fall 1986.

National Commission on Space, Certificate of Appreciation (Congressional Testimony), 1986.

American Society of Photogrammetry, Meritorious Service, 1979 and 1980.

American Society of Photogrammetry, Certified Photogrammetrist #412, 1979.

American Society of Photogrammetry, Ford Bartlett Award, 1982.

EMPLOYMENT

1983 - Present. Chairman, Department of Geography and Director, Technology Application Center, University of New Mexico.

1976 - 1983. Director, Technology Application Center and Associate Professor of Geography, University of New Mexico.

1974 - 1976. Manager, Natural Resources Program, Technology Application Center, University of New Mexico.

1970 - 1974. Assistant Professor of Geography and Research Associate, The University of Kansas Center for Research Remote Sensing Laboratory.

INTERNATIONAL PROJECTS AND TRAINING

November 1987. USAID. Briefings and discussion of International Space Year (1992). Bangkok, Thailand.

July 1983-March 1986. UN/FAO Senior Project Advisor to People's Republic of China, Ministry of Agriculture.

December 1983. US/AID Senior Advisor to Ministry of Agriculture, Remote Sensing Project, Morocco.

July-August 1982. UN/FAO Chief Technical Advisor to the Bangladesh Space Research and Remote Sensing Organization (SPARRSO).

July-October 1981. USAID/USDA Project Evaluation of Area Frame Sampling in Ecuador, Sierra Leonne, Philippines, and Morocco.

April 1980. US/AID Mission to Senegal with South Dakota State University. Instructor, Workshop on Remote Sensing. Dakar, Senegal.

October 1979. US/AID with South Dakota State University. Instructor, Workshop on Remote Sensing. Khartoum, Sudan.

September 1979. US/AID Mission to Costa Rica. Evaluation of Remote Sensing Project Work in Natural Resources. San Jose, Costa Rica.

April 1979. US/AID Mission to Nepal. Design National Remote Sensing Training Center. Kathmandu, Nepal.

February 1979. US/AID Design Team to Central America. Design parameters for Regional Remote Sensing Training Center. San Jose, Costa Rica.

May 1978. US/AID with South Dakota State University. Instructor, Workshop on Remote Sensing. Kathmandu, Nepal.

July 1976. UN/FAO, Instructor for Seminar on Applications of Remote Sensing for Natural Resources Survey, Planning, and Development. University of Reading, England.

March 1975. Central Treaty Organization, U. S. State Department and USGS. Program for ERTS satellite data applied to developing countries. Lahore, Pakistan.

May 1973. Asian Remote Sensing Seminar. U. S. State Department and Office of International Geology, USGS. Manila, The Philippines.

January and June 1973. Thailand Remote Sensing Training Project. U. S. State Department and Office of International Geology, USGS. Bangkok, Thailand.

August 1972. Instructor, International Geographical Union (IGU) Workshop in Remote Sensing, 27th International Congress, Montreal, Canada.

PANELS, COMMITTEES, AND SELECTED CONSULTING

PANELS:

July 1988. Team Leader for Commercial Earth Observations Task Team, NASA OCP.

January 1988. Proposal Review for NASA NRA 87 OSSA-6 Commercial Remote Sensing, Annapolis, Maryland.

January 1988. Team Member on "Commercial Earth Observations Task Team," NASA Office of Commercial Programs, Washington, DC.

November 1987. Panel Member for Space Station Workshop: Commercial Missions and User Requirements, Nashville, Tennessee.

October 1985. Witness for President's National Commission on Space. Albuquerque, New Mexico.

March 1980. Witness for U. S. House of Representatives Committee on Science and Technology. Albuquerque, New Mexico.

May 1975. NASA working group on design of radar experiments for Shuttle. Jet Propulsion Labs, Pasadena, California.

April 1975. NASA working group on Earth Observation Satellite (EOS) Thematic Mapper. Purdue University.

July 1974. NASA Active Microwave Workshop. Review state-of-the-art and potentials for radar remote sensing.

February 1972. American Society of Photogrammetry. Seminar on Operational Remote Sensing. Panel on Geology, Hydrology, and Geography. Houston, Texas.

ACTIVITIES AND MEMBERSHIPS IN PROFESSIONAL SOCIETIES:

American Society of Photogrammetry and Remote Sensing: 1965-present

- Member, Finance and Review Committee, 1988-present.
- Member, Inter-Society Liaison Committee, 1986-present.
- Chairman, Student Affairs Committee, 1980-1983.
- Chairman, Education Committee, 1979-1983.
- Chairman, Subcommittee on Textbooks, Committee on Education and Interpretive Skills, 1978-1980.
- Deputy Director and Technical Program Chairman, Fall Convention, October 1978.
- Chairman, Committee on Education and Interpretive Skills, Remote Sensing and Interpretation Division, 1976-1978.
- President, Rio Grande Chapter, 1977.

Association of American Geographers: 1965-present

- Editorial Board for Professional Geographer, 1988-1992.
- Member, Nystrom Awards Committee, 1965-present.
- Member, Remote Sensing Committee, 1975-1978.

American Association for the Advancement of Science, 1969-present.

Nominated for Fellowship in Geography/Geology Section, 1988.

Editorial Committee, Geocarto International: A Multi-Disciplinary Journal of Remote Sensing, 1985-present.

Sigma Xi, The Scientific Research Society, 1984-present.

International Society of Photogrammetry and Remote Sensing, Correspondent for Commission VI, 1980-1985.

American Society of Agronomy, 1972-1978.

New Mexico State Land Use Advisory Committee, 1975-1978.

Soil Science Society of America, 1968-1975.

New Mexico Interagency Range Committee, 1976-1978.

SELECTED CONSULTING: (various dates and durations)

Maxima Corporation, Proposal reviews for NASA NRA 87-OSSA-6 "Commercial Remote Sensing" renewable resources panel.

Agency for International Development, Forestry/Natural Resources, "while actually employed," 1982-1986.

Rosenberg - Attorney-at-Law. Interpretation of Landsat and aerial photographs for wheat acreage under the USDA "PIK" program.

South Dakota State University - Remote Sensing Institute.

Lewis, Willson, Lewis & Jones - Attorneys-at-Law (Washington, DC). Expert witness on C5-A orphans. Photo interpretation of crash site parameters.

United Nations Food and Agriculture Organization (UN/FAO), Rome, Italy.

Agency for International Development, Office of Science and Technology. Project design and evaluation for projects in Southeast Asia, Africa, and Central America; research design for global deforestation program.

University Space Research Association, Peer Review Support Office. Review of technical proposals for remote sensing of natural resources.

Washington University, St. Louis, Department of Engineering. Five-state survey on remote sensing applications.

Asia Foundation, "The Contribution of Satellite Data in Estimating Agricultural Output in Laos."

Office of International Geology (OIG), USGS, Reston, Virginia.

Development Alternatives, Inc.

BRIEF BIO-DATA

NAME : Khan Aqa Naimi

FATHER NAME : Mr. Momin Khan

PRESENT ADD. : Qaid Abad House 311, Kakshal Peshawar City, Pakistan

OFFICE ADD. : USAID/AMEG, Railway station Saddar Town, Phone No. 211299

DATE OF BIRTH :

NATIONALITY : Afghan

MARITAL STATUS : Married

CHILDREN : Four sons and one daughter

ACADEMIC QUALIFICATION:

1. Graduated from Federal Aviation Academy (FAA) United States of America in 1962.
2. Passed and graduated from Afghan Institute of Technology (12 grade) Kabul in 1955.
3. Special training course in Telex Kabul as well as in U.S.A.
4. Passed my intermediate examination in 1951, from the board of Intermediate & Secondary School Kabul, Afghanistan.

EXTRA QUALIFICATION:

I am not only a good typist but I am also a good operator of Micro-Computer, such as Ward Star Processing. I am a Telex and Radio Communication, Wireless Communication operator. I can operate most of the printing machines.

EXPERIENCE

1. PRESENT SERVICE

Employed in the capacity of a "Commodity Specialist" of CEP Program of the American Manufacturers Export Group Peshawar since December 21, 1986 to date.

MAJOR DUTIES AND RESPONSIBILITIES:

Under the specific directions of the Area Commodity Manager/Area Logistic Officer I am required to provide special services for the commodity Export Program as needed. In the absence of the Commodity Manager I carry out the functions as Acting Commodity Manager/Area Logistic Officer. I am responsible for missions which improve the overall supervision of the Surveillance and monitoring of the program. I act as investigator to determine whether the objectives of the program are being achieved, to obtain evidence of misconduct, fraud or improper procedures. Under the direction of the Area Commodity Manager/Area Logistic Officer I am required to interact with officials of the Government of Pakistan, Logistical Representatives of the Seven Party Alliance, and other commercial sectors to determine their responses to the AMEG Commodity Export Program. To recommend systems to achieve coordination of local procurement activities related to commodity management, including inventory management, shipping, packing, warehousing and distribution. To participate in monitoring the arrival, warehousing and transportation of commodities and to evaluate their end-use items for the Commodity Export Program. To participate in the preparation of Commodity descriptions and specifications to permit maximum price competition where feasible and at the same time meeting AMEG requirements for the Export Program. To visit ports and other receiving areas to observe unloading warehousing and movement of commodities. To recommend measures to prevent or minimize damages in diverted commodities. As directed I am required to conduct end-use checks of commodities to ensure that the commodities reach their final destination in Afghanistan. To assist in the overall management of the warehouse operation, supervision of warehouse personnel and to establish procedures which will maintain a staff of dedicated, willing and efficient workers. Responsible for the procurement of operating supplies and equipment for Peshawar Office operations. Responsible for the Registration of all vehicles belonging to AMEG/RONCO. Prepares monthly, quarterly and Annual reports on all commodities to AID/REP and AMEG/Islamabad.

ASSISTANCE EXTENDED TO AMEG/RONCO SISTER UNITS

Ever since the establishment of MSH, VITA, UNO Education, ACLU, CCSC and other Allied International Agencies based at Peshawar, I have been receiving/issuing commodities including McCollum type of supplies. As regard to ACLU I had been transacting a large number of vehicles, heavy equipments such as DOZERS, GRADERS, ROAD ROLLERS with considerable number of Spare Parts, Special Tools and Maintenance machineries. Responsible for inventory preparation, RIR and turnover documents to ACLU.

Responsible for Registration of all types of vehicles and to maintain special code marking on all vehicles delivered to Seven Party Alliance including ACLU and others, if any.

Responsible to conduct training courses for Logistic Warehouse personnel on the property procedures whenever necessitated.

Responsible for furnishing and supervising of the maintenance of RONCO Annex and leased accommodation.

SERVED AS THE MOTOR POOL SUPERVISOR OF THE UNITED STATE AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID), PESHAWAR SINCE JUNE 12, 1985 TO DEC. 26,1986

Responsible for supervising, (15 vehicles and 15 drivers) assigned to the motor pool. Plan and provide guidance for the drivers and assign the most economic and suitable vehicle which may depend on the type and category of task. Responsible for maintaining all vehicles in good usable condition to meet the requirement. Establishing routine schedule for vehicle maintenance service and prepare up-to-date records for individual vehicle. Investigate vehicle accident if any, and process accident report accordingly. Purchase fuel and maintain proper account on it and submit requisition for ordering tires, spare part etc. Originate trip requests for drivers leaving on TDY and prepare travel allowance vouchers for reimbursement. Issue Bill for Collection for non-official use of Gov. Submit Time and Attendance report of drivers, review driver overtime and submit it for reimbursement. Issue cash advance for driver to purchase fuel in the field trips. Prepare vehicles monthly utility expenditure report as well as annual vehicle data report.

Ref. Mr. Fred L. Zumwalt
RAO/Peshawar

2. SERVED AS A SECRETARY WITH USAID/PESHAWAR FOR THE PERIOD SEPTEMBER 1, 1983 TO JUNE 12,1985

As of secretary to the Project Manager, responsible for typing all correspondence related to the project matters, maintaining systematic filing records, arranging appointment for Project Manager and other advisors. I was also responsible for switch board and dispatching project vehicles, property inventory, preparing purchase orders, Trip request and Travel Allowance vouchers for reimbursement, submitting expenditure report on Research and Evaluation Unit as well as the vehicle data report. Preparing Time and Attendance for all staff including guards, submitting requisitions for local and offshore purchases.

Ref. Mr. Richard B. Scott
Project Manager
TADP/USAID-Peshawar

3. SERVED AS ADMINISTRATIVE ASSISTANT, PLANT PROTECTION PROJECT/FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATION IN KABUL, AFGHANISTAN FROM APRIL 1,1980 TO APRIL 12, 1982.

I was responsible for Imprest Account $10000 as well as for Petty Cash Account. All purchase cash receipts and other expenditures were thoroughly checking by me to make sure to meet the required regulations. Preparing vouchers and summary sheet for all expenditures to FAO Headquarter Rome, Italy for review and replenishment of Imprest Budget Level. I was also accountable for all expendable and non-expendable project property. Providing and annual report on property for reconciliation to FAO Headquarter, ROME. Dispatching and controlling 8 vehicles repair and maintain all vehicle in good running condition. Supervise project staff in order to perform their respective duty daily. Answer all enquires in project matters. Conduct purchasing from local market and placing requisitions for offshore purchasing to Headquarter, Rome. Act as a coordinator between Government Officials and project staff. Any other duty from time to time. I was G-8 grade of the FAO which was equal to USA grade FSL-10/4

Ref. Mr. Lezervich, Kabul or FAO Personnel Office, Rome, Italy.

4. SERVED AS A SUPPLY SPECIALIST - ADMINISTRATIVE ASSISTANT OF THE PROPERTY MANAGEMENT/USAID, KABUL AFGHANISTAN (FSL 10/4) PERIOD FROM 1972 TO MARCH 30, 1980.

I was responsible for the entire operation of the Property Management in the absence of the Property Officer. Plans, coordinates and supervises the work of the various units of the Property Office. Assigns work to subordinate, provide necessary instructions and guidance and reviews daily operation performances. Plans and determines and reviews mission expendable and non-expendable property. Segregates and selects property for disposal. Conduct public auction of all surplus and junk items. Prepare annual replacement plan for property as were needed for the use of Mission, assure that purchase orders for offshore submitted on time. Prepare operating expenses budget as well as Administrative budgets and maintain accurate expenses records.

Responsible for reconciliation of property ledger total Expendable and non-expendable property value dollars five millions with the Controllers Ledger. Submitting annual inventory report to AID/Washington. Conduct and supervises annual physical inventory for Mission property through out the various project in the country and to make complete reconciliation with property stock cards. Prepare property Disposal Authorization for disposal, transfer, donation and grant-in-Aid of Mission property. Inspecting supplies and shipment to warehouse and Issuing Receiving and Inspection report immediately. Hire daily labors for maintenance work.

All clerical work such as typing, accounting, posting on property stock cards. Answers from mission staff on Property Management matters.

5. SERVED AS SECRETARY TO COMMUNICATION MEDIA/USAID, AFGHANISTAN (1969- 1972)

Responsible for typing, filing and maintaining time attendance for staff members and assisting in printing documents as well as in photographic Laboratory.

6. I SERVED WITH CIVIL AVIATION AUTHORITY, AFGHAN GOVERNMENT PERIOD FROM 1959 TO 1969

As a director of Air Traffic Control Tower, responsible to supervise and provide necessary information for the safe landing and take off of Aircrafts at Kabul and Kandahar airports. I was also teaching at Aviation high school Kabul.

41

AMERICAN MANUFACTURERS EXPORT GROUP

34D/1 SA QAYUM ROAD
TELEPHONE (0521) 61299
PESHAWAR, PAKISTAN

MR. KHAN AQA NAIMI - COMMODITY SPECIALIST

LETTER OF APPRECIATION

I Wish to express my sincere appreciation for your outstanding performance of duty since joining AMEG on December 21, 1986.

You joined AMEG at a most critical time as we were initiating a new project and needed your expertise in setting up stock records, warehousing, hiring of qualified personnel to assure success in our new venture of setting up a viable cross border humanitarian assistance program for the people in war torn Afghanistan.

During the past two and one half years we moved through Peshawar AMEG Complex over 18 Millions Dollars in Commodities plus over on hundred thousand tons of wheat.

Your expertise and know-how was highly instrumental in making the program a success and your contribution in this effort did much to alleviate the suffering of many people in that war torn country.

It is virtually unparalleled that of the Millions of dollars of commodities that moved through your warehouse we never sustained any losses.

It is of exceptional note your willingness to spend many hours of overtime and on many holidays in order to meet special issues and requirement to assure that much needed commodities went over the border is indicative of the type of caring person you are about your country and countrymen.

Again, let me say thanks for a job well done.

Comm. Export Program
24/05/1989
AMEG AID/REP-Peshawar

HANS J. MANZ
CHIEF OF THE PARTY

Development Alternatives, Inc.

HARVEY C. NEESE

Harvey Neese, an associate of Development Alternatives, Inc. (DAI), is an agriculturalist with 25 years of field experience in supporting private and public rural development efforts. He has extensive experience in the design, supervision, and implementation of rural development projects, with expertise in agricultural production, agribusiness development, and agricultural marketing. Mr. Neese is particularly qualified in managing and directing programs for the postharvest protection of perishable crops, as well as livestock and poultry improvement schemes. He has participated in agricultural development projects in Asia, Africa, and the Caribbean.

AGRICULTURAL PRODUCTION

Field Director/Acting Director
Postharvest Institute for Perishables (PIP), Idaho, USA (1985-present)

Directs field operations and project work under a long-term technical assistance agreement with USAID. PIP works with perishable crops in delivering technology assistance, training, and adaptive research at the request of AID missions worldwide.

Agricultural Planner
International Human Assistance Program, USAID-Cook Islands (1985)

Responsible for developing a three-year agricultural plan for the Cook Islands for support by AID. Scope of work included large agricultural credit component, expansion of agricultural education curriculum, promotion of marketing and exports through the private sector, development of small industries, and introduction of new seed and fruit.

Author
USAID/Washington, D.C. (March-September 1980)

Author of a manual on locating arid and tropical climate seeds for developing countries.

Project Designer
United Nations Capital Development Fund-Nepal (June-August 1980)

Designer and author of capital assistance project grants in Bangladesh, Nepal, and the Philippines for the United Nations Capital Development Fund and the Agricultural Development Bank of Nepal.

Agriculture and Livestock Specialist
Development Alternatives Inc./USAID-Indonesia (July-September 1979)

Served as technical specialist for the Agricultural and Livestock Service of the Semarang Region, Central Java, under the Provincial Development Program -- Phase I in Indonesia. Was responsible for:

- Recommending improved duck and goat breeding, feeding, and marketing services;
- Designing an artificial insemination program for improved goat breeds;
- Investigating alternative methods by which smallholders could contain or eliminate disease among their small flocks;
- Marketing schemes for smallholders in duck feathers, goose down, goat milk, and other animal by-products; and
- Recommending improved forage including tree crop legumes and crownvetch, and improved fruit trees with an associated grafting and disease control program.

Agriculturalist
Development Alternatives, Inc./USAID (January-March 1979)

Served as agriculturalist for a DAI survey of arid land crops for use in the stabilization of depleted soils in the Middle East and parts of Africa.

Project Analyst
Louis Berger International/USAID-Ethiopia (1977)

Assessed the impact on new agriculture development of road infrastructure in southwest Ethiopia.

Agriculturalist
Development Alternatives, Inc./USAID-Afghanistan (1976)

Agriculturalist on a DAI team that investigated and designed a district development project in rural Afghanistan.

Field Manager/Special Projects Planner
USAID/Vietnam (1962-1964)

Served as special project planner for AID in the Vietnam Office of Rural Affairs. Adviser to the Ministry of Agriculture of the Government of Vietnam. Field coordinator of the nationwide Pig-Corn Program, an agricultural cooperative effort to introduce improved strains of swine into various sections of Vietnam and develop dependable feed, all within an integrated credit program.

Assistant Chief of Party
International Voluntary Services, Vietnam (1960-1961)

Supervised work of 20 American volunteer agricultural technicians in establishing small-scale agricultural projects.

AGRIBUSINESS DEVELOPMENT

President/Marketing Agribusiness Specialist
Agri-Food Systems, International, Inc. (AFSI) (September 1980-present)

Participating in a five-year USAID-funded project to reduce post-harvest food loss in the developing world. A cooperative venture of DAI, the University of Idaho's College of Agriculture, and AFSI, the project includes short- and long-term training, technical assistance to developing countries, formation of a data base of agribusiness experts and institutions, and establishment of an information system to disseminate relevant literature on food losses. Assignments carried out for AFSI include:

Thailand: Was co-project leader in survey to determine feasibility of increasing the marketing of processed fruit and vegetable commodities from Thailand to Hong Kong, Singapore, Japan, and the United States. Interviewed numerous processors and importers throughout Asia and formulated recommendations to assist Thai exporters. Also marketed vegetable seeds to Japan from the United States and explored possibility of expanding exports of radish seeds to Japan for a private seed company. (1983)

Philippines: Participated in a feasibility study on agro-processing and marketing that made recommendations for approval of a loan to the National Food Authority of the Philippines from the Asian Development Bank. The study resulted in the approval of a $35-million loan. (1982)

Thailand: Carried out a project identification mission at the Thailand Institute for Scientific Technological Research (TISTR). Identified problem areas and made recommendations on cold storage facilities, transport, and marketing research at TISTR as they related to fruit and vegetable products. (1982)

Bangladesh, Nepal, Philippines: Represented the Capital Development Fund of the United Nations in the preparation of capital assistance loans for the Small Farmers Credit Programs in these three countries. Loan guarantees and livestock insurance funds of $3.5 million were proposed to the UN/CDF for recipient countries. (1980-1981)

Agribusiness Specialist
USAID Development Support Bureau (March-June 1979)

Researched and designed an implementation plan for AID's Development Support Bureau for agribusiness technical specialists in international development. Was responsible for:

- Analysis of technical specialties of U.S. private sector agriculturalists and correlating these specialties with skills most requested in developing countries; and

- Proposal and implementation plan for a new institution to coordinate the U.S. supply of and international demand for agricultural experts.

Project Designer
Multinational Agribusiness Systems, Inc./USAID-Thailand (1978)

Wrote project paper on methods of setting up a non-formal vocational education program to increase technical skills related to agriculture to promote small agro-industry in the area.

Founder/Director
Orient Resources Corporation, Singapore (1970-1972)

Was co-owner and business manager of firm specializing in agricultural and agribusiness development in Asia. Manager of the firm's Singapore office, with responsibility for feasibility studies in livestock and agribusiness, including a comprehensive study of offshore commercial fishing opportunities in the South China Sea.

Agriculturalist
Devcon International/USAID-Laos (1965-1969)

Was agricultural specialist in Laos for developing a network of quasi-private businesses in remote areas that could use credit to make agricultural purchases.

AGRICULTURAL MARKETING

Marketing Specialist
Development Alternatives, Inc./USAID-Grenada (1984)

During four-month assignment, worked with four commodity associations (Banana, Cocoa, Nutmeg, and Minor Spices), National Import Board, and private sector agricultural marketing firms to improve international export capabilities and general operational procedures related to export of agricultural products.

Project Evaluator
Development Alternatives, Inc./USAID-Jamaica (November-December 1982)

Was marketing specialist on a DAI team undertaking an in-depth end-of-project appraisal of the AID-funded Second Integrated Rural Development Project in Jamaica.

Post-Harvest Specialist
Development Alternatives, Inc./USAID Washington, D.C. (March-September 1979)

As a member of the DAI team, conducted research into solutions for post-harvest food losses in developing countries. The information was for use in formulating a long-term study on the best methods of preventing destruction or spoilage of scarce food harvests.

Agriculturalist
Development Resources Corporation/USAID-South Vietnam, Laos (1969-1970)

Served as agricultural consultant for studies in Laos and Vietnam of various commercial crop and marketing possibilities, and for a study of the agricultural potential of five northern Vietnamese provinces.

EDUCATION

Mr. Neese received a B.S. degree in agriculture in 1958 and an M.A. in animal breeding and livestock production in 1962, both from the University of Idaho. He speaks Laotian, Vietnamese, and some Thai (northeast).

6/86

PROFESSIONAL PUBLICATIONS

Interviews with U.S. Spice Firms to Establish a Marketing Plan for Grenadian Nutmeg. (Co-author) PIP, 1985.

Agriculture in Grenada: A Critical Assessment. (Co-author), DAI/Grenada, October, 1984.

Assessment of International Program Development for Colleges of Agriculture, Forestry, Wildlife and Range Sciences. University of Idaho. AFSI, 1984.

Marketing Survey of Thai Processed Fruits and Vegetables. (Co-author) PIP/AFSI, 1983.

Report on Project Identification at the Thailánd Institute for Scientific and Technological Research. PIP/AFSI/Thailand, Apr. 82, No. 6. 1982.

Feasibility Report on Agro-Processing and Marketing Project in the Philippines. (Co-author) Asian Development Bank, 1982.

Gold Mining for Recreation. Chronicle Books, San Francisco, 1981.

Increasing Production and Marketing of Locally Grown Food Crops - Fruits and Vegetables. (Co-author) AFSI, July, 1981.

Livestock and Agriculture Recommendations. PDP-1, Central Java, 1979.

Report on the Transfer of Small U.S. Agribusiness Technology Abroad. May, 1979.

The Almanac of Rural Living. Wm. Morrow & Co., Publishers, 1976 A how-to-do book on rural living on a modest scale. 483 pages.

"Survival of Kouprey and Javan Rhinos: Rarest Animals in the World," Wildlife Magazine, 1976.

Survival of the Javan Rhinoceros in Laos, 1975.

The Kouprey - Report on Survey in Southern Laos. 1975.

"The Palouse Region: Agricultural Mining of the Soil," Outdoor America. 1973.

The Palouse Wash-Out: A 20the Century Tragedy. Wildlife Resources, Inc. 1973.

Pheasant Restoration in Latah County - An Evaluation and Proposal. Wapiti Inc. 1972.

Off-Shore Commercial Fishing Opportunities in the South China Sea. Orient Resources Corp., 1971.

The Handling and Storage of Grain in the Vientiane Plain of Laos. Development and Resources Corp., (Co-author) 1970.

The Economic and Technical Possibilities of Establishing Certain Agriculturally Oriented Industries in Laos. Development and Resources Corp., (Co-author), 1970.

The Five Northern Provinces of the Republic of Vietnam - A Profile of Agriculture, Development and Resources Corp., (Co-author), 1969.

Forage Crops Under the Foreign Aid Program in South Vietnam.) Professional Paper, University of Idaho, 1961.

Forage Crops in Vietnam. USOM/AID, 1960.

Development Alternatives, Inc.

ERIC R. NELSON

Eric R. Nelson, staff economist for the Finance, Management, and Economics Division of Development Alternatives, Inc. (DAI), has 21 years of experience as both a practitioner and a teacher of development economics. His specialization is the economic and policy environment for economic growth and for business, with an emphasis on the financial sector and the macroeconomic policy environment and their effect on behavior and well-being of individuals and enterprises. He combines expertise in project design and evaluation applied to these fields with skills in survey methods and quantitative analysis. Dr. Nelson has extensive experience in developing countries, where he has lived for more than eight years working with local institutions. He speaks and writes French fluently, speaks Indonesian well, and has a working knowledge of Spanish.

PROFESSIONAL EXPERIENCE

Development Alternatives, Inc.
Professional Staff Member
Finance, Management and Economics Division (October 1988-present)
Dr. Nelson is responsible for economic and policy analysis on short-term consulting and technical assistance assignments and for technical support to long-term projects.

Cameroon: Country Development Strategy Statement (November 1988-February 1989)
Performed macroeconomic and sectoral analysis in the design of a development strategy for AID/Cameroon, and suggested a strategy that defines an AID role in support of the economic structural adjustment program of the Government of Cameroon.

Morocco: Evaluation of Economic Policy Analysis Support Project (November 1988)
Provided analysis and recommendations in an external interim evaluation of a AID technical assistance and training project; this project was intended to assist the liberalization of price and trade regimes in Morocco and the removal of quantitative restrictions on trade.

Project Associate
Harvard Institute for International Development (1982-1988)

From 1986 to 1988, Dr. Nelson served with the U.S. Agency for International Development, Washington, under an I.P.A. agreement between Harvard and AID. At AID he served as economist in the Planning and Analysis Division, Office for Development Planning, Asia Near East Bureau, where he was responsible for macro-economic analysis, evaluation of country growth strategies, and review of policy agenda to promote growth in countries of Asia and Near East. He assisted in AID policy development, provided support to USAID country missions, and developed and supported the AID position concerning the U.S. government votes in the multilateral development banks. He also carried out the following assignments:

Indonesia: Country Development Strategy Statement (October 1987)
As economist, participated in the design of the AID/Indonesia country development strategy statement. Brought professional expertise in policy reform and personal experience in the internal workings of the Indonesian policy process into the strategy design.

Tunisia: Design of Commodity Import Programs
(January-February 1987, December 1987)
Provided economic analysis to AID/Tunisia in the design of two commodity import programs that support macroeconomic policy reform. Separately, in Washington, contributed analysis to the PL 480 safety net program intended for those most adversely affected by the IBRD/IMF stabilization and structural adjustment programs.

As resident advisor to the Indonesian Ministry of Finance, Center for Financial Policy Studies and Training in 1985-1986, Dr. Nelson assisted in the design of new national banking, insurance regulation, and pension laws so regulation in these sectors will support and conform to policy reforms in the financial sector. In this position, he supervised and coordinated short-term consultants from several disciplines.

In 1985-1986, following the financial sector deregulation in Indonesia, Dr. Nelson assisted state-owned banks in adapting to a newly competitive sector. His accomplishments include organizing and participating in training involving (1) pre-preparation courses for MBA candidates; (2) workshops for middle-level management using case studies he and others developed and drawn from Indonesian banking experience in asset-liability coordination, funds mobilization, performance evaluation, management information, and international banking; and (3) seminars for top management to make them sensitive to the requirements and possibilities of the competitive environment in balance with their role as agents of development, and to the strategic opportunities made available by their returning MBA students. He was responsible for managing selection, evaluation, and training in economics and in English language of candidates proposed for professional study abroad; taught microeconomics and GRE preparation. He contributed to curriculum reform of the training program for Indonesian bankers and finance ministry junior officers. He also carried out the following assignment:

Indonesia: Reform of Overseas Training (January 1986)
In support of Ford Foundation study, served as liaison and consultant on pre-departure training and post-return utilization of potential overseas trainees, identifying curriculum reforms necessary for certain universities in order to develop and utilize returnees in their profession.

From 1982 to 1985 Dr. Nelson served as economic and small business advisor to the small enterprise development project of the Bank Indonesia (Central Bank). In this capacity he assisted the Bank in evaluating the costs and effect of subsidized credit. He also designed and supervised an impact evaluation study that compares small firms receiving credit to a control group, counseled the national credit guaranty fund on estimating and reducing losses because of non-repayment, and assisted the Central Bank in determining losses to the banking system attributable to credit pricing policy. He was responsible for substantial on-the-job training of national counterparts in data collection and analysis, measurement of economic costs of subsidies, and modeling. He provided analytical assistance to small credit programs and administrative assistance in donor relations and management assistance to project teams; made a major contribution to design of the World Bank SEDP III loan; produced significant work on the economic impact of credit for small-scale enterprises; and established coordination between Central Bank and an aid donor, thus contributing to implementation of financial sector reform.

Visiting Assistant Professor of Economics
Amherst College (1981-1982)
Taught economic development, economics of agriculture; supervised student thesis research.

Assistant Professor of Economics
Smith College (1979-1981)
Taught economic development, demography, and development in Sub-Saharan Africa; supervised student research; advised courses and careers.

Assistant Research Scientist
University of Michigan Center for Research on Economic Development (1976-1979)
From 1976 to 1979, served as director of research at the Center for Economic and Social Research, University of Abidjan, Côte d'Ivoire. Directed research in international economics, quantitative methods, and rural economics; evaluated project design; taught an in-house seminar in statistical methods; assisted colleagues in survey techniques; and conducted field research in rural production, out-migration, and mortality with the first survey to use a control group to investigate the causes of African rural out-migration.

Additional Short-term Consultancies
(June 1972-June 1979)

Tunisia: Tourism (June 1979)
Served as economist on IBRD tourism sector review update in Tunisia.

Côte d'Ivoire: Tourism (November-December 1978)
Served as economist on IBRD tourism project design. Determined that certain interventions that reduce poaching can be justified financially and economically when combined with particular minimal tourist and environmental investment in a national park, a finding that influenced the government in its design of tourist access.

West Africa: Evaluation of Small Enterprise Loan and Grant to the Entente Fund (February 1975)
Served as independent evaluator, AID Entente African Enterprises Loan and Project Grant. Evaluated project from the viewpoint of the lending institutions, the borrower, and AID, to assist AID consideration of a second tranche.

Entente Countries: Development Assistance Planning (November 1974)
Macroeconomist for multidisciplinary planning team for AID exercise on development assistance planning in West Africa.

Zaire: Urban Employment and Urban Fertility
(June-August 1972 and June-August 1973)
Was researcher and contributor for employment study of Kinshasa; also was consultant for study of urban fertility in Kinshasa.

Director
Provincial Development Division, Office of the Governor, Sorsogon, Philippines, for Bicol Development Planning Board (1968-1970)
As a U.S. Peace Corps volunteer, staffed and managed the Provincial Development Division, coordinating fiscal plans among provincial governors and planning and conducting common training programs; participated in developing systems for monitoring the local impact and budget of provincial and national government projects in province; and worked in training for cooperative credit unions. Coordinated a professional staff of five.

Acting Manager
King-Bison Company, Boston, Massachusetts (1965-1966)
Served as summer replacement manager for a small company engaged in housing rehabilitation and low-income rental management. Developed bids, assisted in financial planning, and programmed and supervised a work crew of 20; was responsible for tenant relations. Helped the company to expand in a difficult market under tight credit conditions.

EDUCATION

Dr. Nelson received a Ph.D. degree from Yale University in 1976. His other higher degrees in economics include an M.Phil. (1973) and an M.A. (1972), both from Yale University. His B.A. degree (high honors) is from Swarthmore College (1967). His nondegree training includes economics at Massachusetts Institute of Technology (1967-1968) and demography at Yale University (1972-1973).

AWARDS AND HONORS

Elected to Phi Beta Kappa (1967).
National Science Foundation Graduate Fellowship Award (1967).
Honorable mention, Woodrow Wilson Foundation Graduate Fellowship Award (1967).
Research award, Yale Concilium on Area Studies (1973).

LANGUAGES

Dr. Nelson speaks and writes French fluently. He speaks Indonesian well and has a working knowledge of Spanish, which he understands and reads well.

COMPUTER SKILLS

Dr. Nelson is an experienced programmer on mainframe and mini- and microcomputers, whose version of TSP is used for statistical analysis in two developing countries. He is familiar with many well-known applications programs, including word processing, spreadsheets, and statistical analysis.

SELECTED PAPERS AND PUBLICATIONS

With Nicholas Kulibaba and Roger Poulin. *USAID Cameroon Country Development Strategy Statement: Analytical Study.* Development Alternatives, Inc., Washington (1989).

With Gordon Ramsey. *Economic Policy Support Project in Morocco: Final Report.* Development Alternatives, Inc., Washington (1989).

"Credit Guarantee Funds: A Critical Analysis." Working paper, AID/ANE/DP, July 1987.

With Bruce R. Bolnick. "Survey Methods for Assessing Small Credit Programs: Evaluating the Economic Impact of KIK/KMKP Credits." in David C. Cole (ed). The Indonesian Financial System (Institute of S.E. Asian Studies, forthcoming).

The Economic Impact of KIK/KMKP Credit on Indonesian Small Enterprises. Bank Indonesia, Jakarta (1984).

SU17TSP: Un programme destiné à l'analyse statistique des series temporelles et des sections transversales. CIRES, Abidjan (1977).

"The Measurement and Trend of Inequality: Comment." *American Economic Review* 67(3): 497-501 (1977).

African Rural-Urban Migration: Economic Choice Theory and Kinshasa Evidence. Yale University (1976) (unpublished Ph.D. dissertation).

Evaluation Report: Entente African Enterprises Loan 625-h-006; Entente African Enterprises Project 625-15-920-717. AID, Washington (1975).

Development Alternatives, Inc.

CURRICULUM VITAE

NAME: Lawrance Denzil Phillips

DATE OF BIRTH:

NATIONALITY: British

QUALIFICATIONS: Bsc Honours Economics (Bristol)
Msc Honours Tropical Agriculture (Reading)
Phd (To be completed 1988) London

LANGUAGES: English, French, German

MARITAL STATUS:

FIELDS OF EXPERTISE

An agriculturalist specialising in the following areas:-

Crop diversification especially with high value exotic crops.

Agricultural finance and marketing especially with specialised and perishable commodities.

Technology transfer in the field of aromatic and medicinal plants and their derivatives.

Agri-business development and international joint ventures.

Operational research, on farm trials, village studies.

COUNTRY EXPERIENCE

Egypt (ST) Gambia (LT) India (LT) Liberia (ST) Turkey (ST)

Sierre Leone (ST) Senegal (ST) Ivory Coast (ST) Rwanda (ST)

Madagascar (ST) Kenya (ST) Congo (ST) Pakistan (LT)

Cameroon (ST) Morocco (ST) Sri Lanka (ST) Tanzania (ST)

North Yemen (ST).

ST = Short Term LT = Long Term

OVERSEAS ASSIGNMENTS:

1989	Feasibility study for the establishment of a plant tissue culture lab and nursery complex in North Yemen. (Adbhan Trading Company)
1989	Design and establishment of a horticultural export farm in Gambia W.Africa (IFC/APDF/private client)
1989	Team leader on a project to identify investment opportunities in the agricultural sector of Pakistan. (UK Dept of Trade and Industry)
1988	Design of crop diversification project on the slopes of Mount Kilimanjaro (IFC-APDF/Private Client)
1988 to date	Team leader on a project aimed at setting up international joint ventures in the field of high value crops in Sri Lanka (Govt of Sri Lanka/Commonwealth Secretariat)
1988	Member of an evaluation team charged with a review of agricultural projects and investment strategies in Rwanda Madagascar, Cameroon and Congo. (African Development Bank/Development Alternatives Inc)
1987	Planning and design of an essential oil development project in Rwanda (EEC-CDI/APV International)

EMPLOYMENT

1986 to date	Founder Director of High Value Horticulture a company devoted solely to the development of High Value Crop projects worldwide. Responsible for project planning, design and implementation.
1981 - 1986	Freelance researcher and consultant working for international agencies and private clients specialising in the finance, marketing and design of high value crop projects.
1977 - 1981	International African Institute, London worked as research fellow in the Environmental Review Unit of the Institute. Responsible for the design, management and implementation of a multi disciplinary project on the impact of cash crop development on health and nutrition in West Africa.
1974 - 1976	Tropical Products Institute, London worked in the marketing and industrial economics department of the Institute. Involved in market research studies in the field of horticultural crops.
1972 - 1974	United Nations Children's Fund, India worked as Field Officer for South India responsible for evaluating and monitoring UNICEF food and nutrition projects in Tamil Nadu, Kerala, Andhra Pradesh and Karnataka.

1987	Contributor to planning and design of a Passion fruit processing plant in Kenya including plant design and joint venture establishment (IFC/Private Client)
1987	Contributor to an investment appraisal for a banana plantation in Ghana including sourcing equipment and market identification (FMO/Private client)
1987 to date	Consultant to the Agricultural Development Bank of Pakistan on high value minor crops continuation of five year programme of investment as part of the World Bank Small Farmer Technology Development Programme. (ADBP/World Bank)
1986	Member of a team advising the Government of Pakistan on investment strategy in the field of horticulture and related agri-business for the 7th Five Year Plan. (World Bank/Pak Planning Commission)
1985	Contributor to a study of agro-industrial constraints in Pakistan with special reference to horticulture. (Asian Development Bank /J.W.Pilgrim)
1985 - 1986	Assisting a company specialising in tissue culture and micro propagation in the establishment of overseas joint ventures in the field of bio technology. (Genebank Tissue Culture ltd, UK)
1984 - 1986	Team Leader on a high value crops development project with the Agricultural Development Bank of Pakistan. Involves developing suitable loan packages, appraising agro-business ventures, assisting in setting up joint ventures on farm trials, international marketing (World Bank/ADBP)
1984	Survey of essential oils in Lower Egypt for International Federation of Essential Oils and Aroma Trades.

CURRICULUM VITAE:

Development Alternatives, Inc.

Full Name: Mohammad Zekria Rashid.

Born:

Married:

Nationality: Afghan.

Languages: Pushto, Farsi, English.

EDUCATION:

1951 to 1963	Secondary School (Ghazi High School, Kabul).
1964 to 1968	Kabul University, Faculty of Economics (B.A. in Economics).
1969 to 1970	Military Services(Afghan Royal Military Academy).
1970 to 1971	International School Exeter,England. (English Language).
1978 to 1979	Moscow Co-operative Institute (Co-operative Management Diploma).
1985 to 1986	Atlanta University Economic Department (Some courses in economic development towards Master Degree).

SEMINARS:

Casting and pricing Seminars of the United Nations in Kabul (1978) and several other seminars with the Ministry of Planning & Commerce during the service time.

MONOGRAPHS:

The largest development projects of 1st and 2nd five years development plans of Afghanistan and their effectiveness on employment (1968).
International Trade Development of Afghanistan from 1967 to 1977 (1979).

(2)

PROFESSIONAL EXPERIENCE:

A) In Afghanistan

1970 (April) to 1970(August)	Helmand - Arghandab Valley Project (Afghan-American joint regional development project). As land developing planner.
1971 to 1973:	Ministry of Planning Regional Development Department. Incharge of: Evolution of Regional Development Projects.
1972 (February) to 19	Planning Team of Paktia Project.
1974 to 1977:	Paktia Project: Counterpart to the German Co-ordinator of the Project. Later the Head of Kabul Liason Office, mainly incharge of getting allocation from the Ministry & Finance submitting progress reports to the Ministry of Planning.
1977 to 1981:	Ministry of Commerce, Federation of Afghan Chambers of Commerce & Industries as Inditing Director, Making contract for all the member of the Federation with foreign exporters.
1981:	Left Afghanistan as Refugee.
1981 till now:	Permament residence of the U.S.A.

B) ABROAD:

1981 to 1982:	Washington Inventory Services.
1982 to 1988:	JOS. A. Bank (Customer Services).
And also:	
1984 to 1988:	Member of the Advisory Board for Refugees in the State of Georgia.
1985 to 1988:	Founder member and member of Board of Directors of the Georgia mutual assistant for refugees (six countries). Afghanistan, Compudia, Ethopia, Iran, Lous and Vietnam.
1988 till now	With German-Afghanistan Committee, Peshawar: Head of the Planning Team for the Re-construction of Afghanistan.
	The Planning Team made a feasibility study and proposal for the reconstruction of the Khugiani District of Nangarhar Province. In the following Sectors:
	(Housing, Irrigation Systems, Roads, Bridges, Elementary Schools and Basic Health Centres).

RESUME - ALAN D. ROTH

Development Alternatives, Inc.

The major specializations of Dr. Alan Roth are the management, planning and evaluation of development programs and projects. Within these specializations, he has provided consulting assistance in policy analysis, institutional development, development economics, management information systems, and marketing. A major theme of his consulting activities is advancing the role of the private sector in development.

In addition to these broader development skills, he has focused on three major technical fields; agriculture, health and energy. In agriculture, his focus has been mainly agricultural economics and marketing. In health, he has focused mainly on management systems and policy analysis. In energy, he has undertaken economic and financial feasibility studies for both large and small projects and has worked with a broad range of energy technologies. Among his clientele have been U.S. corporations, U.S. government agencies, and international organizations. Dr. Roth has worked in over 30 countries and works comfortably in five foreign languages: French, Italian, Thai, Indonesian and Lao.

PROFESSIONAL EXPERIENCE

Planning and Evaluation

Dr. Roth was the principal analyst and author of a study of the impact of U.S. development assistance in Asia and the Near East covering the past three decades (1986).

He was the Team Leader and Evaluation Specialist for evaluations of the Rural Health Support Project in Sudan (1985), the Mae Chaem Watershed Development Project in Thailand (1983 and 1987), the Livestock Marketing and Development Project in Tanzania (June-August, 1977), and the Rural Works Projects, Phase I, in Afghanistan (June-July, 1976).

In addition, he was the Evaluation Specialist for evaluation of the ASEAN Regional Development Program (1984), the Highland Agricultural Marketing and Production Project in Thailand (1980-81), the Food for Relief Work Program in Bangladesh (mid-1978). He was the evaluation methodologist and planner for evaluations of the Private Sector in Development Project and Rural Industries and Employment Project in Thailand (both 1986), the Central Helmand Drainage Project in Afghanistan (mid-1977), and the Basic Health Services Project in Afghanistan (August, 1976).

He was the Team Leader and Planning Specialist for the Sahel Regional Support Project (July-August, 1986), nine United Nations Capital Development Fund projects in Bangladesh (July-August, 1979), and for the planning of the Logar Valley Integrated Rural Development Project in Afghanistan (October-November, 1976). He was also the Planning Specialist for two rural development projects in Upper Volta (May, 1976).

Institutional Development

In February and March, 1986, Dr. Roth was a member of a 2-person team to do the preliminary planning for a revised U.S. Regional Aid Coordination Project for the Sahel. The major task was to assess the performance of three institutions; the Club du Sahel, the Permanent Interstate Committee for Drought Control in the Sahel and the Institute of the Sahel and recommend strategies for continuing support to them. In March, 1987, he provided AID with additional analysis of the status of the Institute of the Sahel, and in September, 1987, was the U.S. representative on a multinational team to restructure the Institute.

In May, 1984, Dr. Roth provided institutional development assistance for AID to find ways to improve the performance of a regional development agency, the Société de Mise en Valeur Agricole de la Casamance (SOMIVAC) in Senegal. The following month he provided similar assistance to the World Bank assessing the institutional strengths and weaknesses of the Société de Developpement du Cacao (SODECAO) and other institutions in the Center-South region of Cameroon.

Institutional analysis and development was a key part of two evaluations undertaken by him. One was the ASEAN Regional Development Program evaluated for AID and the State Department in January-February, 1984

Here, the focus was on the health of the regional institutions established by the program. The other was the Mae Chaem Watershed Project evaluated for AID in May of both 1983 and 1987, where the problem revolved around the viability of the institutional framework established by government to supervise the project.

Project Management

During the period 1976-79, Dr. Roth was the project management specialist for the planning or evaluation of development projects in Thailand, Bangladesh, Tanzania, Afghanistan and Upper Volta. For many of his consulting assignments during this same period, he also had the role of Team Leader/Manager. He was manager/coordinator for the start-up period for two major development projects; a $12.5 million provincial development program in Indonesia (mid-1978 to mid-1979), and a $22 million agricultural project in Zaire (October, 1977).

He was a project management instructor for a training seminar for project managers of Upper Volta, Niger, Togo, Benin and Ivory Coast (September, 1979), for the Canadian International Development Agency (January, 1976), and for USAID officers in Pakistan and Bangladesh (May to September, 1975).

Management Information Systems

At various times during the period 1978 to 1980, Dr. Roth provided assistance as an information systems designer for rural development projects in the Philippines, Indonesia, Haiti and Zaire.

In February, 1980, he provided assistance to the Solar Energy Research Institute of the U.S. Department of Energy to develop a worldwide information network for the sharing of results of experimental, renewable energy projects.

In November-December, 1977, he was a consultant to the Food and Agriculture Organization of the United Nations, responsible for the design and testing of a permanent, agency-wide information system to provide for a continuous monitoring of FAO's development activities.

In 1976-77, he was an information systems specialist and co-author for an AID project to study the state-of-the-art of information systems for the management of rural development projects.

In 1975, he was an instructor in networking (CPM) and planning systems for capital development projects in Pakistan. Among the projects were a dam, a cement plant and a new university. Following three months in Pakistan, he led a team to Thailand to provide similar instruction, this time for an archeology/tourist project, an irrigation project and a crime prevention project.

Policy Analysis

Dr. Roth has been involved in five major undertakings that dealt with U.S. Government policy.

January-February, 1984 - Assisted AID and the State Department to evaluate the U.S. regional development program in Southeast Asia.

February, 1983 - Assisted USAID/Mauritania to put together its Country Development Strategy Statement.

August-September, 1982 - Undertook a study of employee stock ownership plans (ESOPs) in developing countries to assist AID in developing a new program to promote these plans. Fieldwork was done in Zimbabwe and Thailand.

June, 1979 - Assisted USAID/Thailand to assess its rural development strategy.

April-May, 1977 - Assisted USAID/Philippines in an assessment of its Development Assistance Program.

Marketing

A new venture started by Dr. Roth in January, 1989, is to represent a number of Asian trading companies in the United States. In this role, he provides advanced technologies on request to interested Asian governments and companies through established intermediaries in targeted countries.

Dr. Roth is currently responsible for business development and strategic marketing for two U.S. high technology companies: Quantum Diagnostics, Ltd. and Pentagen Technologies International, Ltd. He has introduced their technologies to the Executive Office of the President, senior officials of the Defense and Commerce Departments, and the Chairmen, CEOs and research directors of many Fortune 500 companies. These introductions have resulted in licensing agreements, purchase orders and development contracts for a number of different technologies.

For Militec, Inc., a company with a new form of metal conditioner that can be used directly on metal or as an additive to improve lubricity, Dr. Roth has established exclusive representatives to handle the product in a number of countries in Europe, Asia and Latin America. He is also introducing the technology to many American companies.

In March/April, 1984, Dr. Roth undertook a study jointly with Hagler Bailly & Co. for the Department of Energy and AID to assess the feasibility of producing an export promotion directory for U.S.-made energy efficient equipment. The study included an analysis of the current export market for these products.

Market assessments have been a key part of the feasibility studies that he has undertaken for a number of energy projects. The most ambitious among these was a project to construct a $10 million plant in Pennsylvania to convert chemical sludge to energy. After first creating the project (1983) and doing the pre-feasibility analysis himself, he studied the chemical sludge market as a part of the feasibility study.

In two major evaluations of development projects, his responsibilities included market assessments. These were the Mae Chaem Watershed Development Project in Thailand (1983), and the Livestock Marketing and Development Project in Tanzania (1977).

During four months in mid-1982, he marketed a natural gas multi-client study to 150 large U.S. corporations for the Battelle Memorial Institute and E.R. duPont & Associates. A total of 13 corporations were recruited.

In early-1982, he assisted in the development of a commercialization plan for a European manufacturer of a boiler system using direct combustion of rice hulls and other agricultural waste. The manufacturer wished to enter the U.S. market and needed an assessment of market potential and strategies for entry.

In 1980, he marketed promising new technologies for a group of research scientists and successfully obtained a $1 million research contract for them. The contract was to find a means to eliminate distillation in the production of ethanol. The process to be tested was based on an already patented surface-chemistry technology.

In August, 1978, he was a consultant to AID to plan an agricultural marketing loan for the Government of Zaire. This work included an assessment of the markets of major agricultural products in the eastern part of the country.

He was a Marketing Consultant to the United Nations in 1973-74 to find viable economic alternatives to cultivation of the opium poppy in Thailand. This entailed a study of the marketing infrastructure of Northern Thailand and of both domestic and export markets for potential alternative crops.

In 1964-66, he was a manufacturers' representative for U.S.-made construction and hardware products throughout Western Europe.

Energy

During the past seven years, Dr. Roth has provided assistance to project developers, investors and owners of new energy technologies in assessing markets and analyzing the economic and financial viability of their projects and operations. Among the energy projects he has worked with are:

- For Argonne National Laboratory: planning of two private sector projects to demonstrate U.S. energy technology in developing countries (February-March, 1987); and participation in a study of the determinants of effectiveness of Department of Energy International R&D activities (June-July, 1987).

- Economic pre-feasibility studies of potential small-scale hydroelectric sites in Madagascar for the National Rural Electric Cooperatives Association (NRECA) and AID's Office of Energy (June-October, 1985).

- Planning of a UNDP project to promote the use of biogas generators and to undertake research for conversion of cellulose to ethanol. Reviewed preliminary plan and recommended modifications (November, 1983).

- Overview of solar technologies currently marketed and in the planning stages that could be incorporated in a solar power development project for a Middle Eastern country. Among the technologies included in the study were photovoltaics, solar concentrators, solar ponds, and wind turbines (February, 1983).

- Assessment of available ethanol production technologies and potential joint-venture partners for an engineering firm in Southeast Asia to develop bids for construction of ethanol plants (October-November, 1982).

- Multi-client study to produce long-range projections on natural gas price and availability for 75 service areas in the United States. Provided assistance in marketing and data collection and processing to E.R. duPont & Associates and Battelle Memorial Institute, the partners in this study (mid-1982).

- Assessment of the generic economic feasibility of franchised plants using a patented pyrolysis technology to convert used steel-belted tires to fuel oil and carbon black (May, 1982).

- Assessment of the economic and financial feasibility of a small-scale hydroelectric project for a town in upstate New York (April, 1982).

- Assessment of the economic and financial feasibility of a project to convert wood waste to a pelletized fuel. The project called for construction of a $4 million plant to produce fuel for industrial companies currently using oil (April, 1982).

- Assessment of available photovoltaic technologies for a Taiwanese firm interested in developing a manufacturing capability in Taiwan (mid-1980).

- Development of a worldwide information network for communicating the results of experimental, renewable energy projects. Lectured at a seminar sponsored by the Solar Energy Research Institute to promote, support and develop ideas for such a network (February, 1980).

- Study of the prospects and problems for increased use of cogeneration as a means of reducing U.S. dependence on fossil fuels, for the Subcommittee on Environment, Energy and Natural Resources, Committee on Government Operations, House of Representatives (October-December, 1979).

LANGUAGES

Dr. Roth has FSI ratings of 3+ and 3 for Thai and Lao respectively and has chaired seminars conducted in French, Thai and Indonesian.

EDUCATION

1974 Ph.D., Public Administration, New York University; areas of primary interest: International Administration, Economic Development, Quantitative Methods of Public Policy Analysis.

1971 M.P.A., New York University

1964 B.A., Economics, Syracuse University.

OTHER INFORMATION

Marital Status - single Children - none
Birth Date - October 18, 1942
Address - 10849 Bucknell Drive, Wheaton, Maryland 20902
Telephone - 301 649-4909

Development Alternatives, Inc.

RICHARD B. SCOTT

Richard Scott has 25 years of experience in human resources and rural development, much of it in Pakistan, Turkey, and Afghanistan. As manager for the Tribal Areas Development Project in Pakistan, he was responsible for implementing complex project designs that included components for rural roads, irrigation, and school construction with Fixed Amount Reimbursement funding. Mr. Scott has also served as manager for a rural works project in Mali and spent seven years in Afghanistan where he studied possibilities for rural development and was involved in the design and restructuring of several projects with a focus on irrigation and drainage and on crop diversification. In all the rural development projects with which he was associated, Mr. Scott has made a special point of working very closely with the local administration and communities in effecting change. He enjoys working with ordinary citizens and officials alike, and is well known for his collaborative style in both design and implementation and his deep-seated concern for and humanitarian approach to development. Since 1984 Mr. Scott has been supervising and working with a large group of Afghans and Pakistanis for the Voice of America to bring vital information to a target audience of Afghan refugees in Pakistan and in the Persian Gulf states, and to those who remained in Afghanistan. He possesses some knowledge of Pashto and Dari, and has worked in both Turkish and French.

Service Chief
Pashto Language Service, Voice of America, Washington, D.C. (1984-present)

- Manages and directs 21 Afghans, Pakistanis, and Americans for three daily broadcasts in two shifts within Voice of America guidelines. Three of staff are reporters located in Pakistan;

- Plans and manages informative programming for primary target audience of Afghan Pashtuns in-country and refugees in Pakistan, Iran, and the Persian Gulf States. Programs include interviews with resistance leaders, politicians, military officers, intellectuals, Pakistani and U.S. academics, and political and administration spokesmen;

- Plans and directs audience relations activities in promotion of broadcasts--that is, posters, advertisements, broadcast schedules, listeners' mail, and cassette distribution; and

- Coordinates programming with related regional services (Dari, Urdu, Farsi, and Uzbek).

Project Manager
Tribal Areas Development Project, U.S. Agency for International Development, Peshawar, Pakistan (1982-1984)

Served as team leader supervising seven technicians in the design of this complex rural development project that included construction of roads, rehabilitation of irrigation schemes, groundwater development, agriculture, and school rehabilitation and construction. Project was designed in collaboration with local communities and political and administrative authorities, and was significant in that USAID had never before been allowed to work in this geopolitical area.

Managed and directed a team of three technicians from the USDA Soil Conservation Service, a Foreign Service National (FSN) civil engineer, a statistics and research office of three FSNs, three clerical staff, and six drivers in the rehabilitation and construction of rural works projects in four Tribal Agencies. Worked in collaboration of Pakistani officials of FATA Development Corporation, Public Works, Rural Development, Education, and Provincial Planning Departments, and the political agents of each Tribal Agency in the selection and implementation of project activities. In collaboration with the project technicians, and the USAID Legal Officer and Engineering Office, drafted and finalized Fixed Amount Reimbursement documentation for each subproject. Frequently visited subproject sites in remote regions of Tribal Areas, requiring armed escorts. Project funds exceeded $20 million.

Project Manager
Mali Rural Works Project, USAID Bamako, Mali (1979-1981)

Monitored and evaluated the activities of a small contract team who reported directly to the host country as their contract was terminated. Volunteered to implement final phase-out construction activities of this project that had never completed one subproject in a two-year period and had disappointed local populations. Coordinated work with Malian administrators in the capitol and two district centers for funding and implementation of small rural works projects, for example, hand-dug wells, improved lake drainage for agriculture, and an irrigated vegetable garden of a local women's organization. Worked on construction directly with local administrators, political officers, and the Wells and Public Works Departments. Resided for extended periods in one of the most desolate regions of the world under harsh living conditions, some 50 miles west of Timbuktu.

The phase-out of this project was politically sensitive because it was the first USAID-funded project to be terminated in Mali and the lack of project results under the contractor was an embarrassment.

Program Analyst
Research and Evaluation Officer, and Staff Social Scientist, USAID Kabul, Afghanistan (1971-1978)

Monitored and carried out field evaluations on the social impact of projects and farmer attitudes toward various development projects, for example, food for work, rural development, school construction, land development, and irrigation and drainage projects with special focus on Helmand Valley. Participated in project design and restructuring, social soundness analyses, and social-economic research, including a farm-economic survey; surveys of Shamalan flour mills, land tenure patterns, and a weekly regional market; and an analysis of the accuracy of an area cadastral survey. Also monitored and surveyed land use and distribution of nomadic groups in and around the Helmand irrigation system. Worked closely with contractors -- teams from the Bureau of Reclamation and Soil Conservation Service, for example -- and Afghan administrators and field staff on project implementation issues such as hand-labor versus mechanization for farm drain construction; canal right-of-way reimbursement; and numerous small, focused surveys such as patterns of adoption of Maxipak wheat and fertilizers.

Monitored annual opium poppy production in Helmand region and participated in short-term assignments to Turkey and Geneva as an observer of the preparation of a U.S. poppy control project that was to relate to a planned U.N.-sponsored project for Afghanistan.

Participated in an extended assignment to Nepal. Planned, wrote scope of work, and interviewed prospective local contractors for extensive research and evaluation of construction activities of suspension bridges funded by multilateral agencies. Participated in field studies and initial project design effort for the Rapti Zone Development Project.

Research Associate
Functional Analysis of Rural Health Centers, Johns Hopkins School of Public Health, Baltimore, Maryland and Ankara, Turkey (1965-1970)

Conducted field studies of the attitudes of Turkish villagers toward government-provided health services; housing; drinking water sources; fertility, morbidity, and mortality; and indigenous health practitioners. Analyzed results and wrote a series of reports on findings as part of health studies team. Resided in Turkish and Kurdish villages for extended periods of time in both central and eastern Turkey.

Worked in collaboration with multidisciplinary study team, staff, and administrators of the Turkish School of Public Health and Hacetepe Hospital, but the support and cooperation of the villagers were essential for success of the study and its survival.

Trainer
Peace Corps Training Program for Volunteers in Community Development Program for Turkey, Ankara, Turkey (summer 1965)

Conducted formal and informal training sessions with Peace Corps volunteers on Turkish village life, local leadership, and district administration as they would affect planned activities in community development.

Rural Institutions Officer
Antalya Regional Development Project, U.N. Food and Agriculture Organization, Antalya, Turkey (1964-1965)

Conducted detailed field surveys and enquiries in villages and among nomadic groups of region to determine problems and acceptability of planned regional development in irrigation, agriculture, and forestry. Traveled with nomadic groups on spring migration as participant observer on the effects of nomads' movement on the forest and recorded route and grazing patterns. Wrote analytical reports on findings and developed solutions to potential implementation problems.

Worked as member of a multidisciplinary and multinational team of technicians, social scientists, Turkish counterparts, and local administrators. Worked with local communities and nomadic groups in search of acceptable projects.

Language Instructor and Social Science Lecturer (1961-1964, 1969-1970)

Worked as English language instructor for Georgetown University English Language Program, and the Turkish Air Force Language School, Ankara and Izmir. Also lectured in sociology and social research for Middle East Technical University, University of Maryland Overseas Program, and Social Services Academy (on Fulbright grant) in Ankara. Lectured in Sociology at Towsen State College, Baltimore, Maryland.

Military Service
Adjutant, Air Police Squadron, Orly Field, Paris, France; Assistant Communications Officer, Joint American Mission for Aid to Turkey, Ankara, Turkey (1954-1955)

Supervised units of 100 men in their assigned duties as Base Air Police and operated a mission communications center, in each case with 24-hour shifts. Worked in cooperation or collaboration with local units, that is, French Police and Turkish Army units.

EDUCATION

Mr. Scott was awarded a Master of Arts degree in sociology and anthropology by the University of New Mexico in 1959. He also received a certificate in French from the University of Paris in 1956. He has a Bachelor's degree in business administration from the A&M College of Texas, awarded in 1953. Mr. Scott has also done graduate work in social anthropology at the London School of Economics (1959-1960) and in sociology and public health at Johns Hopkins University, including a U.S. Public Health Service Traineeship (1965-1970). Additional training includes Turkish language courses at the University of London, School of African and Oriental Studies (spring 1960); Dari language training for USAID in Kabul (1971); and French language training at the Foreign Service Institute (1978).

PROFESSIONAL AFFILIATIONS

Society of Applied Anthropology, Fellow

Middle East Studies Association

Middle East Institute

American Anthropological Association

SELECTED PUBLICATIONS

"Tribal and Ethnic Groups of the Helmand Valley," Occasional Paper No. 21, The Afghanistan Council of the Asian Society, New York, 1980, 36 pp.

"1975 Farm Economic Survey of the Helmand Valley, Afghanistan," with G. Farouq and F. Shairzai, USAID Afghanistan, 1978, 116 pp.

"Koran Courses in Turkey," *The Muslim World*, Vol. LXI, No. 4, 1971, pp. 239-255.

The Village Headman in Turkey: A Case Study, Institute of Public Administration for Turkey and the Middle East, Ankara, 1968, 50 pp.

5/89

Development Alternatives, Inc.

BENJAMIN G. STAUSS

Benjamin Stauss, Vice President for Finance and Administration of Development Alternatives, Inc. (DAI), is a certified public accountant with in-depth experience in government contracting, research and development, and higher education. He spent five years in one of the largest accounting firms in the United States and was responsible for audit engagements in computer leasing and time sharing, real estate, higher education, mortgage banking, food service, and retailing. Since 1980 he has been in charge of the financial management of DAI, a corporation with annual revenue of $14 million.

PROFESSIONAL EXPERIENCE

Development Alternatives, Inc.

Vice President for Finance and Administration (1985-present)
Responsible for the firm's financial management, administration, contract administration, and overseas project support offices.

Controller (1980-1985)
Was responsible for financial management, including corporate budgeting, financial reporting, audit coordination, contract administration, billings and collections, project cost accounting, general accounting, and cash management. He redesigned the corporate accounting system and instituted more effective controls and procedures for purchasing and disbursements. He was responsible for negotiating interest cost rates, banking, taxes, and all cost controls including monitoring of overhead and project budgets.

Controller
The American University (1973-1980)
Had administrative responsibility for payroll, grant and contract administration, student accounts, student loans, cashiers, budget control, and related controllership functions. All financial reports, including university financial statements, tax returns, and indirect cost proposals prepared under his direction. Also responsible for coordinating with external auditors and negotiating indirect cost rates. Extensive experience in developing automated financial systems. Supervised 50 persons.

Supervisor of Revenue Accounting and General Accounting
National Railroad Passenger Corporation (AMTRAK) (1972-1973)
Was responsible for completing all financial reports, including monthly reports to Congress, Department of Transportation Board of Directors, and the Interstate Commerce Commission. Responsible for planning and controlling monthly closing schedule; supervising general accounting staff, including bookkeeper, staff accountants, and accounting clerks; and supervising revenue accounting staff, including billing clerks, travel agent accountants, cash control clerks, refund clerks, and sales report auditors.

Senior Accountant
Arthur Andersen & Co. (international public accounting firm) (1967-1972)
Was responsible for completing audit engagements, including lead responsibility on several publicly held companies. As senior accountant, duties included planning, execution, and control of audit engagements, and responsibility for training and evaluating professional staff, preparing financial statements, reviewing bond and note compliance, and preparing recommendations to management. Securities and Exchange Commission reporting experience included familiarity with Securities Acts of 1933 and 1934 as they pertain to financial matters.

EDUCATION

Mr. Stauss received a B.A. degree in accounting from Duke University in 1967 and an M.S. degree in accounting from The American University in 1979.

8/89

Development Alternatives, Inc.

Curriculum VITA: John Michael Tacon

Nationality: New Zealander/ British (Dual Passport holder)

Summary of Experience:

John Tacon has had more than 14 years of experience working in various aspects of agriculture and international development in Australia, New Zealand, Nepal, Pakistan, and Afghanistan.... For nearly 10 years after graduating from University he worked in various aspects of commercial agriculture with an emphasis on horticulure and fruit production.... For the last five years he has been working internationally in Nepal, Pakistan, and Afghanistan.... In Pakistan for much of the last three years he has been intimately involved with the Afghan situation. For one and a half years he was a Project Manager working with Action Internationale, (AICF), a French Voluntary Agency based in Quetta. With AICF, he helped to design and then to imlplement a series of income-generating projects for Afghan refugees.... From the late spring of 1988 until April, 1989, he was a senior agricultural program officer with Volunteers in Technical Assistance, (VITA), helping to design and implement various aspects of their program of cross-border assistance in the agricultural sector.... Currently, he is enroute to Badghis Province, in Afghanistan, on a survey mission to assess the problems of locust in that province.

Professional Experience:

Chief Technical Surveyor, Badghis Survey Mission

Afghanistan: For the summer of 1989, John Tacon is heading a technical survey mission to Badghis Province, Afghanistan, to look at the damage which locust have done to that Province. He is traveling with a party of Afghan surveyors, to direct them, and to make recommendations about possible ways to deal with the problem. This work is being done under the auspices of the Agrilcultural Survey of Afghanistan. (Summer, 1989)

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Afghanistan: For Volunteers in Technical Assistance, Mr Tacon served as a senior agricultural program officer, where he had wide ranging responsibilities helping to design and manage a cross-border agricultural assistance program. He worked with various components of this project, including seed and fertilizer supply to Kandahar province,s well as various parts of the program of agricultural mechanization. He participated extensively in the formulation of field strategies dealing with the allocation and distribtuion of agricultural commodities and equipment. He assisted with extablishing and maintaining relations with various commercial suppliers of agricultural equipment from Pakistan to the Afghan markets. He assisted with in-country procurement. (May, 1988--April, 1989)

Quetta, Baluchistan: For Action Internation.tale (AICF) Mr Tacon served as a project manager on a UNHCR funded program, working with Afghan refugees. His range of activities covered refugees living in all four provinces of Pakistan, but concentrated on refugees in Baluchistan. His work involved very close liaison with refugees in camp situations, to generate employment programs, with an emphasis on agriculture. (December 1986-April, 1988)

Punjab, Pakistan: Horticultural consultancy. Short term farm assessment project for Leghari Farms, Ltd. (August-November, 1986)

France and Spain: Extensive travael throughout Europe to include study of the developing Kiwi-fruit industry in France and Spain. (1895/86)

Nepal: Project Assistant, Royal chitwan National Park, Field assistant on wildlife rehabilitation Project, within the national wildlife sanctuary in the Terai region of Nepal. (1984/1985)

Sydney, Australia: Private consultant working extensively on problems relating to the establishment and development of kiwi fruit orchards. Range of business activities covered New South Wales, and Victoria States. (1980-1983)

Sri Lanka, India, Thailand, Nepal: travel through these countries to study development assistance projects. (1983)

Auckland, New Zealand: Wilth Dalgety Horticulture, Ltd. was assigned to establish and development their horticultural extension service, with particular regard to the establishment of sub-tropical fruit orcharads and

the export of fresh fruit commodities. Business activities covered Auckland, Bay of Plenty, and Bay of Islands Regions. (1977-1980)

Auckland, NZ: With Dalgety, Ltd, served as agricultural consultant and sales representative, to expand the company's agricultural sales and extension services within the Auckland region.

Hamilton, NZ: At Ruakura Agricultural Research Station, Mr Tacon was assigned as a Field Technician to establish and monitor field research projects.

Education:

a.) Pakuranga College, Auckland, New Zealand

-- 1972 Graduate: University Entrance Pass in Math; physics, english, biology, and geography

-- Massey University, Palmerstone North, NZ. 1975 graduate: diploma of Agriculture, 3 years Agricultural Management Course.

May, 1989

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Development Alternatives, Inc.

MILES F. TODER

Miles F. Toder, a member of the Washington-based staff of Development Alternatives, Inc. (DAI), is a specialist with unusually diverse skills in the organizational, informational, methodological, and systemic dimensions of project planning and development administration. Dr. Toder's expertise has been applied to the research, analysis, and formulation of final recommendations for DAI's work in Pakistan in designing an implementable and feasible plan for development of the Punjab Province's rainfed sector. His long-term overseas experience includes two and a half years on the Sudan Regional Finance and Planning Project, financed by USAID, in the Kordofan Region of western Sudan. There, as an advisor assigned to the newly appointed Director of Planning, Dr. Toder played a key role in organizing, staffing, and developing systems for the Ministry of Finance and in assisting the government in making operational a decentralized development administration system. Dr. Toder has lectured and conducted research on the use of strategic planning approaches in public sector development programs. He holds a Ph.D. in urban and regional planning and speaks Spanish.

PROFESSIONAL EXPERIENCE

Director of Information Management and Proposals
Development Alternatives, Inc. (1989-present)
Responsible for systems design, planning, and operation of the firm's computerized production and information management network. As a specialist in the use of information for decision making, serves as the liaison between the firm's technical specialists in computer software and hardware functions, and the international development staff and senior management. Supervises the conceptual development, writing, presentation, production, and quality control of proposals for new long-term projects.

Visiting Professor of Urban and Regional Planning
Florida State University (August 1986-December 1988)
Responsible for instruction at the graduate and undergraduate levels in the areas of comprehensive planning and growth management, planning theory and methodology, and applied studio exercises. Other activities included formulation of a development planning specialization with emphasis on less-developed countries, supervision of doctoral candidates, and policy review for the college's computer facilities.

Regional Planning Specialist
Master Plan for Barani Area Development Project, Pakistan, Asian Development Bank/DAI (August 1987-January 1988)
Responsible for the agricultural strategy plan component of the Master Plan for Barani Area Development Project. This project required the integration of technical substudies in agronomy, natural resource management, and socioeconomics to generate a 10-year strategy plan for the rainfed areas of Punjab Province, Pakistan. Established a method for assessing and ranking several possible project, program, institutional, and policy interventions according to regional development criteria.

Planning and Growth Management Consultant
Dames & Moore, Environmental Consultants, Tallahassee, Florida
(October 1986-March 1987)
Prepared a comparative assessment of environmental issues and strategies at the state level in the United States to assist the Alabama Environmental Planning Council in setting the state's legislative agenda.

Planning and Growth Management Consultant
Department of Community Affairs, State of Florida (1986-1988)
Analyzed the technical and administrative capacity of small communities throughout the state to institute comprehensive planning and growth management policies and regulations that tie future growth to the communities' ability to provide adequate public services and infrastructure. Authored a guide for Planning Commissioners charged with oversight of local growth management programs.

Internship Program Trainer
Florida Economic Development Center, College of Business, Florida State University, Tallahassee, Florida (summers 1987 & 1988)
Under sponsorship of the U.S. Department of Commerce, provided training for interns on the role of economic development specialists in the public decision making process, use and misuse of data in economic analysis, and the legislative requirements concerning growth management in the State of Florida.

Microcomputer Systems Analyst and Applications Consultant
Madison, Wisconsin (1984-1986)
Advised small businesses, university faculty, and students on computer systems and software to meet particular needs. Provided training in classroom settings and on a tutorial basis to clients in the use of statistical, spreadsheet, database, accounting, financial, and word processing software; and engaged in technical consultation on specific computer applications projects including survey analysis, graphics production, capital budgeting exercises, real estate investment analysis, direct mail marketing, and database development.

Regional Planning Advisor
Kordofan Region, USAID/Sudan Regional Finance and Planning Project, Development Alternatives, Inc. (May 1982-October 1984)
Established a planning department within the Regional Ministry of Finance laying the foundation for a large-scale development initiative by numerous international donors. Responsibilities included: assessment of training needs of Sudanese officials in areas of financial management, public administration, and regional planning; providing advice on the design, analysis, and implementation of agricultural development projects financed primarily by U.S.-generated local currency; formulating and instructing short courses and workshops in conjunction with the University of Khartoum; introducing new perspectives, procedures, and techniques for project planning in light of regional strengths and weaknesses; and serving as an advisor on investment promotion activities within the region by reviewing investment proposals, plans, and policy instruments.

President
WordPro Corporation, Madison, Wisconsin (1981-1982)
Founder and managing director of a word processing and microcomputer business providing a variety of production services to the university community, consulting firms, and small businesses. The firm was the first in the mid-West to make emerging microcomputer technology available to the public on a self-service basis and to integrate printing and communications services vertically with word processing work stations.

Project Specialist/Regional Planner
Regional Planning and Area Development Project, University of Wisconsin at Madison (1979-1981)
Served as a regional planner on a USAID-funded cooperative agreement with the University of Wisconsin to design and support training programs for USAID missions and host government personnel in regional development planning principles, methods, and techniques. Conducted applied research on organization, methods, and development implications associated with decentralization in the African, Asian, and Latin American context. Provided short-term technical assistance in decentralized planning and area development strategies to the USAID missions in Sudan and Honduras. Designed the strategic planning and plan formulation process for the development program in the central Tunisia region.

Associate Planner
Leo Jakobson, Consultant in Urban Planning, Management, and Design, Madison, Wisconsin (1977-1980)
Established development planning programs for a depressed region of western Michigan facing severe environmental problems; served as consulting planner to local government clients for administration of land use and growth management policies and regulations; formulated community master plans in cooperation with local staff, government officials, and citizen groups; developed policies, tools, and techniques for implementing plan objectives and managing growth in an environmentally sensitive area.

EDUCATION

Miles Toder received a Ph.D. in urban and regional planning from the University of Wisconsin at Madison in 1986. He holds an M.S. degree in urban and regional planning and a B.S. degree in agriculture and natural resource economics, both from the University of Wisconsin.

SELECTED PUBLICATIONS

A Management Information System for the Hillside Agriculture Project in Jamaica. Development Strategies for Fragile Lands Project, DAI, Washington, D.C., July 1988.

Master Plan for Barani Area Development: A Strategic Plan for the Development of the Agriculture Sector in Barani Areas, Punjab, Pakistan. Development Alternatives, Inc., Lahore, November 1987.

A Survey of State Environmental Management and Regulatory Approaches, prepared for the Alabama Environmental Planning Task Force, State of Alabama, under contract with Dames and Moore, Environmental Consultants, Tallahassee, Florida, June 1987.

Preparing A Comprehensive Plan: Practical Considerations in Meeting Florida's Local Planning Requirements, Department of Community Affairs, State of Florida, May 1987.

A Plan for Planning: An Exploration of Strategic Planning Approaches as a Guide for the Programming of Planning Assistance for Development, Unpublished Dissertation, University of Wisconsin, Madison, Wisconsin, December 1986.

Sudan Regional Finance and Planning Project, Development Alternatives, Inc., Washington, D.C.:

- "Self-Administration in Kordofan Region: Will the 'Helpers' Help Development Planning?" *Second Quarterly Report to the United States Agency for International Development Mission*, Khartoum, Sudan, July 1984.

- "Development Budgets and Expenditures in Kordofan Region" and "Training Needs Assessment for District Level Planning Officers" in the *Final Report to the United States Agency for International Development Mission, Sudan,* September 1984.

Regional Planning and Area Development Project, University of Wisconsin, Madison, Wisconsin:

- Miles Toder and Ved Prakash, *Regional Planning Approaches in Honduras*, Consulting Report #1, April 1979.

- *The University of Wisconsin Conference on Planning in Integrated Rural/Area Development*, Conference Report No. 2, February 1981.

GIC AGRICULTURAL GROUP
208 NORTH WASHINGTON STREET
ALEXANDRIA, VIRGINIA 22314

CARY F. VIKTOR

Cary Viktor, Senior Associate with GIC Agricultural Group responsible for agribusiness services with private sector clients, has fifteen years of international and domestic management experience in a marketing at the corporate and operating levels. His expertise includes general management, planning, business development, international marketing, trading, and countertrade. For Sears World Trade, Inc., Mr. Viktor directed a business unit with full P&L responsibility for the world-wide trading of all agribusiness products and services including commodities, lumber and wood, food, live animals, machinery and equipment, development of agribusiness projects and consulting. In addition he coordinated all countertrade/offset agreements and third country trade involving agribusiness products. Mr. Viktor's international marketing experience also includes eight years with International Harvester Co. where he managed the marketing for agricultural tractors to Europe, Africa, and the Middle East. He is bilingual in French and English.

BUSINESS EXPERIENCE

GIC Agricultural Group - Present

Senior Associate

Responsible for GIC agribusiness services with private sector clients.

- **Conduct feasibility studies for acquisitions and divestiture related business**
- **Produced report on ethanol.**
- **Conduct sector reviews for GIC industry clients.**

GENERAL DYNAMICS CORPORATION - St. Louis, Missouri 1985-1988

Director, International Offset-Capital Projects

Responsible for the identification, development, approval, implementation and management of all indirect offset projects involving corporate asset commitments and all countertrade projects.

- **Managed three joint venture Hilton hotel investment projects in Turkey involving over $5 million in General Dynamics' equity capital resulting in $70 million of offset credit.**

• Selected and coordinated with a major U.S. trading company the development of a $300 million countertrade proposal in Malaysia.

• Participated in the development of offset proposals for Greece, Israel, Korea, Switzerland, and U.K.

Director, International Offset-Turkey

Responsible for the development and implementation of the company's $1.27 billion indirect offset program in Turkey.

•. Identified, developed and implemented projects involving investments, technology transfers, exports, and marketing assistance totaling over $400 million in offset credits.

• Assisted the Turkish Government in the development of its indirect offset implementation andproject approval procedures.

SEARS WORLD TRADE, INC.-Washington, D.C. 1982-85

Director-Agribusiness

Credited and directed a business unit with full P&L responsibility for the worldwide trading of all agribusiness products and services, including: commodities, lumber and wood, food, live animals, machinery/equipment, development of agribusiness projects and consulting. Coordinated all countertrade/offset agreements and third country trade involving agribusiness products.

• Generated over $20 million in revenues the first 18 months with an average trading profit margin of 6%.

• Conducted offset transactions totaling $5 million in Europe, Latin America, Africa and the Far East.

INTERNATIONAL HARVESTER CO. - Chicago, Illinois 1974-82

Manager, Marketing - Agricultural Tractors (Europe, Africa, Middle East)

Managed the development of sales forecasts, sales promotions, distributor and affiliate pricing, new product development, marketing plans and straategies. Over $500 million in sales.

• Reduced dealer inventories and increased plant inventory turnover.

• Negotiated an agreement with an Italian manufacturer to

furnish finished product at 20% lower cost than in-house product.

- Improved market share in major European markets, despite adverse economic conditions.

General Manager - International Tractor and Equipment Company

Full P&L accountability for the overall performance of this newly formed I.H. subsidiary. Achieved revenues of nearly $60 million.

- Reduced company manufacturing costs by 15%.

- Developed an effective market strategy to sell European built tractors in the massive U.S. and Canadian markets.

- Reduced company inventory and increased plant inventory turnover.

- Obtained $3.2 million in industrial revenue bond financing from the state of Mississippi.

Project Manager-Agricultural Tractors

Coordinated all marketing, manufacturing, engineering and product development for a full line of European manufactured tractors, as well as functioning as project manager for joint ventures in Spain and Japan.

- Improved distribution and profitability of a tractor line in the U.S. and Canadian domestic markets.

- Achieved a 20% reduction in the product cost of British manufactured tractors.

Manager-Labor Utilization Improvement Program

Directed a 40 man task force in developing and implementing improved efficiency and production systems for six North American plants.

- Achieved overall operational efficiencies and reduced manufacturing costs by $40 million.

Market Planning Manager - I.H.France

Responsible for the development and implementation of marketing plans and strategies, sales forecasts, dealer development, and product pricing for both agricultural and construction equipment in France.

- Introduced new market tactics which lead to an increase in market shares (to 18.5%) in France.

Market Research and Intelligence Consultant

Responsible for all facets of market research and analysis, sales forecasting, product and competitive analysis, and special marketing projects.

- Completed two worldwide trips to coordinate the company's ten year long range computerized forecasting system.

Developed a centralized statistical and information library on a worldwide basis, including competitive analysis by product line.

MASSEY-FERGUSON INC.-Des Moines, Iowa 1971-74

Managed all market planning activities for the North America agricultural tractor market.

- Developed effective market strategies resulting in improved market share position.

- Created and implemented a computerized forecasting model.

Market and Economic Research Analyst

Performed market, economic analysis and forecasts for recreational equipment, agricultural and construction machinery and equipment.

EDUCATION

B.S., Marketing-Drake University, 1968

MILITARY

U.S. Army, First Lieutenant, 1968-71, Distinguished military graduate

Engineer Officer Candidate School

PERSONAL

Excellent health.
Born February 19, 1946

46

Development Alternatives, Inc.

DAVID C. WILCOCK

David Wilcock, a senior staff member of Development Alternatives, Inc. (DAI), is an agricultural economist with extensive experience in development policy analyses and agricultural projects in developing countries. His project experience includes work in the design, implementation, and evaluation of projects and programs in farm management, agricultural marketing systems, agricultural extension, and policy analysis. Dr. Wilcock is thoroughly familiar with survey design, field research methods, and statistical data analysis. A particular specialty is microcomputer applications for farm and project management and cost-benefit analysis. He has an excellent knowledge of French. Dr. Wilcock currently directs a major study on policy options for the African Development Bank's agricultural lending program.

PROFESSIONAL EXPERIENCE

Senior Agricultural Economist
Development Alternatives, Inc. (June 1986-present)

Dr. Wilcock has carried out overseas assignments as a staff member of DAI or, previously, as an associate.

Africa: Agricultural Sector Study (January 1988-February 1989)
Directing a major study of the agricultural sector in Africa for the African Development Bank. The objective of this 14-month effort is to refine policy options and organizational implications for the Bank and its lending program. The study involves the efforts of more than 30 professionals and has three phases: a comprehensive review of the literature, field assessment of the Bank's agricultural lending portfolio, and analysis of operational implications and policy options.

Morocco: Cereals Marketing Reform Project Design (September-October 1987)
Serving as marketing specialist in the design of an AID project intended to contribute to increased production of key cereals, improved efficiency in the operation of marketing channels, and reduced levels of subsidization to production and marketing units in the overall system. Analysis involves both the technical and the policy aspects of cereal marketing economics in Morocco.

Niger: Agricultural Marketing Study (June-July 1987)
Reviewed the status of agricultural marketing in Niger across all major crop and livestock commodity subsectors; analyzed constraints to an expansion of domestic and export agricultural trade; and explored opportunities for reform in fiscal, administrative, and regulatory policies to expand trade opportunities, particularly exports to Nigeria and other countries in the ECOWAS region.

Sri Lanka: Agricultural Economist/Mahaweli Agriculture and Rural Development (MARD) Project Design (March-April 1987)
Conducted farm-level crop enterprise and whole farm budget analysis and overall project financial and economic analyses in the Mahaweli irrigation system. Project activities focused on applied agricultural technology research and rapid extension transfer to farmers, promotion of farmer water management associations, and instigation of high impact marketing and market development services for new irrigated crops.

Mali: Team Leader/Agricultural Policy Reform Assessment
(December 1986-February 1987)
Leader and agricultural economist on a three-person team assessing impact on producers, consumers, and market channel efficiency of a multidonor program of restructuring and liberalizing the marketing of sorghum, miliet, maize, and rice.

Rwanda: Social and Institutional Profile (SIP) (June-September 1986)
Agricultural economist on an interdisciplinary team writing the Rwanda SIP. Analyzed institutional structure and performance in the agricultural sector to assist in the elaboration of a USAID country program for a five-year investment strategy.

United States: Program Analysis (August-October 1984)
Principal author of an AID program evaluation report synthesizing worldwide project experience in the provision of agricultural inputs, credit, and marketing services to small farmers. Conclusions were presented and debated at program evaluation synthesis conference workshop.

Mali: Team Leader/Project Evaluation (October-November 1984)
Team leader and agricultural economist on midterm evaluation of the USAID-funded ICRISAT research project. Focused on sorghum and millet breeding and agronomy and led to redesign of project's second phase.

Extension Economist
University of Massachusetts, Department of Agricultural and Resource Economics (June 1981-June 1986)
In addition to developing curriculum and teaching classes in microcomputer applications in agricultural economics, was responsible for extension, research, teaching of farm management, and applied agricultural marketing. Extension program emphasized record keeping, farm financial analysis and planning, and on-farm use of microcomputers.

Applied research projects were carried out on the economics of vegetable, fruit, and forage crop production. Extension programs included computerizing the Massachusetts Cooperative Extension Service, establishing the first microcomputer training laboratory in the College of Agriculture, and directing a USDA-funded intensive farm management program that provided financial and management assistance to farmers throughout southern New England.

Assistant Professor/Chief of Party
Michigan State University/USAID Integrated Rural Development Project, Fada N'Gourma, Burkina Faso (1977-1981)
Served as Chief of Party and agricultural marketing economist of a seven-person technical assistance team in the eastern region of Burkina Faso. Assistance was provided to a regional development and extension service in the areas of farm-level economic research, credit and cooperative programs, animal traction and livestock development, and audio-visual technology. Was responsible for overall management of field operations; research; and implementation of agricultural marketing systems, farm management, and regional planning.

Independent Consultant

Carried out numerous assignments as agricultural economist for a variety of clients:

USAID/BIFAD: Special Study (August 1985-April 1986)
Directed study that conducted interviews with 60 persons involved in U.S. university institution-building contracts to develop agricultural colleges in nine African countries.

Institute of World Affairs: Seminar Director (July 1985)
Served as academic director for month-long seminar entitled "Food, Famine, and Agricultural Development," given by the Institute of World Affairs. Recruited 24 speakers from academia and government to discuss issues with students from nine countries.

Burkina Faso: Training and Evaluation (July 1982)
Advised USAID on second five-year phase of rural development programming in the eastern part of the country. Conducted one-week in-service training for regional agricultural extension personnel.

Tuskeegee Institute: Computer Applications (April 1981)
Advised Tuskeegee Institute on computer applications in rural development projects for Francophone West Africa.

Syracuse University: Project Preparation (November 1980)
In preparation for Local Revenue Administration Project in Burkina Faso, advised team members on regional planning and farm management data sets previously collected by Michigan State University.

Burkina Faso: USAID Sahel Planning (October 1976)
Represented USAID on the Drylands Agricultural Working Group CILSS/Club des Amis du Sahel in one-week working group meeting. Produced report for USAID and FAO.

Burkina Faso/Niger: Agricultural Marketing (October-December 1975)
Evaluated agricultural marketing program of Eastern ORD Rural Development Project funded by USAID. Reviewed the performance and status of the national grain-marketing boards of the two countries.

Washington, D.C.: Statistical Analysis (December 1974-January 1975)
For the Overseas Liaison Committee of the American Council on Education, analyzed survey data and wrote up results of the Senior Fulbright-Hays academic exchange program in Africa.

Research Analyst
Bureau of Social Science Research, Washington, D.C. (September 1971-August 1973)
Served as research analyst for the Legal Action Support Project, funded by OEO Legal Services. Analyzed numerous programs at local, state, and national levels, particularly in public assistance and housing.

Peace Corps Volunteer
U.S. Peace Corps, Katiola, Ivory Coast (June 1968-June 1970)
Taught English as a foreign language in a government secondary school. Also conducted in-country training of new English teachers and assisted in a village primary school vegetable-gardening program.

RELATED PROFESSIONAL SKILLS

Dr. Wilcock has an excellent knowledge of written and spoken French (FSI 3.5-4.0), and some knowledge of Spanish, Italian, Dioula, and Gourmantche. His computer skills include extensive use of spreadsheets; data base management; word processing; and statistical and communication packages for use with a variety of micro, mini, and mainframe computers.

EDUCATION

David Wilcock received a Ph.D. degree in agricultural economics from Michigan State University in 1978. He holds two Master's degrees, one in economics from Michigan State University (1975), the other in political science from the University of California at Berkeley (1971). He did his undergraduate work in political science and economics at the University of Illinois, graduating in 1968.

4/88

PUBLICATIONS

"Agricultural Marketing in Niger: Current Situation, Constraints, and Possible AEPRP Program Components," DAI, Washington, D.C., August 1987.

(Co-author with Alan Roth and Steve Haykin), "Grain Marketing Liberalization in Mali: An Economic Policy Reform Assessment," Robert R. Nathan Associates and DAI, Washington, D.C., February 1987.

(Co-author with Valens Ndoreyaho), *Rwandan Agriculture at a Watershed*, Vol. II of *The Rwanda Social and Institutional Profile*, DAI, Washington, D.C., January 1987.

"Rainfall, Government Policy and Food Security: Examples from Africa," presented at Conference on Economics, Politics and Hunger, University of Massachusetts, Amherst, October 1986.

(Co-author with George McDowell), "Building Colleges of Agriculture in Africa: US University Experiences and Implications for Future Projects," *USAID/BIFAD Occasional Paper No. 6*, Washington, D.C., August 1986.

(Co-author with George McDowell), "Defining Equity and Excellence in Higher Education: Applying the American Land-Grant Model to African Agricultural Colleges," *Equity and Excellence: University of Massachusetts Education Quarterly*, Vol. 22, Summer 1986.

"Computer Software Applications to Small Fruit Business Management," *Proceedings of the New England Small Fruit School*, University of New Hampshire, January 1986.

"Using a Team Approach in the Provision of Farm Financial Management Advisory Services: A Report on the Southern New England Intensive Farm Management Project," paper presented at national "Workshop on Extension Response to the Farm Financial Crisis," St. Louis, October 1985.

"Infrastructure: A Key to Food Security," *National Development: Middle East/Africa*, Vol. 26, No. 6, August 1985: 24-29.

(Co-author with Ray Solem et al.), "Agricultural Credit, Input and Marketing Services: Issues and Lessons from AID Project Experience -- An Introductory Review," *AID Program Evaluation Report No. 15*, USAID, Washington, D.C., August 1985.

(Co-author with David Holm), "Making a Whole Farm Plan from Process Budgets," *UMASS CES Vegetable Budgets 1985-1*, The Cooperative Extension Service University of Massachusetts, Amherst, July 1985.

(Co-author with David Holm), "A Process Budget for Broccoli Production," *UMASS CES Vegetable Budget 1985-2*, The Cooperative Extension Service, University of Massachusetts, Amherst, July 1985 (This publication series, 1985-2 through 1985-18, contains process budgets for 17 separate vegetable crops).

(Co-author with Gail Adams and Prescilla Andrew), "Costs and Returns to Apple Production in Massachusetts", a paper presented at the New England Extension Training Conference in Farm Management, Northwood, New Hampshire, October 1984.

(Co-author with Helene Freidberg), *The ELFAC Handbook*, Brandon, Vermont, October 1984.

Co-author with Kifle Negash), "The Food Crisis in the Sahel: A Case Study of Agricultural Development in Upper Volta," Paper presented at 1983 Meeting of the Africa Studies Association, Boston, Massachusetts, December 1983. (Published in conference proceedings).

(Co-author with Anthony Hall et al.), "Midterm Evaluation of Semi-Arid Tropics Crops Research: Phase II, ICRISAT/Mali," Development Alternatives, Inc., Washington, D.C., November 1983.

"Expanding Computer Use in the Massachusetts Cooperative Extension Service," Massachusetts Cooperative Extension Service, November 1983.

(Editor), "The On-Farm Computer: A New Tool for Agriculture," Massachusetts Cooperative Extension Service Publication No. SP-141, January 1983.

(Co-author with Gregory Lassiter and Assefa Mehretu), "Recherche Appliquee dans l'Est de la Haute-Volta: Trouvailles Majeures et Recommendations pour des Programmes Futur," Department of Agricultural Economics, Michigan State University, November 1982 (Monograph, 42 papers).

(Co-author with Euyinna Chuta), "Employment in Rural Industries in Eastern Upper Volta," *International Labour Review*, Vol. 121, No. 4, July-August 1982.

(Co-author with Vincent Barrett et al.), "Animal Traction in Eastern Upper Volta: A Technical, Economic and Institutional Analysis," Michigan State University, Department of Agricultural Economics: *MSU International Development Paper No. 4*, 1982.

(Co-author with Andrew Bloom), "Insuring This Year's Corn Crop," *Dairy Digest*, Massachusetts Cooperative Extension Service, University of Massachusetts, Amherst, April 1982.

"1982: Time to Revise Your Estate Plan," *Dairy Digest*, Massachusetts Cooperative Extension Service, University of Massachusetts, Amherst, February 1982.

"Taxes, Minimum Wage and Social Security," *Management Memo*, Department of Agriculture and Resource Economics, University of Massachusetts, Amherst, December 1981.

"New Federal Tax Law: Parts I and II," *Dairy Digest*, Massachusetts Cooperative Extension Service, University of Massachusetts, Amherst, November 1981.

"Highlights of 1980 Dairy Farm Business Analyses," *Dairy Digest*, Massachusetts Cooperative Extension Service, University of Massachusetts, September 1981.

"Rural Small Scale Enterprises in Eastern Upper Volta: Survey Results," Michigan State University, Department of Agricultural Economics: *African Rural Economy Working Paper No. 38*, August 1981 (also in French).

(Co-author with Eric Crawford and Gregory Lassiter), "The Farm-Level Impact of Animal Draft Power: Survey Results from Upper Volta," Michigan State University, Department of Agricultural Economics, *Staff Paper No. 81-15*, March 1981 (paper presented at AAEA annual meeting, Clemson, S.C., July 1981).

(Co-author with Ismael Ouedraogo): Les Activites de Commercialisation des Produits Agricoles et Animaux par les Menages Paysans de l'ORD de l'Est (Fada): Resultates Preliminaires de l'Enquete Micro-Economique," Fada N'Gourma, Upper Volta: ORD de l'Est, B.A.E.P., July 1980.

(Co-author with Assefa Mehretu), "Regional Planning Working Paper No. 1: The Eastern Region of Upper Volta," Michigan State University, Department of Agricultural Economics, November 1979.

"Rapport de Synthese sur le Travail en Planification Regionale," Fada N'Gourma, Upper Volta: ORD de l'Est, B.A.E.P., August 1979.

(Co-author with Dahany and Stickley), "Expose du Programme Pilote sur les Banques Cereales," Paper presented at C.E.A.O. sponsored Sahel Grain Storage Conference, Ouagadougou, Upper Volta, November 28, 1978.

The Political Economy of Grain Marketing and Storage in the Sahelian States of West Africa. Unpublished Ph.D. dissertation. Michigan State University, March 1978.

(Co-author with Mark Newman), "Food Self-Sufficiency Marketing and Reserves: A Working Bibliography," Michigan State University, Department of Agricultural Economics: *African Rural Economy Working Paper No. 16*, September 1976.

(Co-author with Carl Eicher et al.), "An Analysis of the Eastern ORD Rural Development Project in Upper Volta: Report of the M.S.U. Mission," Michigan State University, Department of Agricultural Economics: *African Rural Economy Working Paper No. 9*, January 1976.

(Co-author with Lewis et al.), *The Senior Fulbright-Hays Academic Exchange Program in Africa A Review of Policies and Procedures*, Washington, D.C.: Overseas Liaison Committee, American Council on Education, January 1975.

(Co-author with Gary W. Bickel), *The Supplemental Security Income Program: Estimated Impact by State*, Washington, D.C.: Bureau of Social Science Research, Legal Action Support Project Report No. 6, January 1974.

(Co-author with Goodman et al.), *Sources and Uses of Social and Economics Data: A Manual for Lawyers*, Washington, D.C.: Legal Action Support Project, Bureau of Social Science Research, September 1973.

Report on Benchmark I. Washington, D.C.: Legal Action Support Project, Bureau of Social Science Research, February 1972.

Development Alternatives, Inc.

GENE F. WHITE

Gene White, an associate of Development Alternatives, Inc. (DAI), is a civil engineer who specializes in the feasibility, design, construction, operation and maintenance, management, evaluation, and monitoring of irrigation systems. He has 30 years of professional experience in the field of water resources development, including 12 years resident experience in Asia in the field of irrigation. His irrigation experience includes seven years in Pakistan; four years in Indonesia; three years in Nepal and Bangladesh; and short-term assignments in Malaysia, Thailand, the Philippines, Niger, Mauritania, and Senegal. His irrigation assignments have included project management, liaison with government officials, design reviews, groundwater development, construction supervision, operation and maintenance, on-farm water management, establishment of water user groups, and transfer of knowledge. Mr. White's experience on projects related to irrigation include feasibility planning, final design, cost estimating, specification writing, construction supervision, evaluation, operation and maintenance for drainage canals, hydraulic structures, water transmission pipelines, water collection systems, mining and industrial water supply systems, earth dams and spillways, tubewells, and hydroelectric projects.

PROFESSIONAL EXPERIENCE

Irrigation Specialist
Development Alternatives, Inc. (November 1984-present)

Pakistan: Command Water Management Project Evaluation/Tribal Areas Project (August-September 1988)

Served as irrigation engineer on a team that carried out a midterm evaluation of the Command Water Management Project. Evaluated the progress and quality of the construction of canals and the progress the project had made toward improving water management practices.

Following this assignment, Mr. White traveled to the Bajaur Agency of northern Pakistan to evaluate the possibility of installing drip and sprinkler irrigation systems at remote sites in the tribal areas. Discussions were held with farmers, government agricultural officials, and government officials concerning the feasibility of this installation.

Mauritania: Dirol Plain Development Project Design (March 1988)

Member of a seven-person team that prepared a Project Paper for the Dirol Plain Development Project. The project consisted of a floodgate designed to retain floodwater and excess rainfall that could be used for improved recessional agriculture. Carried out field investigations; researched construction materials; selected alternative site locations; assessed erosion conditions; obtained construction unit prices; and prepared plans for floodgate utilization, operation, and maintenance. This was the second visit to this project.

Pakistan: Master Plan for Barani Area Development
(October-November 1987, February-March 1988)
Member of an eight-person team that prepared a Master Plan for the Barani (rainfed) areas of the Punjab and carried out feasibility studies for the construction of mini-dams, lift-pump stations, river intakes, and hand-dug wells and tubewells to provide irrigation water to the Potwar Plateau. The studies were financed by the Asian Development Bank.

Senegal: Southern Zone Water Management Project Design
(August-September, November-December 1987)
Member of a four-person team that prepared a study of the feasibility of providing anti-salt dikes to prevent salt-water intrusion and allow reclamation of salt-affected lands in the Casamance Basin of southern Senegal. These studies included preparation of field surveys, preliminary engineering designs, cost estimates, and construction specifications for anti-salt systems consisting of earthen dikes and concrete control structures. This assignment was carried out in two parts. The feasibility was carried out during the first visit and surveys; preliminary designs and cost estimates for the project paper were prepared during the second visit.

Mauritania: Mauritania River Valley Project Design (April-May 1987)
Prepared engineering and hydrological sections and annexes to the project identification document and project paper. This project will install and manage water control infrastructure, including floodgates and dikes, for flood-plain recessional agriculture on the Dirol Plain in southern Mauritania, where sorghum is the primary crop.

Indonesia: Paniai Lakes, Irian Jaya Design (February-March 1987 on loan to the United Nations Development Programme)
Carried out a project identification/feasibility study of the irrigation potential and drainage requirements for the area surrounding the Paniai Lakes in the highlands of Irian Jaya, Indonesia. A preliminary design and cost estimate were prepared for a regulation overflow spillway that was proposed to regulate the level of the largest lake. In the adjacent Kamu Valley, made a reconnaissance of existing drainage canals and prepared a preliminary plan and cost estimate to rehabilitate, expand, and complete the system. The irrigation potential in the Kamu Valley was also investigated. One pilot project was identified and located. The feasibility of setting up a water user group was examined, and a maintenance plan for the drainage system prepared. A 75-page report was prepared, which included existing conditions, preliminary designs, cost estimates, recommendations, and proposed future scope of work to implement the project.

Indonesia: Business Development, Irrigation and Agriculture
(December 1985-April 1987)
Carried out business development activities in Jakarta, Indonesia, in the fields of irrigation and agriculture.

Pakistan: North West Frontier Area Development Project (July-October 1986)
As an irrigation advisor for the engineering staff of the Project Coordinating Unit (PCU) in the North West Frontier of Pakistan, returned a third time to this project. On this assignment, determined the feasibility of several small hill irrigation projects, advised on final designs of hill irrigation systems, inspected hill irrigation projects under construction to determine construction adequacy, advised on construction supervision, and prepared designs and cost estimates for constructing five tubewells.

Pakistan: North West Frontier Area Development Project
(May-June and September-November 1985)
As a short-term irrigation specialist for this poppy-substitution project, carried out a study to determine the irrigation potential for a 200-square-mile area, selected potential irrigation projects, performed feasibility planning, participated in surveys, and directed final designs and contract document preparation. Investigated elements of water law and the feasibility of establishing water user groups. Provided on-the-job training to local engineers and assistants in survey, design, contract document preparation, and construction supervision for irrigation works and other project infrastructure facilities such as roads, schools, and water supply systems.

Niger: Niger River Basin Authority Evaluation (December 1984)
Served as member of evaluation team to determine the progress made by the Niger River Basin Authority toward development of a plan to use the waters of the Niger for irrigation, navigation, hydroelectric development, and water supply. Made recommendations regarding the need for further socioeconomic studies and conducted a review of the objectives of planned developments. Assessed the role of the Corps of Engineers in this project.

Principal Irrigation Engineer
International Engineering Company (1973-1984)

Pokhara, Nepal: Project Manager, Hill Irrigation Project (1982-1984)
Led a five-person team that prepared final designs, cost estimates, and contract documents and carried out financial analysis for the Begnas Dam and the Chapakot Irrigation Canal and Tunnel System. Assisted with management of the subprojects and construction supervision. Transfer of knowledge and training of local personnel were important components of this project, which consisted of seven small hill irrigation subprojects in the western region of Nepal. Supervision of all subprofessional staff was carried out in Hindi. Spent nine months in residence in Nepal.

Colorado, U.S.A.: Project Manager, Chevron Shale Oil Project (1980-1982)
Was responsible for feasibility planning for all water supply, control, and delivery systems for a $5-billion shale oil project. Systems included pipelines, dams, diversion facilities, pumping stations, flood protection facilities, and water diversion canals.

Assistant Chief, Irrigation Department (1979)
Prepared irrigation proposals and carried out business development for irrigation projects in Malaysia, Thailand, and Nepal.

Ugung Pandang, South Sulawesi, Indonesia: Team Leader, Sederhana Irrigation and Land Development Project (1976-1978)
Led a five-person team that was responsible for project management, liaison with provincial public works officials, design review, construction supervision, operation, maintenance, and setting up water user groups for more than 100 small, simple irrigation projects located in seven provinces of eastern Indonesia. Prepared training courses for irrigation design, construction supervision, and on-farm water management. Provided on-the-job training and assistance for monitoring performance of irrigation systems.

Colorado, U.S.A.: Group Leader. Rio Blanca Shale Oil Project (1975)
Was responsible for feasibility planning for water supply, control, and disposal facilities for a shale oil project. Duties included preparation of conceptual layouts and quantity estimates for pipelines, earth dams, spillways and irrigation, supply and drainage, and flood protection canals.

California, U.S.A.: Project Engineer, Kings River Project (1974)
Prepared a feasibility study of hydro-power generation and irrigation facilities. Duties included carrying out computer power operation studies, hydraulic designs, and cost estimates, and preparing progress reports.

Dacca, Bangladesh: Project Engineer, Muhuri, Halda, Ichamati, and Dakatia Irrigation Projects (1973-1974)
Was responsible for preparation of feasibility-level hydraulic designs, operations studies, and cost estimates for four irrigation projects.

Project Engineer
Denver, Colorado, U.S.A.: W. W. Wheeler and Associates (1968-1973)

Project Engineer, Henderson and Ranch Creek Projects (1968-1973)
Was responsible for preparation of feasibility studies, final designs, cost estimates, and contract documents for all water supply, control, and delivery facilities for the $200-million Henderson Project, a molybdenum mine and mill built by American Metal Climax in western Colorado. Responsible for preparation of hydraulic and hydrologic designs, cost estimates, contract document preparation, project management, and construction supervision for the $7-million Ranch Creek Project, a water collection system built for Englewood, Colorado.

Project Engineer
Lahore, Pakistan: Tipton and Kalmbach, Inc. (1964-1967)
Was responsible for field location, construction supervision, and contract management of the 40,000-ha Lower Thal Doab Groundwater, Irrigation, and Land Reclamation Project (SCARP III), a part of the Indus Basin Project. Supervised one 500-tubewell and three drainage-canal irrigation contracts. The cost of the completed projects was $5 million. Supervised 7 expatriate and 75 Pakistani engineers and was responsible for on-the-job training in construction management for all Pakistani personnel under his supervision. Systems management and monitoring of the many elements of this project were a large component of this assignment.

City Engineer
Peshawar, Pakistan: U. S. Peace Corps (1962-1964)
For a city of 160,000, prepared designs and cost estimates, and supervised construction of the city's water distribution, supply, and drainage systems.

Civil Design Engineer
Tipton and Kalmbach, Inc. (1958-1962)
Prepared feasibility designs for irrigation canals, aqueducts, siphons, canal bridges, drop structures, and regulators for the $1-billion Link Canal System of the Indus Basin Project, located in Pakistan.

LANGUAGES

Mr. White is fluent in Pushtu and Urdu (FSI 3). He also speaks Indonesian (FSI 2) and French (FSI 2/3). He has made extensive use of all of these languages on professional assignments in Asia and Africa.

EDUCATION

Graduate Studies in Soil Mechanics, Earth Dams, Fluid Mechanics, and Open Channel Flow. University of Colorado, 1958-1962

B.S.C.E., Denver University, Denver, Colorado, 1957

B.A., Engineering Science, Dartmouth College, Hanover, N.H., 1956

PROFESSIONAL SOCIETIES AND REGISTRATIONS

Mr. White is a member of the American Society of Civil Engineers and is a Registered Professional Engineer in Colorado and California.

PUBLICATION

"Simple Irrigation in Asia," Annual Meeting of the Kenwood Irrigation Water District, Southeast Washington, 1983.

FOOT TRAVEL IN REMOTE REGIONS

Mr. White has spent 300 days trekking in remote mountainous regions of Nepal and Pakistan. He spent one month in both 1984 and 1985 trekking in Pakistan. He carried out long treks in Nepal in 1977, 1980, 1981, and 1982.

11/88

Development Alternatives, Inc.

JAMES M. WOLF

James M. Wolf, a staff member of Development Alternatives, Inc. (DAI), is an agricultural engineer and agronomist who specializes in irrigation management. In a 23-year career, he has worked on irrigation system siting and feasibility studies, design of water management research programs, and operations and maintenance programs for irrigation institutions. His particular interest is in gaining more agricultural productivity from existing irrigation investments. He has held resident assignments in Brazil, Pakistan, Venezuela and has led or been a member of short-term consulting teams in Latin America, Asia, and Africa. This experience has led to a sensitivity to those factors, human and managerial as well as engineering, that are necessary for more extensive use of irrigation systems.

PROFESSIONAL EXPERIENCE

Development Alternatives, Inc. (December 1988-present)
Senior staff member specializing in water management and irrigation projects. Manages efforts to identify, track, and obtain short- and long-term consulting business in agricultural and natural resource development.

Director
International Irrigation Management Institute (IIMI), Pakistan
(March 1986-October 1988)
As first Director, led IIMI Pakistan to develop strong programs of research and administration. Principal responsibilities were to:

- Establish **research** priorities and a strategy to address them. Principal author of proposals entitled "Managing Irrigation Systems to Minimize Waterlogging and Salinity Problems," and "Farm-level Irrigation Management." Contributed to other proposals and to research that deals with canal operations and with irrigation constraints to wheat production;

- Establish the **administration**. Developed and implemented a strong administrative system including policies and procedures, accounting and budgeting, procurement, transport, and staffing and recruitment. Hired 60 research, administrative, and support personnel. Established the office facilities in Lahore and the field office in Sheikhupura District;

- **Obtain funding**. Obtained substantial support from USAID and from the Dutch government and prepared proposals submitted to other donors; and

- **Interacted** with officials of the Government of Pakistan, donor representatives, and staff of projects working in the irrigation sector. Established strong, cordial, and productive relationships with irrigation and agricultural agencies.

Irrigation Management Specialist
Development Alternatives, Inc. (May 1983-present)

Sri Lanka: Interim Team Leader, Diversified Agricultural Research Project (October-November 1985)
Assisted in project initiation. Established banking and communications channels, set up housing, visited regional research centers, and made programmatic contributions to work plan. Assisted in initial placement of participant trainees.

Pakistan: Irrigation Institute Siting (November-December 1984, August 1985)
Led a four-person team to study the potential for the establishment in Pakistan of a branch center of the International Irrigation Management Institute (IIMI). On a follow-up assignment in 1985, prepared Government of Pakistan internal proposal to establish an IIMI center.

Pakistan: Design of Water Management Research Program (July-November 1984)
Led an eight-person team that planned a four-year, $17.8 million research program in water management research.

Pakistan: Irrigation System Operational and Maintenance (O&M)
(January-May 1984)
Led a three-person team that determined historical levels of expenditures for irrigation system O&M in each of Pakistan's four provinces. The team prepared estimates for future O&M funding levels to maintain the irrigation systems in good operating order.

Pakistan: Poppy Substitution Project Design (October-November 1983)
Served as agriculturist on team formulating a Special Development Plan for opium-poppy producing areas of Pakistan. Planned development support including irrigation facilities and crop and livestock extension programs, and support to range and forestry areas.

United States: Visiting Lecturer in the Department of Land, Air, and Water Resources at the University of California at Davis (1983 and 1984)
Taught a course in Tropical Agriculture that covered climatology, soils and soil management, and farming and cropping systems of the tropics. Also taught a graduate seminar, entitled "Irrigation Systems Planning, Development and Management in Developing Countries."

Agricultural Engineer and Agronomist
Frederiksen, Kamine and Associates, Inc. (August 1977-May 1983)
Responsible for agricultural services, arid-zone and tropical water management programs, soils, agricultural research and extension programs, rural development, and institutional development.

Peru: Irrigation Strategy Planning (1983)
Served as agricultural engineer on a seven-person team preparing irrigation development options and investment strategies for AID/Peru. Wrote engineering portions of the report, with primary focus on coastal region strategies such as conjunctive use of ground and surface water supplies and use of technically advanced on-farm irrigation methods (sprinkler and drip).

Sri Lanka: Irrigation System Rehabilitation (1983)
Served as water management specialist for Asian Development Bank team studying possibilities for rehabilitation of the Uda Walawe Irrigation System in Sri Lanka. Wrote portions of the final report dealing with crop-water requirements, water availability, irrigable area, irrigation infrastructure, main system and on-farm water operations and maintenance, system performance, cost estimates for rehabilitation options, and scope of work for feasibility team.

Pakistan: On-Farm Water Management (OFWM) Project Evaluation (1982)
On a subcontract to Development Alternatives, Inc., served as team leader for assessment of OFWM project in Pakistan. Reviewed quality of watercourse design and construction, planned training needs, and suggested changes in thrust of project to emphasize agronomics and productivity objectives.

Argentina: Irrigation System Technical Assistance (1981)
Conducted two reviews of irrigation system development and implementation in Northwest Argentina (Catamarca and Salta) for the United Nations Development Programme. Reviews covered water management, irrigation methods, calculation of irrigation requirements, soil salinity and alkalinity, and crop production practices (principally grapes and citrus).

Mauritania: Home Office Program Manager (1980 and 1981)
Served as program manager for Vegetable Crops Production Project. Made two trips to Mauritania and provided project management guidance and technical expertise in irrigation and soils.

Burma: Irrigation System Siting and Feasibility (1980)
Participated in six weeks of field work and subsequent analysis of irrigation system siting in Central Burma, which involved overall agricultural planning, crop selection (paddy, sesame, cotton, and groundnuts), soils review, research and extension, and institutional development.

Sri Lanka: Irrigation System Feasibility Review (1979)
Served as consultant to USAID/Sri Lanka for review of NEDECO and ACRES feasibility reports dealing with downstream Maduru Oya (System B) development. Wrote portions of the draft project dealing with validity of crop yield predictions for rice and upland crops, appropriateness of the cropping pattern, irrigation system design criteria, and water management.

Jordan: Technical Assistance for Irrigated Vegetable Production (1978)
Provided technical and program management assistance for the Jordan Valley Farmers Association Project and the Water Management Technology Project, Jordan, consisting of establishment of farmers' cooperative and research and demonstration of improved irrigated vegetable production.

Bolivia: Irrigation System Feasibility (1977)
Assisted in the feasibility study and preliminary design of the Villamontes Irrigation Project in the Chaco region of Bolivia. Wrote portions of the report reviewing soil suitability, crop adaptability, use of windbreaks, calculation of ET and irrigation demands.

Chile: Land Use Survey
United Nations Development Program, UNDP/PNUD (while on leave from Frederiksen, Kamine and Associates) (1979)
Conducted a two-month survey of land use, crops and irrigation practices in Chile's Fourth Region (Elqui, Limari, and Choapa watersheds). Assessed availability and utilization of fertilizers and other agronomic inputs; reviewed on-farm and basin-wide irrigation efficiencies and canal losses; and evaluated on-farm water management practices and system and institutional support for water management and crop production. Assessed the agricultural potential of the Fourth Region and made crop-specific recommendations by climatic zones.

Professor
CIDIAT, (Centro Interamericano de Desarrollo Integral de Aguas y Tierras), Merida, Venezuela (1975-1977)

Designed and implemented a program for CIDIAT to be more active in solving technical and social problems associated with Latin American agricultural development. Developed a field-oriented graduate research program. Conducted water and agronomic investigations on maize, sorghum, beans, rice, and sugarcane. Investigated management of wet soils, operation of irrigation systems, and irrigation efficiencies. Developed a plan to place more lands under irrigation in the Bocono irrigation system. Implementation led to a four-fold increase in area irrigated, to 1,600 hectares.

Brazil: Thesis Research, Cornell University (1973-1975)
Implemented field research dealing with water management and soil fertility problems on highly acid savannah soils. Carried out determination of the potential water constraints to crop production and agricultural development in Brazil's Cerrado.

Puerto Rico: Soil-Water Research, Cornell University and USAID (1971)
Conducted soil-water investigations in the field in conjunction with ongoing soil fertility studies.

Irrigation Engineer
J. G. Boswell Company, Corcoran and Lemoore, California (1967-1971)
Irrigation Engineer supervising day-to-day irrigation and crop production on 10,000 hectares. Carried out irrigation system design; land leveling; surveying; canal and levee construction; pump and well design, installation, and maintenance; and irrigation experimentation on cotton, safflower, wheat, and barley.

RELATED PROFESSIONAL SKILLS

Dr. Wolf has an excellent knowledge of Spanish and has worked previously in Portuguese.

He has worked with portable microcomputers for word processing on numerous overseas assignments.

EDUCATION

James Wolf received a Ph.D from Cornell University in agricultural engineering (soil and water) in 1975. He holds an M.S. degree (1967) from the University of California at Davis in water science and engineering. His undergraduate work, also from Cornell, was in agronomy (1962).

12/88

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SECTION III

DAI LONG-TERM PROJECT MANUAL

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Development Alternatives, Inc.
Long-Term Project Manual

May 1989

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Development Alternatives, Inc.
624 Ninth Street, N.W.
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Washington, D.C. 20001

XXXX
Chief of Party
XXXXXProject
XXXX,XXXX

SUBJECT: The Chief of Party Assignment

Dear XXXX,

This letter provides some insights gathered during my tenure at Development Alternatives, Inc. (DAI) that may be of help to you in the challenging and difficult task you are about to undertake. The thoughts are neither policy, nor are they intended to be carved on tablets for perpetuity. Ideas change and new thoughts are added as we gain experience and learn from doing. It is likely we will not have the opportunity to talk together about your upcoming assignment. This note is intended to serve as a partial substitute, condensing some of the accumulated wisdom from our 19 years in this hard school of implementing long-term development projects on three continents and many different fields of endeavor.

There is no more difficult assignment in the field of development than that of a Chief of Party (COP) attempting to orchestrate progress in the midst of very real obstacles to developmental change. It is the COP's large charter to extract useful support from the home office (DAI/W), promote the interests of the paying client (often the U.S. Agency for International Development), help the using client (host government agency), and get the best from the team and foster growth within it. This is no small task.

Our offerings, to make this task more manageable, are divided into three pieces. This letter is the first; a summary of COP responsibilities is the second; and the COP's Long-Term Project Manual, which attempts to clarify DAI policies and procedures and the regulations governing the contract, is the third.

Specifying the Players in the Long-Term Project Drama

It might be useful to separate the major players -- DAI, the client, host country agency, and team -- into distinct components of the management assignment, even though in practice roles and responsibilities inextricably intertwine. Each component has its own internal dynamic and calls for different approaches and priorities from the COP. Although there is no one set of answers to the issues of COP interaction with the four "players," some processes and procedures have proved better than others. This note is intended to share that distillation, to make it as useful to your particular circumstances as possible. One reason DAI has chosen you as COP is that we trust your ability to make judgments about the extent to which lessons from other projects and places apply to your own undertaking.

Defining the Job to Be Done and Measuring the Results

We are all in the development business. The services we sell are intended to generate development progress. We want to build institutions that will carry forward work started with expatriate technical assistance (TA). We want to see the benefits of our projects improve the incomes and quality of life of those who need and can profit from outside help. But there are a hundred factors that impede or promote development, and no single TA team operates in a vacuum. Successful implementation is impossible without reasonable government policies, dedicated and hard-working local professionals, and good luck. Thus, there can be no quantifiable index of performance of a COP or the entire TA team. Both must adapt to the local environment to best provide technical assistance within the unique circumstances of the project.

Our job is to do the best we can under difficult circumstances, to get the most for all project beneficiaries out of the contract and project resources. "Most" can be defined only by the local circumstances, but the direction is clear -- you, the team, and DAI all need to commit to bringing about developmental change through the activities of the project. Then you must organize to support that change and make it sustainable. There are no objective measures that can tell the full story of the success of our efforts. We have seen excellent TA teams' work destroyed by a lack of host country or A.I.D. political will, and very modest contributions look heroic thanks to rains and fortuitous price changes. We would like to know that our teams are having a significant impact on the pace, direction, intensity, and equitable distribution of development benefits. I would like to see us remembered as the team that, under your leadership and backed by our firm, made a real difference.

Getting Started: Preparing for the Long Haul

In the early months of a project, a COP is often akin to a circus trainer in the midst of a wild animal routine, hearing warning snarls from multiple directions and getting conflicting advice from a multitude of sources. Many of our complex projects located in difficult places nearly crashed and burned during their first six months. This is the time that the demands of getting started, getting organized, and getting something going all are condensed onto the plate of the COP. It is a time when the COP must attend to an impossible number of demands by setting clear priorities and getting all on board to assist in a full-scale attack on the gremlins that plague every start-up.

I have found that COPs who incorporate the entire team -- DAI and subcontractors, expatriate and local -- into solving the immediate problems of start-up work best. A team approach helps define what has to be done and helps the COP delegate responsibilities to those who can best do a given job. Although other COPs or team leaders may choose to delegate different functions to their team members, I usually delegate responsibility for accounting, transportation, logistical support, office management, and the like to others. I keep the liaison, the coordination, and the reporting functions so a consistent face of the team is presented to the outside world (that is, our various clients). I also work hard to create work plans and timelines and keep them current. The best of all worlds is to have project management software that allows each component of the project, and each team member, to set critical dates and determine resources needed to reach the timed objectives. I work hard to incorporate all

team members into the planning process. This tends to generate their enthusiasm for doing what might, in the absence of a large vision of project requirements, be seen as objectionable administrative tasks.

Your team must be brought into the country, and they must be housed and fed. Health and education facilities must be identified. A.I.D. will have a series of Standard Operating Procedures to support the team, based upon the results of the project identification and design process. You will have to work with these procedures to establish optimal working and living conditions for your team. The host country officials will want the project to start but will have to learn to accommodate new players in their decision process. And DAI/W will want its field accounting system put in place immediately so that project invoices get processed quickly and correctly.

A cost-reimbursable contract (as most A.I.D. contracts are) calls for DAI to spend first, and recover later. How much later is often critical to whether we are solvent. We have a field accounting system under test, and intend to send someone from our home office to the field in the early months of project start-up to help ensure that the accounting -- receipts and reports -- moves as required. This is a detailed, painful process that is time consuming unless you have a capable local accountant who is computer literate and technically qualified. I would make finding such a person high on my personnel wish list.

Dealing with the Paying Client

A.I.D., or some other donor, pays the bills, has identified and designed the project with the cooperation of the local government, and will hold firm concepts about the way the project should be run. We need to adjust to its ideas, learning from the experience it has acquired. A.I.D. is likely to know the pitfalls of inappropriate policies, the difficulties of bringing change, and the problems in completing project tasks as they have been stated. Assimilating this knowledge early, establishing good communications with A.I.D. personnel, so that they understand the project's difficulties and actively intervene to help solve them, is a critical first step as the project begins. Establishing this interactive communication must be a first priority of the COP.

There are some universal issues that emerge when DAI implements an A.I.D.-funded project. Always the issue of "who we work for" arises, since the charter is generally to assist a host country agency but take technical direction from A.I.D., under the scope of the contract.

The perspective of the responsible office within the paying client's organization is likely to be that we -- the contractor and the TA team -- are an extension of its staff. Our team may be asked to promote policy issues that the host government may oppose, or to take donor-supported positions that are not exactly what would be called for if we were paid directly by the host government We must be as responsive as possible to the client's interests, while maintaining our relationship with the government. It benefits neither DAI nor our paying client to push a position to the point where we lose communications with and respect from our local counterparts. Only when the issue is so critical that we are prepared to leave the project and the country should we risk

breaking "diplomatic relations." I expect DAI/W to be a part of the discussion long before this action is taken.

The first commandment to a COP, from the perspective of the paying client, is to be **organized**. The original sin for a contract team working on a project for A.I.D. is to be disorganized. The TA team must be managed -- that is, have a work plan; have each individual on the team know his or her responsibilities; and use timelines, computer programs, and graphics to highlight the answer to the question, "Do you know what you are doing?" The answer to this question must be in writing, and found in reports that the A.I.D. project officer can use to demonstrate to his superiors that he is managing project funds correctly. The COP's management makes the team look good and helps the A.I.D. office fulfill its management and oversight responsibilities. Everyone wins.

The second commandment to a COP, from the paying client's perspective, is to **build and maintain team unity**. A major error is for the team to have internal dissension that is made obvious to the paying client (or to the host agency). This is the reason I believe in highly participative teams -- get each individual to contribute to an ongoing discussion of priorities and strategies, and incorporate them all in the decision-making process. Although there are no guarantees, this approach goes a long way to making team members argue internally -- as good professionals will do -- but hold the agreed party line to the external world. If the COP has heard all opinions and suggestions and makes a case for a particular reasoned approach, selecting one among many available, the onus is then on the team members to support that direction. A team with a recalcitrant staff member is very different from a team without direction and leadership provided by the COP. If I have one admonition to a COP, it is always hold the profile of good **management** for the benefit of outsiders, but always be a good **leader** for the benefit of those who work for you. The two are not necessarily coterminous, and a paying client will quickly recognize a lack of management even in the presence of good leadership.

A COP may become mesmerized by the demanding job of promoting development and leave until later the niceties of reporting and fulfilling contract provisions. Although it perhaps should not be this way, rendering contract "deliverables" -- reporting, work plans, and status reports (including meeting the work hours specified) -- may be critical to getting the team's professional advice and recommendations accepted.

Simple problems such as not meeting work schedules can lead to near catastrophe. I have spent time patching holes in the dam caused when overseas staff members decided they would work hours that did not match those of our counterparts. We often work longer, but when our counterparts are officially in the office, we must be ready and available for work. That sounds easy. But if our team's job requires writing, and writing is best done at home during the later hours of the day, a rational case can be made (I have heard it often) for not meeting the government's working hours. But there is no arguable case to the paying client that justifies this. Delayed reporting, missed work plans, and incorrect vouchers all add up in the final equation, and you, as COP, will soon be defining whether your people are on the job, rather than the scope and priority of the work to be accomplished.

In my recommendations, I would advise paying a good deal of attention to satisfying the client's requirements for a well-managed project, creating team unity and a solid external face, and then meeting with precision the deliverable components of the contract.

This clears away potential noise in perception of the team's management, and sets the stage for you to capture the client's active assistance in making the project work correctly. In some larger context, incorporating the project officer from the paying client into the team will pay high dividends over the life of the contract.

When working with A.I.D., approvals for expenditures must come from two offices: that of the project officer, who receives the vouchers for approval; and that of the controller, who completes the financial review. It seems to be an open and shut set of issues -- read the contract and the boilerplate, and see what is allowed. But there are myriad possibilities for interpretation, particularly for expense voucher disallowances, a word that will enter the vocabulary of every COP. There are only a few general guidelines. The first is to know the regulations as they are written -- the remainder of this manual attempts to help interpret some of the writings and to highlight major sticking points. The second is to get approvals in writing before expending funds. When you have an idea that requires funding and it is not covered explicitly in the contract, send a memorandum to the project officer and get him or her to commit in writing. A project officer cannot accept responsibility for changing the contract, but his or her active cooperation makes approval from the office of the controller or the contract officer much more likely.

A.I.D., more than other clients, tends to want to manage TA teams. It may do this by issuing detailed instructions -- entering into your management arena by deciding who on the team should do which task, on a particular timetable. Sometimes the project officer will attempt to deal directly with team members, giving them instructions or setting priorities. You should resist this tendency by directly but politely confronting it at the first occurrence. DAI is the officially responsible contractor for the work, and you are the field leader. We cannot do our assigned and legally obligated tasks if a project officer from A.I.D. is managing our team. You should firmly make it clear that all instruction to team members flows through the COP and that you do not expect A.I.D. to assign and supervise individual tasks. Its charter is to set directions for the project, to state priorities, and to be clear about strategies. We, that is, DAI and you, manage the resources in the contract.

We all need the cooperation of A.I.D., but we cannot live with its operational direction of our work. If this problem arises, and is not resolved early on, call for help. Depending upon the part of the world involved, Tony or I will assist you in clarifying the roles and responsibilities of your team and the paying client.

Dealing with the Using Client

Each country and culture has its own imperatives; there are few universals. I would not know the way to provide suggestions for interaction with host country officials in many parts of the world. But the objective of the TA team in its interaction with the government can be the same -- to reach the point that the government relies on the team for serious contributions to important development decisions. The way to get there is always a unique equation. We have had our best luck with COPs who provide useful information to their counterparts; set forth options; and explain the consequences of alternative courses of action, in private, so that drawing upon external advice is not part of a public dialogue. When we can assist a government official or a private

businessperson to seize a new opportunity and believe it was his or her idea, we have provided the right kind of technical assistance.

Of the COPs I have replaced before their time was up, one of the most painful situations involved an excellent man who had been repeatedly warned that he was elbowing aside the local leadership of the project and taking on that role himself. There was nothing any of us could do to convince him that he was not helping the project achieve its goals by publicly spearheading project activities. In the parts of the world in which I have some experience, when the success of the activity depends upon the TA team being out front, its longevity and sustainability are seriously undermined.

Sounding very simplistic, the method I propose using in building linkages into the host country agency is to find counterparts who want to see positive change happen, and work with them to make it come to pass. Over the long run, more is likely to happen in this approach to providing TA than if team members undertake the activities themselves. This is easy to say, but it is hard to find the proper mix of activism (which gets something done) and acceptance of existing leadership and decisions (which may continue with business as usual). DAI and the TA team are not chartered to win awards for being popular. We are there to get something worth doing done. The COP has no larger challenge than setting a course of action that will influence decisions and priorities of the collaborating host country agency.

Dealing with the Technical Assistance Team

Your TA team was assembled to meet technical qualifications specified in a request for proposal and not handpicked by you. There has been little team building, and selection was not necessarily made on the basis of a good team personality fit. Thus, you are starting with the need to fashion a workable and cooperative team from highly diverse individuals. In the small fishbowl of an isolated overseas community, there are few more demanding assignments. Your job as COP is to get the best from those who are part of our team. Their best will not be forthcoming if we do not deliberately seek it. For the team, we are called upon to be leaders as well as managers, and organizers as well as doers. We need to convince our team members that they have the ability and the authority to make a difference themselves in the results of the project. There are no easy ways to do this, but, fortunately, the most important ingredient is the attitude of the COP. If you believe that it takes the combined effort of all your staff, working together imaginatively and with shared responsibility to solve problems, the atmosphere that generates a mutually supportive team will emerge.

Plan and hold regular team meetings, both with and without counterparts, and have each team member provide, over time, an in-depth understanding of the issues, constraints, and possibilities in his or her particular specialty areas. It is crucial that all team members understand the entire project and their part with it, rather than concentrating solely on their chunk. I would vary the venue of meetings to allow site visits (if the team works in different locations) and discussions with outposted staff, and use the meetings to get acquainted personally with the team members and their families. Keeping families satisfied is important, and the COP must learn what is most troublesome and how to fix the difficulties that arise. Satisfied families go a long way toward making a successful TA team.

I would also recommend having regular (perhaps every six months) personnel reviews against written scopes of work and work plans. Some COPs like to use senior management visits from DAI/W to talk with each team member about his or her contributions, the working atmosphere, and the problems he or she encounters. If you are part of the problem, let's say so and determine how to get the best from the individual given the circumstances. Performance assessments are not fun, and few people volunteer for more than their share. But such assessments are critical to the maintenance of high work standards, and sharing an appreciation for the efforts being made. Team members should not only contribute, but they should also have the opportunity to grow in their assignments. How this can be accomplished while supporting the project's objectives should be an explicit and important question for the COP to raise with each team member.

An effective COP does his or her best to foster an environment in which openness and cooperation reign, in which everyone works for the achievement of commonly agreed objectives, within stated priorities. It is easy to say but hard to do. Recognizing this is a critical aspect of the leadership role of the COP and is the first and perhaps most important step.

Dealing with DAI

DAI/W provides three types of support: administrative and contract support, technical backstopping, and management oversight. Each is accomplished by a different office. All requests concerning administration, accounting, personnel, and contract issues from long-term projects enter the Office of Overseas Project Support (OPS). We have never had better DAI/W staff than at present, and our assistance to the field shows the result of this good effort. We will systematically send the OPS staff to our overseas project sites, to implement the field-accounting system discussed earlier, and to learn the local circumstances and understand better the way to provide the assistance that is needed.

Technical backstopping is the support of overseas projects with information and recommendations on nonadministrative issues. This comes from the division (the Agriculture and Natural Resources Division [ANR], or the Finance, Management, and Economics Division [FME]) that houses development professionals who know your project's issues. I recommend you involve DAI's technical staff in your project, have them carry out short-term assignments, and ask the individual backstopping the project for assistance in locating information or specialists not available within DAI. In some projects this works well. Whether it will help in your circumstances should be tested early in your term.

Management oversight should help you resolve outstanding issues with the paying and using clients, with your team, and with DAI/W and/or the subcontractors backstopping other members of your team. Use management visits to get things done that have proved difficult, obtain agreements that are not forthcoming, and drive through approvals from A.I.D. that are critical for project success. Tony and I and others from DAI/W can make your job easier, or at least share the pain, if you use us strategically to give special emphasis to issues and resolve problems.

A final suggestion is to call upon us at DAI/W to help. The contract is with DAI for specialized services in support of development objectives. Those of us who manage DAI are professionals in development, first, and leaders and managers, second, as a necessary concomitant. Tell us when you see clouds on the horizon, if you suspect things are not going well, if you believe that changes may be in the wind. We would rather hear this from you than from the paying or the using clients. "No surprises" would be a good request from DAI management to COPs. You have the most difficult job in the field; let us help.

Best wishes,

Donald R. Mickelwait
President

Section II

A Summary of the Responsibilities of the Chief of Party

A SUMMARY OF THE RESPONSIBILITIES OF THE CHIEF OF PARTY

Much of the rest of this manual is an attempt to specify when DAI enters the elective world of discretionary activities bounded by an A.I.D. contract. Some things we know and can specify. Others we can only suggest. Even the issue of who can approve what action is not always clear, and Section III addresses these questions. This section offers a shorthand look at the responsibilities of the COP, those that are and are not part of assignment.

(1) Managing the TA Team

DAI expects its COPs to manage and lead overseas projects. We do not attempt to do this from Washington. We expect the COP to have control of the contract budget, and to know what has been expended and what has been committed. The maintenance of the remaining budget of the contract is critical for an understanding of the resources available to run the remaining project activities.

(2) Changing the Contract and the Budget

The COP must be familiar with the existing budget, but DAI/W is charged with making budget and contract changes. When contract amendments are required, the situation calls for a consultation between DAI and the COP to be certain that the right activities are included, with the right price tag. DAI will either be asked to sign an agreed contract amendment, or delegate this approval to the COP after we have given our agreement to a contract amendment.

(3) Removing and Replacing Team Members

The COP may order a team member out of the project area when he or she becomes a liability to the project -- for example, when this action is required by the host government, or the situation is causing serious detriment to the operation of the team. But only DAI or the subcontracting organization can remove the employee from the contract and send him or her from the country.

(4) Spending Contract Funds

When there are adequate funds within the budget, and they have been allocated to activities approved by the paying client, the COP is authorized to approve and make payments as necessary. The COP needs to note the contract's limitations and restrictions, understand what has been obligated and thus is available for expenditure, and be certain that the amounts will be reimbursed when submitted on DAI vouchers. DAI/W does not exercise control over project expenditures.

(5) Spending DAI Overhead Funds

In rare instances, funding for DAI overhead costs not related to your project may be provided. DAI/W will provide you with the authority to make those expenditures, usually on a not-to-exceed and case-by-case basis. For overhead support to your own project, this requires a discussion and negotiation with management. Clearly, DAI cannot provide funds for the donor's projects. But there may be occasions when a small expenditure that cannot be provided by the donor could make a great deal of difference in making the project successful. The best route is for you to define the circumstances and then obtain DAI approval in writing through telex, fax, or letter.

(6) Submitting Vouchers to A.I.D. and Following-up to Ensure Payment

This is a crucial responsibility because the funds that are being expended belong to DAI, not to the paying client, until they have been reimbursed through the submission of a correct voucher. The voucher process -- from expenditure recording to correct aggregation on the billing form to following-up until payment is made -- is the central responsibility of the COP.

(7) Representing DAI Overseas

The COP represents DAI to overseas clients and potential clients. We do not ask that the COP market DAI services, but we do request that the COP deliberately seek and provide to DAI information on contracting opportunities that might arise in-country. This information will help all of us, including the TA team that will be seeking future assignments on other overseas projects.

(8) Taking Vacations

Vacations, leave, and rest and recreation are the domain of the COP in agreement with the paying and using clients. DAI exercises no control over the timing of vacations but does require regular reporting by the COP on leave accumulated and taken, to maintain proper leave records. Failure to provide these records jeopardizes the using of leave during periods of illness or emergency travel.

(9) Keeping DAI/W Informed

Just as DAI/W always tries to keep its COPs informed of changes in home office personnel and procedures, so too should the COP keep DAI/W informed of project issues not only through regular telex or telefax channels but also by the sending of important project correspondence and reports to DAI/W through the OPS project monitor. This includes communication between the COP and A.I.D. on substantive technical and administrative issues and monthly, quarterly, and annual reports as specified by the contract. These documents are distributed internally and kept on file in OPS.

Section III

Development Alternatives, Inc.
Long-Term Project Manual

Development Alternatives, Inc.

Long-Term Project Manual
May 1989

TABLE OF CONTENTS

		Page
	STATEMENT OF PURPOSE	1
	1. GENERAL PRINCIPLES AND DAI/PROJECT RELATIONSHIPS	2
1.1	DAI Corporate Mission Statement	2
1.2	DAI Support Structure for Long-Term Projects	2
1.2a	Home Office Project-Support Objectives	2
1.2b	Home Office Project-Support Responsibilities	3
1.2c	Responsibilities of Senior Management	3
1.2d	Responsibilities of DAI Technical Division	4
1.2e	Responsibilities of Office of Overseas Project Support	4
1.2f	Other Administrative Support Offices	4
	2. EMPLOYEE RELATIONS WITH DAI AND THE PROJECT	5
2.1	Employee Responsibilities	5
2.2	Pay and Benefits	5
2.2a	Base Pay	5
2.2b	Annual Salary Adjustments	6
2.2c	Post Differential	6
2.2d	Cost of Living Allowance	7
2.2e	Leave	10
2.2f	Educational Allowance	12
2.2g	General Travel Policies	12
2.2h	Retirement Income	14
2.2i	Health and Disability Insurance	14
2.2j	Life Insurance	16
2.2k	Early Termination	17
2.3	Project Mobilization	17
2.3a	The Importance of Effective Mobilization	17
2.3b	Personal Affairs	17
2.3c	Tax Planning	19
2.3d	Shipment of Household Effects and Other Personal Property	19
2.3e	Other Formalities	23
2.3f	Travel to Post	24
2.3g	Setting Up	26

49P

2.4 Demobilization 29

2.4a Clearing Post 29
2.4b Return Shipments of Household Effects 29
2.4c Return Travel 31
2.4d Reentry Medical Exams 31

3. PROJECT ADMINISTRATION 31

3.1 COP Responsibilities 31

3.1a Lines of Authority 31
3.1b Relationships with Contracting Authorities 32
3.1c Subcontractors 32
3.1d Team Meetings 32
3.1e Team Personnel Management 33
3.1f Leave Reporting 33
3.1g Disciplinary Actions/Terminations 34
3.1h Identification of Long-term and Short-term Employees 34
3.1i Communications 35
3.1j Computerization 35
3.1k Long-term Project Checklist 36

3.2 Financial Management 36

3.2a Payroll 36
3.2b Field Expenses 36
3.2c Billings 37
3.2d Budget Monitoring 37
3.2e Field Reporting and Local Bank Accounts 38
3.2f Disallowances 39
3.2g Cash Forecasting and Reporting 39

3.3 Procurement 40

APPENDIX A: GENERAL A-1

APPENDIX B: CURRENT PROJECT ASSIGNMENTS B-1

APPENDIX C: DAI'S TRAVEL POLICIES AND PROCEDURES C-1

APPENDIX D: LONG-TERM PROJECT CHECKLIST D-1

Development Alternatives, Inc. (DAI) is a Washington, D.C.-based corporation specializing in international rural and agricultural development. DAI's work has included original field research on development problems, country- and regional-strategy formulation, project design and evaluation, technical assistance to host country project managers and implementors, and public- and private-sector support of enterprise development in developing countries. Founded in 1970, DAI has carried out short- and long-term assignments in more than 80 developing countries.

STATEMENT OF PURPOSE

This manual is a general guide to policies and procedures of DAI for Chiefs of Party (COPs) on long-term projects (defined as those of more than six months' duration). All guidelines in this manual may not apply to each overseas employee, particularly those not employed on projects financed wholly or in part by the U.S. Agency for International Development. This manual is intended as a general supplement to specific project contracts, A.I.D.'s publication "General Provisions, Cost Reimbursement Type Contracts" (Appendix A), and policies of individual A.I.D. missions. It is not a contract of employment; DAI retains the right to alter this manual at any time.

1. GENERAL PRINCIPLES AND DAI/PROJECT RELATIONSHIPS

1.1 DAI Corporate Mission Statement

DAI provides professional services that promote international development. It does so in five ways:

- With conscience and integrity, to bring about equitable, sustainable development;
- With managed efficiency, to get the most out of the resources available for development;
- With research and reflection, to innovate and learn by applying new concepts to overcome development constraints;
- With full participation, to learn from and contribute to DAI's staff capabilities; and
- With financial success, to demonstrate the value of our services and to grow and diversify.

1.2 DAI Support Structure for Long-Term Projects

DAI's portfolio of long-term projects has grown substantially since approximately FY 1986, and the company's administrative backstopping capacity has been strengthened simultaneously to keep pace with this growth. This strengthening has included the creation in 1986 of the Office of Overseas Project Support (OPS).

1.2a Home Office Project-Support Objectives

DAI's senior management is committed to four goals in helping to ensure an optimal long-term project management support system:

- Effective management oversight and strategic guidance, including final approval, for all key personnel nominated for project positions; oversight review of all new proposals; negotiating responsibility and signatory authority for new contracts and contract amendments; and project start-up, implementation, and closure;
- Regular and appropriate two-way communication between the home office (DAI/W) and long-term project staff, both through normal electronic or written channels and through frequent visits by senior management to field teams, the desired frequency being one to two visits per year for each project;

- Close technical monitoring and administrative support of long-term projects by one of the two divisions (the Agriculture and Natural Resources Division [ANR], or the Finance, Management, and Economics Division [FME]), the administrative offices, and OPS; and

- Good financial management and reporting systems for tracking field expenses, making payments in timely fashion, and expeditiously preparing and submitting financial reports and vouchers to clients and collaborators.

1.2b Home Office Project-Support Responsibilities

Senior management's role with regard to long-term projects is principally exercised at the policy level and is concerned with performance assessment, strategic direction of technical assistance, client relations, and contractual issues. Senior management also is responsible for coordinating DAI's oversight, management, and support of long-term projects. Technical matters are the responsibility of the appropriate home office division staff, whereas general administrative issues are monitored by OPS, with assistance from other DAI administrative offices.

1.2c Responsibilities of Senior Management

Good administrative and policy guidance to long-term staff, especially COPs, can greatly simplify and rationalize project operations and communications between DAI/W and the field. Senior management, working with the director of OPS, is responsible for ensuring that guidance dealing with both technical and operational issues, through this Long-Term Project Manual, is updated and appropriately distributed on a timely basis.

Senior management helps to sustain the links between the respective division and the long-term projects, so that each such project evolves successfully from the proposal stage through successful implementation and appropriate follow-up. Senior management is also responsible for ensuring that the senior management officer, divisional backstop, and OPS project monitor for each project convene quarterly project-review meetings to bring one another up to date on project activities and to resolve any outstanding issues.

Current project assignments are shown in Appendix B. These assignments are subject to change, and all concerned individuals will be informed when this occurs. Senior management is responsible for ensuring that assigned responsibilities relating to long-term project management and support are properly fulfilled, for visiting project sites at least once a year, and for ensuring effective communication between DAI/W and its long-term projects.

Senior management is also responsible for ensuring that information on DAI's marketing, project tracking, and recruitment initiatives is channeled regularly to long-term project staff, to optimize the contributions by these staff to those corporate functions.

1.2d Responsibilities of DAI Technical Division

In conjunction with senior management, the divisions are responsible for setting up effective ways to provide technical support to DAI projects overseas. These services include substantive contributions to planning processes; regular evaluation and monitoring of projects, especially reading and reacting to quarterly and other reports; and quick recruitment of useful consultants to perform short-term consultancies to those projects. Each overseas project should be assigned to a person in the division and to a recruiter. Regular informational letters to COPs, including updates on DAI marketing efforts and needs, and planned visits to the projects by senior management and by traveling divisional staff members are encouraged.

1.2e Responsibilities of Office of Overseas Project Support

OPS functions as the administrative backstopper for all of DAI's long-term projects. OPS project monitors are responsible for directing field queries to the appropriate DAI office or division, and for ensuring prompt and accurate replies. Other responsibilities include:

- Orientation and mobilization of all long-term project personnel, including those who will carry out short-term consultancies (TDYs);
- Monitoring of project budget expenditures and invoices;
- Preparation of financial reviews and project amendment material; and
- Fulfilling all logistical and procurement requirements as needed.

OPS staff also travel to field sites during project start-up to train the COP and local staff in field accounting procedures.

1.2f Other Administrative Support Offices

Other DAI offices that provide a wide variety of support to DAI's long-term projects are:

- **Office of Administration** -- setting personnel policy, and administering and processing it; procuring supplies and equipment; determining travel procedures and developing policy; negotiating subcontracts; processing contracts and contract amendments; and preparing all long-term cost proposals;
- **Office of Finance** -- processing payrolls, reporting monthly DAI/W costs, and advising regarding disallowances and contract payments;

- **Office of Information Management** -- establishing and maintaining reliable systems for communications between DAI/W and its long-term overseas projects, including organizing, sending, receiving, and distributing outgoing and incoming communications as appropriate; and providing computer-related information when required;

- **Office of Publications** -- publishing proposals, reports, papers, and newsletters for DAI; and working with staff and outside specialists to produce marketing materials; and

- **Office of Recruitment** -- identifying candidates for both TDY technical assistance and long-term positions; contacting possible candidates and negotiating salaries; and maintaining recruitment database.

2. EMPLOYEE RELATIONS WITH DAI AND THE PROJECT

2.1 Employee Responsibilities

Each employee's responsibilities are initially set out in the job description or scope-of-work (SOW), which is part of his or her employment agreement. The SOW is derived from DAI's contract with the contracting agency (A.I.D., World Bank, FAO, host government, and so forth). The employee should understand that the initial SOW in many projects is often quite broad. An employee must collaborate with his or her COP to plan in detail the specific assignments the employee will carry out under the terms of the SOW. If it is determined that the responsibilities of a position have deviated substantially from the SOW outlined in the employment agreement, the COP must notify DAI management immediately so that the position and contract obligations might be formally reviewed and a new SOW or employment contract drawn up if necessary.

Project personnel are also representatives of DAI; DAI expects them to conduct themselves in a professional manner while working, residing, and traveling in the host country.

2.2 Pay and Benefits

2.2a Base Pay

The employee shall be compensated for services to the project at the rate agreed upon by the employee and DAI, as approved by the contracting agency. The work week for long-term overseas employees is 40 hours and coincides with the work week of the A.I.D. mission and host country. Short-term employees on TDY are expected to work a 40 or 48-hour week unless otherwise specified.

DAI salaries are paid on a monthly basis. Salary payments are normally deposited directly to the employee's account at the corporation's bank on the 10th day of the following month (or on the preceding work day if the 10th falls on a weekend or holiday).

DAI recognizes that an employee may, on a rare occasion, experience unusual circumstances that require a salary advance. In such a case, a request for a salary advance must be initiated by the employee, justified fully in writing, recommended by the COP or supervisor, and approved by senior management. Any such advance will be deducted from the employee's next paycheck.

2.2b Annual Salary Adjustments

At the end of each 12 months of satisfactory service, the employee is normally eligible for a salary increase up to a maximum indicated in the contract, at the option of senior management based upon the COP's individual recommendations. Performance reviews leading to salary adjustments for individual COPs will be conducted by senior management.

If the employee's anniversary date falls between the 1st and the 15th of the month in question, the increase will become effective on the 1st of that month. If the employee's anniversary date falls between the 16th of the month and the end of the month, an increase will become effective on the first of the following month.

Under special circumstances involving increased job responsibilities (for instance, promotion to COP), DAI/W may request the contracting agency to approve a salary increase that is either larger than the maximum allowed for in the contract and/or occurs earlier than the employee's normal salary review date. When this happens, the date of the special salary adjustment becomes the employee's new anniversary date. No additional salary increases will be granted before the completion of 12 additional months of service following the new anniversary date.

2.2c Post Differential

"Post differential" is a salary supplement to employees on A.I.D.-financed projects in hardship areas where such additional compensation is deemed necessary as a recruitment and retention incentive. Post differential is calculated as a percentage of base salary. Location-specific rates for individual contracts may be obtained from DAI's Office of Administration. These rates may be periodically adjusted by the concerned contracting agencies, and when this happens, and to the extent it is permitted within the contract, DAI adjusts the rates paid to project employees accordingly.

Post differential payments may continue when the employee is away from post on official business and during sick or annual leave taken at or away from post, provided such leave is not taken within the borders of the United States or its territories. Post differential will not be paid when the employee is in the United States or its territories.

Employees who are third country nationals (TCNs) are not entitled to post differential unless it is specifically approved by the cognizant contracting officer. If such approval is received, the employee will not be entitled to post differential payments while in the United States, its territories, or the employee's home country.

1) Long-Term Employees

Payment of post differential to a long-term employee shall commence as of the latest of the following dates:

- Date of employee's first arrival at post;
- Date of entrance on duty, if employee was recruited locally; and
- Effective date of assignment, if employee is already at post on detail or leave.

Payments of post differential to an employee shall terminate as of the close of business on the earliest of the following applicable dates:

- Date the employee arrives in the United States including when the primary purpose of the travel is for official business, vacation, or medical evaluation; and
- When leave is taken in the United States or an employee's home country, post differential shall cease as of the date the employee departs the post of assignment. However, if leave in a foreign area is taken en route to the United States or an employee's home country, post differential ceases as of the date of arrival in the United States or the home country.

2) Short-Term Employees

Short-term employees are eligible for post differential supplements, if approved in the contract, beginning with the 43rd consecutive calendar day at post.

Eligibility for post differential depends on salary and post continuity. If there is a break in salary between work on different contracts or between two pieces of work on the same contract, even if the break is only for one day, post differential eligibility ends and another 42-day waiting period must be completed before payments can resume. However, if there is no break in salary, then post differential payments may continue without a new waiting period even if different contracts and/or different posts are involved. Post differential eligibility will also end when a short-term employee departs post for whatever reason, for instance, termination of contract, medical evacuation, and so forth.

2.2d Cost of Living Allowance

Post allowance, or cost of living allowance (COLA), is a cost-of-living allowance granted to an employee officially stationed at a post where the cost of living, exclusive of quarters costs, is substantially higher than in Washington, D.C. The amount paid is a flat rate, which varies according to the employee's basic salary, size of family, and post class. Post classes within A.I.D. contracts are revised regularly by A.I.D. Because post classes can change frequently, often twice in the same month, it is the COP's responsibility to monitor the current post class and

inform DAI/W of changes as they occur. Otherwise, DAI/W must rely upon A.I.D./W to send revised COLA tables that are usually outdated by the time they are received.

Agencies other than A.I.D. maintain their own standards and requirements regarding COLA. As in most other categories of contract management, although DAI attempts to maintain internal consistency in its policies and procedures, in matters such as this the firm must follow the requirements of each contract it is awarded.

1) Eligibility for COLA

Eligibility for COLA shall commence on the earliest of the following dates:

- The date the employee arrives at a new post;
- The date the employee's family arrives at a new post, when the family arrives at post before the employee because he/she was ordered to report elsewhere for consultation or detail; or
- The effective date of the employee's beginning work, if the employee is recruited at the post.

Payment of COLA to an employee whose allowance was discontinued during a period of absence shall begin as of the date of return to post, or as of the date of return of the family if they precede him/her to post.

Short-term employees and employees working under IQC work orders are not eligible for COLA payments.

2) Calculation of COLA

Monthly COLA payments are calculated as follows:

- Annual COLA amount is based on an employee's salary, family size, and post class;
- A daily COLA amount is computed by dividing the annual amount by 364 days; and
- Monthly COLA amount is calculated by multiplying the daily amount by the number of calendar days in the given month. Monthly COLA is incorporated into the employee's monthly paycheck.

3) Termination of COLA

COLA payments to an employee will terminate as of:

- The date he/she commences travel for which payment of travel per-diem allowances is authorized; and

- The 31st calendar day of absence from post for which payment of travel per-diem allowances (for instance, medical evacuations) is not authorized.

COLA payments to an employee who is separated shall terminate as of the date of his/her departure from post or the last day of employment, whichever is earlier.

COLA payments to an employee without family continue:

- While he/she remains in the country of assignment; and
- While he/she is outside the country of assignment for short periods (up to 30 consecutive calendar days). (For work-related and authorized travel, see above.)

COLA payments to an employee with family continue at the appropriate "with family" rate:

- While the employee and all members of the family are outside the country of assignment for short periods (up to 30 consecutive calendar days). (For work-related and authorized travel, see above);
- While the employee is temporarily absent from the country of assignment for work-related travel and the family remains in the country of assignment; and
- For a period not to exceed 30 calendar days while any or all members of the family are temporarily absent from the country of assignment and the employee remains in the country. On the 31st day, COLA shall be reduced appropriately.

4) Revision of COLA

COLA payments shall be revised following a change in:

- Classification of the post;
- Payment tables;
- Employee's salary; and
- Employee's family status.

When a child on whose behalf an employee is currently receiving an education allowance leaves post for a period in excess of 30 calendar days, the employee's COLA shall be revised to the "without family" rate or reduced by the amount previously granted on behalf of such a child, whichever is applicable. When the child returns to post for a period in excess of 30 calendar days, COLA may again be revised to restore the reduced amount. It is the responsibility of the COP to report when the child has left and returned.

5) Effective Dates of COLA Revisions

Revisions of COLA shall be made as of the effective date of the change, the date of departure or arrival of the child, or the date travel of the employee commences, if such date falls on the first day of a pay period. Otherwise, the revision shall be made as of the first day of the pay period next following the applicable date specified above. COLA payments will be reimbursed retroactively in those circumstances where the COP was unable to correctly report such changes before the monthly payroll deadline.

2.2e Leave

1) Holidays

Normally, the overseas employee is entitled to those holidays declared by the local government. On U.S. government contracts, the employee is entitled to those holidays declared by the U.S. embassy, which are generally local holidays as well as the traditional American holidays. It is recommended that overseas employees take such holidays as they occur since A.I.D. normally does not approve carryover of unused holiday leave hours.

2) Annual Leave

Unless otherwise specified, the long-term overseas employee accrues 17 1/3 hours of annual leave per month or 26 days of annual leave for each 12 months of service.

The purpose of annual leave is to provide necessary time off during an employee's tour and time taken during home leave when applicable. Annual leave is not intended to be accumulated and applied to the end of a tour to shorten it; neither is it intended to be accumulated and exchanged for cash. It is the employee's responsibility, monitored by the COP, to ensure that annual leave is taken. The COP together with the employee and cooperating country institution should develop leave schedules early in the employee's tour, taking into consideration project requirements.

Officially, both DAI and A.I.D. oppose monetization of unused leave except under extenuating circumstances. Unused annual leave is normally forfeited at the end of an employee's tour. On U.S. government contracts, project officer approval is necessary for an employee to take more than 26 days of annual leave during the final weeks of his/her contract or to monetize up to a maximum of 26 days of unused leave. Prior written approvals from A.I.D. normally are required for an employee to take extended leave immediately prior to the end of his or her contract.

3) Home Leave

An overseas long-term employee is entitled to home leave (not more than 15 calendar days for each year of overseas service) under the following circumstances:

- The regular employee shall have served a minimum of 18 months in the cooperating country on his current tour of duty under the contract; and

- The regular employee shall have agreed to return to the cooperating country to serve out the remainder of his/her current tour of duty and an additional two-year appointment under the same contract or such other additional appointment of not less than one year of overseas service as the mission director may approve.

The period of overseas service required as stated above is applicable from the beginning date stipulated on the employment agreement. This normally includes any orientation days in the United States (not including language training) and actual days overseas dating from time of departure from the U.S. port of embarkation on international travel and continuing, inclusive of authorized days, en route, to the date of arrival in the U.S. port of debarkation from international travel. Allowable annual leave and sick leave taken while overseas, but not leave without pay, shall be included in the calculation of the required period of overseas service.

The employee will be responsible for reimbursing DAI for travel costs made during home leave, if, in spite of the undertaking of the new appointment, the regular employee, except for reasons beyond his/her control as determined by the project officer, does not return overseas to complete the additional required service.

Unused home leave is not reimbursable under any circumstances.

To the extent deemed necessary by DAI/W or A.I.D., regular employees in the U.S. on home leave may be authorized by the project officer to spend not more than five days in work status for consultation at DAI or at A.I.D./W before returning to their post of duty. Consultation at locations other than DAI or A.I.D./W, as well as any time in excess of five days spent for consultation, must be approved by the mission director.

Unless approved by the mission director, home leave is not authorized for a TCN. Consequently, TCNs are not eligible for home leave travel unless authorized in advance by the cognizant mission director. Since home leave, as defined by A.I.D., is for use only in the U.S. or its territories, this authorization must also include a separate approval if home leave is to be taken in the TCN's home country. A copy of any such authorization shall be provided to the DAI home office. Regular employees and dependents shall be reimbursed for the cost of travel performed for purposes of home leave provided that said travel conforms with regulations.

4) Sick Leave

Under most contracts, a long-term employee accrues sick leave at the rate of 8.66 hours per month or 13 work days annually. Annual leave can be used to offset a negative sick leave balance; however, sick leave cannot be used to supplement annual leave or offset a negative annual leave balance.

5) Rest and Recreation Leave

R&R leave policy is determined by the specific terms of individual DAI contracts and is not otherwise provided as a long-term employee entitlement. Under most U.S. government contracts, the employee is entitled to reimbursement for the cost of travel to a designated R&R post provided that the required length of service at the post of assignment is unbroken by home leave. The employee must have accrued enough annual leave to cover R&R taken.

2.2f Educational Allowance

The educational allowance is designed to assist the employee in defraying the costs necessary to obtain for his/her children educational services on a par with those that are ordinarily provided without charge by public elementary and secondary schools in the United States. In those cases where adequate schools (as defined by the U.S. government) are not available at the employee's post, the costs of room and board and periodic transportation between the post and the nearest locality where an adequate school is available will also be provided.

The education allowance rates used by DAI for "school at post," "school away from post," and "home study" are identical to those authorized by the U.S. government for State Department personnel. Where a local school is adequate, the "school at post" and the "school away from post" rates are identical.

For information as to what costs are reimbursable and what the rates are for a given post, COPs can contact the OPS project monitor.

DAI will not pay educational expenses directly to an institution unless the COP determines that circumstances dictate otherwise. DAI/W will reimburse employees for allowable educational costs.

Each employee is responsible for:

- Paying the institution;
- Monitoring expenses; and
- Submitting a request for reimbursement to DAI for allowable costs up to the maximum provided.

All education expenses submitted for reimbursement should be supported by a copy of the bill and other documentation as appropriate, and must be approved by the COP. Requests for reimbursement can either be paid in the field or forwarded to the OPS project monitor.

2.2g General Travel Policies

DAI's general travel policies are outlined in Appendix C. Issues that specifically impact on long-term project personnel follow.

1) Educational Travel

Educational travel is travel of an employee's child to and from the post, from and to a school for secondary or college education in the United States if both parents reside at post. One round-trip per year is permitted.

The following restrictions apply to educational travel:

- Children benefitting from educational allowances are not eligible for educational travel allowances;
- Educational travel is not authorized for children of employees who are working on assignments of less than two-years' duration; and
- Primary school (K-6) children are not eligible for educational travel allowances.

2) Visitation Travel

Children of separated parents who are DAI long-term overseas employees may be eligible for one round-trip per year to visit the separated parent given the following circumstances:

- The employee is legally separated or divorced from the other parent;
- The employee's term of employment shall be for a minimum of one year;
- The employee is not receiving educational allowance, education travel, or separate maintenance allowance for the applicable child;
- The child is below the age of 21;
- The employee does not request travel under this provision within 30 days of the employee's arrival, departure, home leave and/or return from home leave to post; and
- All other requirements by the funding agency have been fulfilled and such travel is authorized and approved in writing by the funding agency. In the case of A.I.D., such approval should include an exemption from AIDAIR 752.7002-73 (f).

Payment for visitation travel of children of separated parents may not exceed the cost of round-trip travel between the post to which the DAI employee is assigned and the nearest port of entry in the contiguous United States.

3) Emergency Travel

Employees may be reimbursed for emergency travel and transportation costs. Circumstances that may require such travel are:

- The need for medical care beyond that which is available at post; and
- Death or serious illness or injury of a member of the employee's or employee's spouse's immediate family.

The COP is responsible for determining if emergency travel is warranted and must inform the contracting officer in writing.

2.2h Retirement Income

DAI makes regular contributions to an employee profit sharing trust to provide employees with a retirement income. After 3 years with the corporation, an employee becomes eligible to participate and is 100 percent vested. Eligible employees are informed annually about their vested benefit in the profit sharing plan. Further information about the plan may be obtained from the DAI personnel director.

2.2i Health and Disability Insurance

1) Defense Base Act Insurance or Foreign Worker's Compensation

While working overseas under an A.I.D.-financed contract, if a U.S. citizen or resident or if hired in the United States, he or she is covered under the Defense Base Act (DBA) for any work-related injury or illness. A request for inclusion will be made for all other classifications of personnel and/or employees. On non-A.I.D. contracts, the employee will be covered by DAI's foreign worker's compensation policy. Both of these policies provide coverage for medical and related expenses, rehabilitation, partial income replacement (if applicable) and death benefits for work-related injury, illness or death.

Coverage under DBA and DAI's foreign workers compensation policy does not include dependent coverage. Dependents of long-term employees may be covered under the corporate health insurance policy (if the employee has elected dependent coverage).

(a) **Benefits under DBA:** Medical costs incurred as the result of work-related injury and sickness are covered. The employee has the right to choose the attending physician. Transportation to and from medical aid and expenses while receiving treatment are payable under this coverage.

(b) **Disability Benefits under DBA:** Benefits listed under the DBA include compensation for total and partial disability whether permanent or temporary. No disability compensation will be paid for the first 3 days unless the disability persists more than 14 days.

(c) **Claims:** It is the responsibility of the employee or of the beneficiary to inform the COP or the DAI home office of any work-related injury, sickness, disability, or death. Notice should be given immediately.

DAI's personnel director can be contacted for further information on claims and specific details on benefits.

2) Corporate Health Insurance Policy

The corporation offers health insurance coverage to all long-term overseas employees working at least 17 hours per week as established in agreement with the employee. Cost of the group plan is partially paid by the corporation and supplemented by employee contributions. Participation under the plan is optional. Details of the coverage, limitations, regulations, and effective dates may be found in the Summary Plan Document of DAI's health plan, available from DAI's personnel director. Outlined below is current cost information regarding the policy.

(a) **Individual Coverage:** The employee contribution for individual coverage under the health plan is $37 per month. Employees electing this coverage will have an automatic deduction from their salary payment on the 10th of each month. The deduction will pay for the previous month's coverage.

(b) **Family Coverage (Dependent Coverage):** DAI offers coverage for dependents of employees who have signed a long-term overseas employment agreement with DAI. The employee contribution for individual plus family coverage under the health plan is $94 per month. Employees electing this coverage will have an automatic deduction from their salary payment on the 10th of each month. The deduction will pay for the previous month's coverage.

Employees covered by the health plan who are not paid during a particular month(s) will be billed for coverage. Alternatively, the payroll deduction will be taken in a subsequent month for which work was compensated.

(c) **Coverage of Employees on Leave of Absence:** Staff granted official leave of absence for three months or less may continue health insurance coverage for this period. If an employee wishes continued coverage during such a leave, he/she must contact the personnel director to arrange for the coverage and pay the related costs during such leave. Health insurance coverage is not available for a leave of absence that extends beyond three months; however, continuation of coverage is available.

(d) **Coverage Continuation/Conversion Policy:** Long-term overseas staff and covered dependents may continue coverage under the DAI group plan for health insurance past his/her date of termination or certain other qualifying events that would otherwise make that participant ineligible, that is, divorce, dependent child exceeds age limitation, and so forth. This continuation of coverage may extend from the date of the qualifying event (that is, termination, divorce, death of employee) up to 18 or 36 months, depending on the qualifying event. Additional details regarding eligibility and length of continuation should be directed to the personnel director.

An employee may also apply for an individual conversion policy within 30 days of termination or at the conclusion of continuation of coverage. An employee wishing to apply for this conversion plan should contact the personnel director. This option is usually only available for persons returning to reside in the United States as the insurance rate tables only cover the United States and its territories. Coverage ends on the last day of the month during which an employee leaves (that is, March 30th if the employee's last day is March 15th).

3) Long-Term Disability

Long-term disability insurance is provided to employees at no cost to the employee. The plan provides long-term overseas employees with income benefits in the event they become totally disabled as a result of accident or sickness. Disability does not have to be work related. For details concerning this coverage, please refer to DAI's Long-term Disability Plan booklet or contact the personnel director.

Long-term disability pays the employee a monthly income benefit equivalent to 60 percent of his/her monthly salary (not including post differential or COLA) up to a maximum of $5,000.

The personnel director enrolls the employee in the plan on the date of hire. The coverage ends on the date of termination.

2.2j Life Insurance

The corporation provides at no cost to employees life insurance and accidental death and dismemberment insurance for all long-term overseas employees.

The life insurance coverage for the long-term overseas employees has two parts:

- Basic life insurance in case of natural death; and
- Accidental death and dismemberment insurance.

The basic life insurance sum, in case of natural death, is equivalent to the employee's annual salary rounded to the next $1,000. In case of accidental death, the claimant receives two life insurance sums:

- The basic life insurance sum; and
- The accidental death sum, which is equivalent to the annual salary rounded to the next $1,000.

In the case of dismemberment, please see the Schedule of Benefits in the Summary Plan Document issued by the personnel director.

2.2k Early Termination

DAI recognizes the potential hardship on overseas employees who might be caught in an early-termination situation because of political and/or security reasons in-country, and believes that some protection, in the form of guaranteed salary continuation, is appropriate. Those employees who work on contracts where DAI has been requested to terminate contract work because of the aforementioned reasons will be entitled to receive his or her monthly salary for a maximum of four months following the date DAI's contract is terminated. This is subject to the availability of remaining funds in the contract and the written approval of the contracting agency.

The four-month period includes any and all payments due for severance or termination; the four-month maximum payment will be reduced by one day for each day the early termination date falls less than four months before the last day the employee is covered by the employment agreement. Any unused annual leave to which the employee may be entitled is payable, but it must be used immediately, beginning on the date of early termination. Any annual leave days paid during the final four months of the employment contract will reduce the amount payable on the up-to-four-months guarantee. Unused annual leave has the effect, therefore, of extending the early termination date. The employee's monthly salary in the context of this policy is computed by dividing the annual base salary by 12, with all allowances excluded in making this computation.

2.3 Project Mobilization

2.3a The Importance of Effective Mobilization

Through experience, DAI has learned the great importance of effective and timely mobilization. To the fullest extent possible, therefore, the firm will attempt to include in any contract it successfully negotiates sufficient funds to enable DAI/W assistance in assuring first-rate project start-up. Such assistance might include sending to the project site a corporate representative who is experienced in project start-up to help in all necessary logistical and administrative arrangements such as those listed below. If this is precluded by the terms of the contract, DAI is nonetheless committed to aggressively pursue all possible channels for facilitating effective project mobilization and start-up.

2.3b Personal Affairs

1) Personal Information

One of the first things an employee should do to prepare for a long-term project overseas assignment is to give the following information to the personnel director:

- Name and address of the person whom DAI can contact and who can contact DAI in case of an emergency. That person can contact DAI and DAI will relay the message by the quickest means of communication to the employee (telex, fax, or telephone). If the message comes from the employee, DAI will do the same. The employee should remember that this procedure is for emergency cases only and it should not be used for normal correspondence;

- Name and address of any person who has power-of-attorney to handle financial, legal, and real estate matters. Again, the employee should contact such persons through DAI only in cases of extreme urgency, which require immediate action;

- Name and address of the person to whom DAI will send the employee's income tax statements. The employee should arrange to have this person fill out his/her tax returns and advise on tax matters;

- Names and dates of birth of spouse and dependent children;

- Name(s) and address(es) of parents, spouses and children who are not at post; and

- Name(s) and address(es) of parents or next of kin.

This information will be kept in the employee's personnel files to be used on a need-to-know basis. In case of any changes, the employee should notify DAI's personnel director promptly by telex, fax, or telephone, and confirm all changes later in writing.

2) Banking

New long-term overseas employees are required to open and maintain a regular checking account at First American Bank of Washington, D.C., into which DAI automatically deposits each paycheck. This procedure eliminates any possibility of a check being lost in the mail. No minimum balance is required for such accounts and the employee will not be subject to any service charges. DAI will pay the cost of the initial order of printed checks.

Employees who regularly work short-term technical assignments (STTAs) for DAI are also encouraged to open accounts at First American, but they are not required to do so. For those who do not, including consultants hired overseas, checks will be mailed to a home address. In special situations, paychecks may be mailed to banks other than to First American Bank, though it is then the responsibility of the employee to ensure that his/her checks have been properly deposited.

DAI does not act as a personal agent, for banking purposes or otherwise, for any employee. Requests for personal banking services should, therefore, be directed to the bank and not to DAI.

2.3c Tax Planning

When an employee earns income overseas, many tax considerations not otherwise present may come into play. Because of the complexities of the tax laws and the way in which these vary according to individual circumstances, DAI is not in a position to provide individual tax planning or guidance. DAI strongly urges each employee to secure competent tax assistance and will be happy to assist with referrals.

Earnings by employees who work overseas on a long-term basis are to a great extent exempt from federal income taxes. In order to not be subject to tax withholding, the employee must complete a W-4 form stating that he/she is exempt from taxes. A new form must be filed each successive year prior to February 15th reaffirming the exempt status; otherwise, DAI is required by law to withhold taxes.

Education and housing allowances are considered by the Internal Revenue Service as taxable income. DAI is legally obligated to report these benefits on the U.S. citizens annual earnings tax form (W-2).

Federal regulations require the corporation to monitor changes in employee tax status. If, for example, an overseas employee returns to Washington to work on the DAI staff, the employee is no longer eligible for the overseas exemption. In this case, DAI is required to obtain new withholding information. In the event the employee does not complete a new withholding certificate within 10 days after arrival at DAI, the corporation is required to withhold on the basis that the employee is single and has no exemptions. Accordingly, the employee is advised to report revised tax status promptly to ensure DAI does not overwithhold taxes.

2.3d Shipment of Household Effects and Other Personal Property

The costs for shipping the household effects (HHE) of a long-term overseas employee and his/her dependents to and from the project site will be borne by DAI within limitations set by each particular contract. These limitations are in terms of time, weight, and cost. The allowance for shipping HHE to post expires one year after the employee has completed his travel to the post of duty or six months before the contract is due to terminate, whichever comes first. Total maximum weights of HHE that an employee may ship to and from the overseas post and the form of transportation allowed often differ, contract by contract. The employee should check the weight limitations set by the contract with the OPS project monitor.

When shipping HHE to and from an overseas post, the employee is expected to follow DAI's policy detailed below. The employee will be responsible for any excess shipping and storage costs.

1) Air Shipments

(a) **Unaccompanied Air Shipment:** Unaccompanied baggage should include those personal belongings needed by the traveller immediately upon arrival at overseas post. Shipment should be planned so that its arrival coincides with the arrival of the employee and dependents. The unaccompanied baggage shipment generally is not to exceed the following gross weight

limitations. (Gross weight reflects the total weight of the shipment, including all packing materials.)

	Gross weight (pounds)
Employee	250
First dependent travelling	200
Second dependent travelling	150
Each additional dependent travelling	100

DAI requires competitive bids from three different freight forwarders (phone bids are acceptable). Bids must clearly indicate the costs of services for packing and handling, crating, transportation, and any other incidental expenses expressed as cost per 100 pounds. For U.S. government contracts, an American flag carrier must be used where available. These bids and all other relevant documentation must be sent to the project monitor at DAI before any reimbursement can be made to the employee or payment can be made to the shipping company.

When preparing an HHE shipment, the employee must make a packing list. The packing list is a complete list of all items being shipped and their value. This document is mandatory; the freight forwarder will not be able to complete the necessary customs and insurance documentation without it. Please enclose one copy of the packing list inside each package of the shipment and send another copy to DAI. All other paperwork can be completed by the freight forwarder.

Insurance coverage for shipments is not contract chargeable and so will be at the expense of the employee. If you are making your own arrangements for an air shipment, your freight forwarder should make insurance available to you.

(b) **Excess Baggage:** Excess baggage is any baggage that exceeds the weight or number of pieces per passenger limits allowed by an airline. Excess baggage allowances, if any, will be specified in the contract. The employee will be responsible for conforming to all rules and regulations of the airline being used and for paying any excess amounts.

2) Ocean Freight

On contracts that permit ocean freight, the contract will cover all allowable shipping expenses, except insurance, from the employee's point of origin to the overseas post, including packing, crating, and inland transport. The ocean freight shipment is not to exceed the net weight limitations specified in the contract. If no limitations are specified, an employee's ocean freight shipment will not exceed the poundage limits listed below. A net weight figure reflects the actual weight of the goods being shipped, plus a minimum of packing materials. It does not include the exterior shipping container, crating, or anchoring and strapping materials used.

	House not Furnished (net weight allowable)	House Furnished (net weight allowable)
Regular Employees with Dependents	7,500 lbs	2,500 lbs
Regular Employees without Dependents	4,500 lbs	1,500 lbs

In general, employees on long-term assignments are allowed one year to ship their HHE from point of origin to the overseas post, as long as the shipment is complete six months before the scheduled termination date of the contract (for example an employee working under a 14-month contract is allowed 8 months to ship his/her HHE to overseas post). For employees departing from the United States, competitive bids must be sought from at least three freight forwarders. As in the case of air shipments, American flag carriers must be used whenever possible on U.S. government contracts. The quotes indicating the costs of services for packing and handling, crating, transport, and other incidentals as cost per 100 pounds must be sent to DAI/W before the employee will be reimbursed. Insurance arrangements will be the responsibility of the employee and the costs are not reimbursable.

3) Insurance of Household Effects

The cost of insurance for HHE during shipment or at post is not reimbursable. Any shipment going to an overseas post via a DAI freight forwarder will be covered by DAI only at the employee's express request, the cost being reimbursed to the company directly as a payroll deduction. An employee using his/her own freight forwarder must make his/her own insurance arrangements.

The established time limits and procedures for filing insurance claims for damages or losses will vary depending on the insurer. All shipments arriving at the post of duty should be carefully inspected for any irregularities and employees must take action immediately. All claims must be initiated at the receiving end or final destination. DAI cannot make claims for the employee.

4) Shipping of Privately Owned Vehicles

Employees may import private vehicles to post either at contract expense, if authorized to do so by the contract, or at their own expense. Importation and registration requirements vary from country to country; employees are responsible for complying with all applicable requirements.

On U.S. government contracts, all vehicles transported to post must be covered at post by a fully paid insurance policy providing the minimum coverages as set by the mission director, payable in U.S. dollars, or the equivalent in local currency. A

copy of the policy covering a vehicle, or satisfactory proof of the existence of the policy, must be delivered to the mission director before the vehicle is operated at post. The cost of this insurance is not reimbursable.

5) Shipment of a Layette

On U.S. government contracts, a separate airfreight allowance for the shipment of a layette may be authorized for a child born to an employee assigned to a post where American-quality layettes are unavailable. A layette consists of clothing, blankets, and other items of equipment and furnishings directly related to the care and feeding of an infant. Foodstuffs such as milk formula or commercial baby food may also be shipped under this allowance. Upon receiving approval for a layette shipment, the employee may ship up to 120 days before the expected birth, but no later than 45 days after the child is born.

6) Personal Consumables

A.I.D. may determine that availability of consumables in certain countries is insufficient to permit A.I.D. and contractor staff to live comfortably. In such cases a shipping allowance for the importation of consumables would be provided to team members as part of the TA contract. Normally, such an allowance must be used within one year from the date the employee signs an employment contract. DAI will reimburse expenses incurred in the shipment of consumables up to the prescribed limits. Reimbursement to the employee is contingent on submission of airway bills or other documentation of weight and costs.

7) Customs Clearance

Customs policies vary from country to country. U.S. government contracts are based on the U.S. embassy bilateral agreement with the host country. Although there are variations from country to country, personal effects are normally not subject to import duty under the terms of the contract.

Customs clearance for HHE or consumables is usually handled by the local freight forwarder or shipping agent. In some A.I.D.-funded projects, the A.I.D. mission will, upon request, clear all HHE through customs. In such cases, the employee should provide the mission with advance notice as to when HHE are due to arrive, along with all necessary documentation (airway bill or bill of lading, packing list, name of local freight forwarder, insurance certificate, and so forth). In other cases, it is the responsibility of the COP to make these arrangements.

8) Storage of Household Effects

The cost of storage charges (including packing, crating, and drayage costs) in the United States of HHE of long-term overseas employees will be permitted in lieu of transportation of all or any part of such goods to the cooperating country. The contract may specify the combined poundage allowance for both shipping and storage. Any portion of the storage allowance remaining is not transferrable to the shipped

allowance provided. Generally, except when a settling-in allowance is provided, the total amount of HHE shipped to the cooperating country and stored in the United States shall not exceed 7,500 lbs. net.

At least three bids (phone bids are acceptable) from different companies clearly indicating the costs of services for packing and crating, movement to the warehouse, monthly warehouse storage costs, and other incidental costs should be forwarded to the OPS project monitor. Employees have the choice of paying all bills and being reimbursed by DAI or can instruct the storage company to send the bills directly to the OPS logistics monitor.

The employee is responsible for properly insuring his/her HHE while they are in storage. Insurance charges are not reimbursable.

9) Settling-in Allowance

A settling-in allowance may be provided in lieu of ocean freight. The employee will be reimbursed for actual expenses (based on receipts submitted to the COP) up to the limit of his/her settling-in allowance as specified by the contract.

Nonexpendable property (items with a unit cost of $500 or more and an expected life of at least two years) purchased under the settling-in allowance is considered project-owned property and must be turned over to the project at the termination of the employee's contract.

The COP is responsible for obtaining from each employee an inventory of all project-owned, nonexpendable property in the employee's custody before requesting that DAI make final payment to that employee.

2.3e Other Formalities

1) Passports

The employee is responsible for ensuring that he/she and accompanying family hold valid passports and proper visas. The OPS project monitor will assist the employee in obtaining valid documentation.

2) Inoculations

Employees and their dependents are responsible for obtaining the inoculations recommended by the United Nations World Health Service and the U.S. government for the country where they will be residing. Information on such inoculations can be obtained from the administrative coordinator at DAI. Each employee and dependent must have in his/her possession a World Health Service booklet detailing history of inoculations received.

3) Health Certification

Prior to departure for the post, the long-term overseas employee and all accompanying dependents must undergo a medical examination by a licensed physician. The corporation will provide a sample statement for the doctor to use confirming that, in the doctor's opinion, the employee is physically qualified to engage in the type of activity for which he/she is employed and that the employee and authorized dependents are physically qualified to reside at the post. This certificate must be returned to the personnel director before departure for the post. Upon presentation of a receipt, the corporation will reimburse the employee for these examinations up to an amount not to exceed $100 per person over the age of 12 and $40 per dependent under the age of 12.

Consultants working on long-term projects as STTA are also required to submit a doctor's certification to the personnel director prior to his/her departure; however, the short-term employee is not normally reimbursed for the cost of a medical examination. A certification is considered valid provided that it is dated within the past year.

Both long-term and short-term employees should review the health certification requirements for the country to which they are assigned with the personnel director.

4) Agency Clearance

No employee may be sent outside of the United States by DAI to perform work under a contract without the prior approval of A.I.D. or the funding agency

2.3f Travel to Post

DAI's travel policies and procedures have been outlined in a separate memorandum (see Appendix C); some of the general points applicable to long-term project travel have been included here.

1) Transportation

DAI shall provide the employee and dependents authorized to accompany him/her under the pertinent regulations of the contracting agency with transportation from the point of origin via the most direct route to the job site, and shall reimburse the employee and authorized dependents for actual and reasonable expenses (that is, taxis, airport taxes) en route to the job site to the extent permitted under these regulations. Receipts are required for expenses over $25. Under U.S. government contracts, such expenses as porterage charges or tips and gratuities are not reimbursable.

For U.S. government contracts, all travel departing from or arriving at a U.S. destination must be by U.S. carrier wherever possible, especially when travelling across the Atlantic or Pacific oceans. However, travel from one foreign point to another may be by non-U.S. airlines.

Because the host country may require all persons to have round-trip tickets in

their possession upon arrival, DAI/W will, in most cases, purchase round-trip tickets for the employee and his/her dependents. However, the unused portion of the ticket for the return trip should be returned to the administrative coordinator soon after arrival at post in order to be credited back to the project.

When travel is scheduled by an indirect route for the personal convenience of the employee, the allowable costs of such travel will be computed on the basis of the cost of economy air fare via the direct, usually traveled route. If such costs include fares for air or ocean travel by non-U.S. flag carriers, approval for such indirect travel must be obtained from the project officer or the mission director before this travel is undertaken. Otherwise, only that portion of travel accomplished by U.S. flag carriers will be reimbursable.

For trips of 14 hours or more in duration, a consultant providing short-term assistance to a long-term project may choose to stop over at a midway point for a period not to exceed 24 hours or may elect to travel in business class directly to the final destination, provided that any scheduled connection between flights is less than 8 hours duration. For non-U.S. government contracts, the usual class of service authorized is economy fare by the most direct route.

Although by U.S. government regulations, "economy class" is defined as "a class of air travel which is less than first class," it is DAI policy not to consider business class travel as being reimbursable under A.I.D. contracts unless the requirements governing stopovers are met (see previous paragraph). An employee wishing to travel first class or business class with a stopover must reimburse the cost difference between such categories and full-fare economy class.

2) Per Diem

Travel per diem for authorized travellers to and from post shall not be in excess of $6.00 per day for persons 11 years of age or over, or $3.00 per day for persons under 11 years of age, for not more than the travel time required by scheduled full-fare economy class commercial air carrier using the most expeditious route and computed in accordance with the appropriate travel regulations.

One stopover enroute, at full per diem for the location, for a period not to exceed 24 hours is allowable during a trip of 14 hours or more scheduled duration provided that economy class is used. Per diem rates vary according to location and are regularly amended. Employees may obtain applicable rates from the OPS project monitor.

When travel is by indirect route or is delayed for the convenience of the traveler, only the direct route equivalent of per diem will be paid.

Employees delayed through no fault of their own while en route directly to their post are entitled to prevailing per diem.

Children on authorized educational travel collect applicable per diem.

3) Travel Advances

SLL

Although DAI encourages the use of personal credit cards to cover personal expenses, when funds are available and upon request, DAI will provide a travel advance equal to 80 percent of expected per diem for up to a month, not to exceed a maximum of $1,500. Travel advances will be deducted from the total amount of per diem claimed on the employee's subsequent travel voucher. All previous advances must be settled before an additional advance will be granted.

4) Salary Payment during Travel Status

DAI does not pay salary for travel during weekends unless the contract that is funding the travel specifically permits such payment. Under most A.I.D.-funded contracts, one day of weekend travel (on Saturdays) will be paid for. As a general policy, DAI will attempt to incorporate language in the contract to permit salary payment for Sunday travel periods, but this cannot be guaranteed.

2.3g Setting Up

1) Housing

Under most contracts housing is provided either by the donor/source of funding or by the host government. Adequate furnishings may or may not be provided depending upon what was negotiated in the contract. Furnishings usually means basic furniture, beds, and a kitchen that is equipped with at least a stove and refrigerator. The appropriate type of appliances and household equipment is decided at the onset of any implementation project, depending on the location and availability of electricity, gas, and kerosene.

In the event that household furnishings are not supplied by the sponsoring agency or the host country, either a shipping allowance adequate to enable team members to ship furnishings, both to and from the project site, or a settling-in allowance will be included in DAI's contract. In such a case, exact allowances and shipping procedures will be given to team members by the OPS project monitor.

2) Embassy Post Privileges

Availability of post privileges generally depends on the U.S. ambassador at post. Contractors have no inherent right to post privileges and there is no guarantee that rights to post privileges will be extended to a TA team. Only U.S. citizens and residents are entitled to post privileges granted a TA team. Post privileges may include the following:

(a) **Medical Services:** On U.S. government contracts, U.S. embassy health room services of the same type that are normally provided to A.I.D. direct-hire employees who are U.S. citizens are generally available, at the discretion of the ambassador, only to U.S. citizens or resident contractor or subcontractor employees and their authorized dependents (regardless of citizenship) at the post of duty. These services do not normally include hospitalization, predeparture, or end-of-tour medical examinations.

Usually, services do include such medications as may be available; immunizations, and preventive health measures; diagnostic examinations and advice; emergency treatment; and home visits as medically indicated.

(b) **Commissary Privileges:** Certain U.S. embassies and A.I.D. missions have commissaries as part of the services offered to the "official" American community. Under certain contracts with A.I.D., members of TA teams are allowed to use the commissary. The exact manner in which this privilege is accorded varies with each embassy. Should a membership fee be required, it is the responsibility of the interested individual team member to arrange for this payment. In certain cases, a team membership may be allowed; fees associated with this type of membership are still the responsibility of the team members.

It is the responsibility of each team member to ensure that at the end of a contract all pending bills for personal purchases at the commissary are paid. DAI is not responsible for any unpaid bills.

Arrangements for using the commissary are always established in the field. The COP should take the lead in developing these links with the appropriate authorities.

(c) **Other Services:** As a general rule, contractor employees are not permitted to use APO, PXs, military commissaries, or officers' clubs unless specifically authorized to do so in the contract schedule or with the written approval of the contract officer.

It the COP's responsibility to investigate and obtain available post privileges soon after his arrival at post.

3) Local Banking

In addition to the bank account in Washington into which employee paychecks will be deposited, employees may find it advisable to open checking accounts at their post. Employees should be aware that local banking practices vary widely and that delays in transferring funds to foreign accounts occur frequently.

U.S. citizen employees posted in cities where U.S. embassies or consulates exist are usually permitted to cash checks for nominal amounts at these facilities. Employees are advised to investigate this possibility early in their tour.

4) Communications

All formal communication by project team members with DAI/W will be through the COP. Telex or fax communication is maintained for all project-related business and problems. When telex or fax facilities are not readily available, communication will be maintained through scheduled phone calls and express courier service.

(a) **Handling of Personal Mail and Bills:** DAI/W will not be responsible for the forwarding of personal mail or the payment of an individual's bills, or the handling of other personal affairs, except in the case of an emergency. The employee should make arrangements for someone, such as a friend, family member, or attorney, to handle personal affairs.

(b) **Project Mail:** DAI/W maintains business correspondence with the field through project mail, which is numbered and logged. Project mail is generally sent out on the 10th, 20th and 30th of every month.

(c) **Use of Pouch Facilities:** Use of the diplomatic pouch is controlled by the Department of State. The Department of State has authorized, as a general policy, the use of pouch facilities for A.I.D. contractors and their U.S.-citizen or U.S.-resident employees; however, the final decision regarding use of pouch facilities rests with the U.S. embassy or A.I.D. mission.

When allowed, employees working on an A.I.D. contract and their employees are authorized to use the pouch for transmission and receipt of up to a maximum of two pounds per shipment of official envelope mail that is correspondence and documents needed in the administration of foreign assistance programs. Some posts may impose severer restrictions; the COP should check with the mission to determine such limitations before pouch facilities are used.

U.S. citizen employees are authorized use of the pouch for transmission or receipt of personal first-class letter mail up to a maximum of two pounds per shipment. Merchandise, parcels, magazines, or newspapers are not considered to be personal mail and are not authorized to be sent or received by pouch. Replacement bank checks, prescription drugs (to be identified as such on the envelope), and eyeglasses are also allowable in small quantities.

(d) **Official and personal mail** should be addressed as follows:

1. Official Mail:

   Name of Individual and Organization (followed by "C" for "Contractor")
   Name of Post
   Agency for International Development
   Washington, D.C. 20523-0001

2. Personal Mail:

   Drop organization and use only the name of the individual followed by "C," for "Contractor."

Mail will be handled just like U.S. domestic mail and must be stamped with appropriate U.S. domestic postage. Employees should bring adequate supplies of U.S. postage stamps if pouch facilities are available.

A.I.D. contractor personnel are not authorized to use military postal facilities (APO/FPO). Posts having access to APO/FPO facilities and using such for diplomatic pouch dispatch, may, however, accept official mail from contractors provided adequate postage is affixed.

Specific additional guidance on use of pouch facilities in accordance with this clause should be available at the U.S. embassy or A.I.D.

2.4 Demobilization

2.4a Clearing Post

Each employee is expected to provide the COP with a full inventory of project materials under his/her control before leaving post on a completed or terminated contract. The inventory should include vehicles, machinery, household items, and so forth. This inventory must be in the hands of the COP before the employee will receive his/her final salary check.

The indebtedness of an employee in the host country is a concern of DAI and the corporation may withhold payment of all compensation until informed by the COP that any employee's indebtedness has been discharged. The aggregate amounts of any employee debts assumed by DAI will be deducted from any compensation payable to the employee.

The COP will request an end-of-tour report from the departing employee. This report must be submitted before the final salary is paid to the employee.

2.4b Shipments of Return Household Effects

Arrangements for return shipments of HHE are made at the project site by the field team members for individual shipments, or by the COP when two or more field team members' HHE are consolidated into a single shipment.

The COP is ultimately responsible for overseeing the repatriation of employees' HHE. HHE of the field team should be packed, shipped to the loading dock, booked on a vessel, freight pre-paid, and shipment made no later than 180 days after the project activities completion date (PACD).

When two or more employees and their dependents leave a project on completed contracts at the same time or within a short period of each other, their HHE shipments will, if possible, be consolidated to minimize shipping costs. The COP is responsible for arranging consolidated shipments and employees are required to cooperate. The COP (or assigned staff) should obtain three quotes directly from the freight forwarders for all services pertaining to the packing, handling and movement of HHE shipments to port of loading. The lowest bidder should be selected provided that the quality of service, reputation and reliability have been evaluated and deemed acceptable.

The COP is responsible for verifying that HHE shipments are properly booked on outbound carriers. For all U.S. government contracts, American flag carriers must be used if available. Where U.S. flag vessels are not available or where their use would result in a significant delay the COP should inform DAI of the situation so that a waiver might be requested from A.I.D.

On U.S. government contracts, where ocean freight is not possible or not cost effective, the COP may request a waiver to ship all HHE by air, sending a request such as the one below to the project officer for authorization:

> Due to the unavailability of ocean shipping to [COUNTRY X], "Development Alternatives, Inc. requests the authority to ship household effects under the above-cited contract by air. Individual weight allowances will be reduced to the extent that total shipping cost will not exceed the cost of shipping the full allowance by sea.
>
> I would appreciate receiving your approval as soon as possible.
>
> Sincerely, (COP) — Approval: Date:

A copy of this letter, with the signed approval of the project officer, should be sent to the OPS project monitor. Should the project officer decline to sign on the grounds of possessing insufficient authority, the COP should request that the DAI Office of Administration appeal to the A.I.D. contract officer.

As is the case with HHE shipment to post, if an employee arranges his/her own return shipment he/she must obtain three quotes, and, on U.S. government contracts, must use an American flag carrier when possible, even if this means some delay in the actual shipment schedule. After these arrangements have been made and the proper documentation is in the hands of the COP, DAI will pay for the costs of a HHE return shipment for an employee provided the employee has read and signed a letter agreeing to reimburse DAI for any shipment expenses in excess of limits allowed under the contract. As with all other shipments, insurance will be paid for by the employee, not DAI or the client.

Documentation is crucial to clearance of shipments at points of origin and destination. Documents also serve as evidence should an insurance claim be necessary. DAI requires that all pertinent documents, except airway bills and bills of lading, which are generally not issued until the shipment is actually made, be sent to the OPS project monitor prior to the arrival of the shipment. DAI requires copies of all documents for backup of disbursement.

In many cases, final shipment will not be made until after the COP has departed. The COP will, however, be responsible for arranging with A.I.D. personnel or other follow-up persons to notify DAI of shipment date, routing, documentation numbers and estimated time of arrival.

Return shipments must be completed within six months after termination of an employee's contract.

2.4c Return Travel

The COP will furnish employees with return tickets, charged to the DAI American Express card or paid out of the field account, to the point of origin or the home of record as specified on the employment agreement. Please refer to Section 2.3f for specific regulations under the contract.

2.4d Reentry Medical Exams

Medical exams are not required at the end of an employee's tour of duty, although DAI strongly recommends that an employee have one performed. If the employee and dependents wish to have such physicals, the exams must be performed by a licensed physician within six months of leaving the host country. Employees should note that it is possible to claim a work-related illness after contract termination date and exit exam, but the longer the time lapse between the termination date and exit exam, the less likely it is for such an illness to be covered under the DBA insurance.

Under U.S. government contracts, reimbursement is provided for exit medical exams up to $100 per adult and up to $40 per child under 12 years of age.

3. PROJECT ADMINISTRATION

3.1 COP Responsibilities

3.1a Lines of Authority

The DAI COP is DAI's senior, on-site project person. As such, he or she is responsible for project implementation in conformance with contract terms and conditions, including management of project personnel and resources and the production and delivery of required project outputs including all required reports. Notwithstanding this, however, it is DAI's corporate responsibility to assure proper and complete fulfillment of its contracts, and therefore all DAI COPs must report and be responsible to DAI corporate management.

Authority to enter into and to modify contractual arrangements rests with DAI senior management, except to the extent that authority has been specifically delegated in writing to the COP. In general, the COP is responsible for performing the functions described in this manual and exercising any other authority delegated by DAI management. The COP may delegate such authority to other team members as he/she deems appropriate, but the COP retains responsibility for seeing that such authority is exercised in the interest of the project and of DAI. In addition to serving as DAI's senior on-site project manager, the DAI COP also has responsibility of representing DAI's corporate interests in the country in which his or her project is located. The ways in which a COP can best fulfill this responsibility will be defined through discussions with appropriate DAI senior management personnel, and by the specific circumstances surrounding each project.

3.1b Relationships with Contracting Authorities

Except in cases that require involvement by DAI senior management, the COP should be the sole channel for communications concerning contract issues between a project team and the cognizant contracting authorities or project officer in the country in which a project is located. The involvement of other project personnel serves only to cloud issues and confuse proper lines of authority. Project personnel who have related issues that require attention should discuss them with the COP or, in special circumstances, DAI senior management.

Concurrently, project personnel should never engage in discussions or negotiations concerning salary or other personnel compensation issues with contracting agency representatives, as such matters must remain strictly between DAI and its employees.

Experience suggests that DAI COPs can ease the administrative burdens on contracting agency personnel, and thereby facilitate more expeditious project execution, by using an "approval format" on memoranda requiring decisions by such personnel. This approval format consists of a memorandum outlining the issue to be addressed, summarizing options, recommending a solution, and providing space at the bottom for "approval" or "disapproval" signatures by the project and contract officers.

3.1c Subcontractors

In certain instances, DAI finds it expedient to subcontract elements of its projects for implementation by others. The COP on such a project is responsible for assuring the effective performance of these subcontractors, and also for monitoring the finances of subcontracts and for ensuring timely payments in response to invoices.

3.1d Team Meetings

Team meetings can be an important means to increase interaction and communication. Factors such as the number of team members, the type of project, and the degree of day-to-day contact among team members ordinarily determine the frequency, duration, and content of such meetings. Past DAI experience indicates, however, that meetings should be held at least once a month at the beginning of a project, with frequency dropping to no less than once a quarter when a project is fully underway.

Meetings work best in an environment conducive to frank discussion, that guarantees few interruptions, and that offers those participating a break from daily routines. This may mean that such meetings should be scheduled during work hours (and not on holidays or after hours), and in a location that is removed from "business as usual." If team members are geographically dispersed, a central location may be used or a revolving schedule established, which would bring the whole team together at a designated location in the project area. The COP should confer with

the contracting agency's project officer on the type and frequency of meetings, to ensure that the costs are covered by the contract.

A record of discussions and decisions taken during these meetings is useful for reference and to keep DAI and project sponsors informed of team activity. Copies of the record should be forwarded to DAI and to such host country and sponsoring-agency personnel as the COP deems appropriate.

3.1e Team Personnel Management

1) Reporting of Hours Worked

See Section 3.2a.

2) Performance Reviews and Raises

The COP may recommend annual salary raises within limits specified in the contract -- usually 5 percent. Raises are based on performance reviews by the COP and are implemented on the employee's anniversary date with the concurrence of DAI senior management and, on U.S. government contracts, the project officer.

Performance reviews are to be conducted by the COP with each team member as a means to improve efficiency and as a clear indication of the quality and quantity of work being performed. Performance reviews should be held at least once every six months with all team members.

The COP will inform DAI at least one month in advance of the salary review date of the amount of the salary increase proposed. When a DAI staff member takes an overseas assignment and does not receive an increase in salary upon signing a contract, then his/her anniversary date is considered to be that of the last DAI salary increase provided the COP can obtain written approval from the contract officer for the deviation from regulations, which, on U.S. government contracts, require 12 months of work under contract before a raise can be considered.

3.1f Leave Reporting

The COP is responsible for monitoring leave of field team members. Because questions can arise regarding annual and sick leave balances of individual employees, especially those who must take extended sick leave or are terminated, the COP is required to send duplicate leave records to DAI. COPs will have each employee submit monthly a DAI field timesheet showing the days worked on the top line and using two of the other lines to report annual leave and sick leave taken, if any. For each employee, the COP will also fill out a monthly leave summary showing the amount of each type of leave accrued or used during the month along with the resulting balances.

On U.S. government contracts, employees are entitled to all holidays authorized by the mission director for the country of assignment. These holidays need not be

reported to DAI and it is up to the COP to decide whether such holidays should be shown by employees on the monthly timesheet for recordkeeping purposes. Holidays not used during an employee's tour are forfeited.

The COP will review employees' timesheets, sign them, return one copy to the employee, keep one copy for local records, and send one copy to DAI along with the monthly leave summary. The accumulation of these monthly reports at both the field team site and DAI will give an accurate duplicate record of all employee leave balances.

3.1g Disciplinary Actions/Terminations

The employment agreement signed between a team member and DAI is the basic document that controls personnel actions. This agreement is based on the project contract between DAI and the donor/funding source. Termination or other disciplinary action is taken within the terms of the individual's employment agreement, the project contract, and any technical directions on the subject established between the sponsoring agency and DAI.

Most contracts grant the COP authority to remove from the project area a team member guilty of a transgression serious enough to warrant termination or other disciplinary action. Only DAI senior management, however, can terminate a team member's contract.

3.1h Identification of Long-term and Short-term Employees

The COP is responsible for obtaining approval for both short-term SOWs and the SOWs of any proposed long-term positions. SOWs should be mailed and, if necessary, telexed or faxed to the Office of Recruitment via the OPS project monitor. The SOW should include:

- Date the person is needed;
- Length of time the person is needed;
- Activities to be undertaken;
- Identification of host country counterparts and organizational structure;
- Location of housing and type of living conditions;
- Preferred qualifications of candidate; and
- Suggested background materials that candidate should be given.

The Office of Recruitment and division backstopper screen potential candidates. Resumes are then telexed and sent to the field.

The COP selects a candidate and notifies DAI. If a candidate is identified from the field, his/her resume and salary history must be telexed to DAI. The Office of Recruitment will review both and determine a justifiable salary rate, which the COP will present to the mission. COPs should not negotiate salary rates without input from the assigned DAI recruiter.

The COP formally nominates the candidate to the donor agency and the host country. When formal approval of the candidate is received by DAI, the OPS project monitor works with the candidate and the COP to arrange posting to the project.

Short-term technical employees who are hired overseas under the contract may be hired and paid in the field. The COP must send a resume and copy of the employment agreement for such employees to the personnel director as well as the employee's address, salary rate, period of employment, level of effort, and SOW. If the individual is a citizen of the United States, the COP must also report the person's social security number.

Other nontechnical personnel, such as drivers, construction workers, and guards, who are not directly hired under the contract should not be reported to DAI. All records must be kept in the field. Local laws concerning employment of host country nationals must be followed.

3.1i Communications

All project-related communications from DAI to the field teams are routed through the COP. Communications from the field to DAI are directed by the COP through the OPS project monitor at DAI/W to DAI staff. Project communications include regular mail, overnight mail, telexes, and telefaxes.

It is the responsibility of the COP to arrange secure telex or fax services with a local source. A back-up telex service is also desirable. Telex number and billing addresses for both telex services should be communicated to DAI.

When the COP is away from post and unable to approve an outgoing request or respond directly to an incoming request, he/she should designate another team member in his/her stead and inform DAI/W of this arrangement. It is the responsibility of the COP to be briefed on return to post of any significant communications that took place during his/her absence.

3.1j Computerization

It is DAI's policy to introduce appropriate computer technologies into the administration and management of all of its long-term projects. COPs and other project personnel will receive appropriate guidance, support, and assistance from DAI's Office of Information Management (OIM) in assuring implementation of this policy.

3.1k Long-term Project Checklist

Appendix D presents a detailed summary of items that need to be attended to by the COP throughout various stages of a project. For easier use, some items have been cross-referenced with the numbers of the applicable sections in the manual in which they are discussed in further detail.

3.2 Financial Management

A standardized field accounting system has been designed to provide a comprehensive financial management capacity to link expenditures to contract budgets and to provide mechanisms for ensuring proper preparation of monthly vouchers in the field. Each new COP will be trained to use the system. It will be installed in future long-term projects where field expenditures exceed $20,000 annually. Updates to the following sections will be made as appropriate.

3.2a Payroll

The COP is responsible for maintenance of an employee time reporting system. Employees complete monthly timesheets and submit them to the COP for his/her approval. The COP maintains a file of timesheets for each employee and records all leave earned and taken each month and the resulting balances on the monthly leave summary form. The COP forwards one copy of the monthly leave summary form to DAI.

The COP, or a designated representative, is responsible for advising the OPS project monitor each month of the hours worked that month for each person employed under a long-term contract. It is essential that this information be transmitted to ensure receipt in DAI at least five full working days prior to the end of the month. To ensure adherence to this schedule, actual time for the last few days of the month should be projected, and, if necessary, adjusted in the next month. Hard copy confirmation (duplicate timesheets) should be forwarded to DAI by the beginning of next month.

3.2b Field Expenses

The COP is ultimately responsible for all field expenditures, although the day-to-day authority for payment may be delegated to a local office manager or accountant. DAI/W encourages all COPs to familiarize themselves with A.I.D. mission-specific regulations regarding calculation of per diem and allowances (that is, temporary lodging, housing, education) soon after arrival at post. DAI/W travel vouchers should be used to document all travel-related reimbursable expenses; instructions for filling these out can be found on the back of the form.

3.2c Billings

Project billings (also known as invoices, or submissions) follow a budget outline set forth in each contract. Budget categories applicable to most long-term contracts include:

- Salaries;
- Fringe benefits/overhead;
- Travel and transportation (including international travel, U.S. travel, in-country (that is, host country travel, R&R travel, and HHE shipment);
- Allowances (including per diem, post differential, cost of living, education, and medical);
- Other direct costs (including communications, for example, telex and telephone; office supplies, miscellaneous); and
- Equipment and supplies.

In addition to direct and indirect costs, DAI's contracts provide for recovery of a fee. The amount of fee is negotiated between the contracting agency and DAI.

Billings for most long-term contracts are prepared in the field rather than at DAI/W. In such cases DAI will telex or fax to the COP each month a listing of all contract expenditures initiated at DAI/W. These costs should be combined with costs initiated in the field (see section 3.2d below), with a comprehensive billing prepared in the field. The invoice amount should be telexed or faxed promptly to DAI/W; two hard copies of the billing should be forwarded promptly to ensure receipt in DAI/W by the 25th of the month following the month in which costs were incurred.

Distribution of the completed billings is as follows:

- Four copies are given or mailed to the designated A.I.D. project officer or controller (as determined in the field) who should promptly review the invoice and authorize disbursement;
- Two copies are sent to the DAI/W; and
- Two copies are kept in the field.

3.2d Budget Monitoring

Each billing includes a "remaining sheet." The remaining sheet is a summary report that gives budget amounts, monthly expenditures, and contract-to-date expenditure totals, and the remaining balance for each budget category. The remaining sheet is a basic tool to be used by the COP to monitor the financial status of the contract.

One of the most important administrative responsibilities of the COP is to ensure that contract expenditures do not exceed the total amount obligated under the contract. Some contracts also restrict the amount to be spent on any particular line item, usually not more than 115 percent of the line item total.

The budget monitoring function goes beyond mere review of the remaining sheet. Remaining sheets reflect only those costs or expenditures for which a transaction has been recorded. It does not include commitments for which funds have not yet been expended. The underlying data concerning commitments are almost always kept in the field; it is essential that the pending costs information be organized in a useful way by the COP so as to be available as needed. The COP must be sufficiently aware of actual costs and pending costs to assist in making meaningful projections and to converse knowledgeably regarding the financial status of the contract. The OPS project monitor can play a significant role in assisting the COP in this regard, but most data available to DAI are historical. The COP is the only one who has day-to-day access to both recorded and pending costs and new plans. Accordingly, the COP has primary responsibility for ensuring that a contract budget is not exceeded; he/she should review the budget projection updated each month by the OPS project monitor and ensure that all assumptions are correct.

3.2e Field Reporting and Local Bank Accounts

Day-to-day operation of many long-term projects has required DAI through the COP to establish bank accounts in the field. Local checking accounts (in U.S. dollars or in local currency) are opened in the name of the corporation. COPs generally have available a bank account in Washington against which they can issue checks in the field payable in U S. dollars; these accounts facilitate fund transfers in the field. Currently, DAI uses First American Bank (FAB) to provide financial services to overseas projects. Critical information regarding operational rules governing the account are detailed on the FAB signature card, which is provided by DAI/W's Controller's Office. This office will furnish the COP with the names of all eligible signers on the account, the maximum amount allowable with a sole signature, and the effective date of the signature card. If personnel changes dictate updating or creation of a new signature card, DAI/W will inform all involved parties.

Local currency is frequently required for incidental day-to-day expenditures. Local currency accounts are opened at the discretion of the COP at a bank near the project site. When conditions require disbursing funds in the field, special field-reporting procedures come into play. It is the responsibility of the COP, or another project staff member that he might designate, to become familiar with DAI requirements for field reporting, as this will become part of an integrated and standardized monthly process. Monthly reports of field disbursements should be sent to the home office within 10 days of the end of each month. The field reports should contain the following information:

1) A listing in numerical sequence of all checks drawn on the bank account in Washington, D.C. The listing should contain check number, date, payee, and amount. The expenditure should be coded as to applicable cost category using the cost code listing that appears in the DAI chart of accounts provided to each field team. IN ADDITION TO MAILING THESE DATA,

THIS LISTING SHOULD ALSO BE TELEXED OR FAXED TO DAI/W ON THE LAST DAY OF EACH MONTH.

2) A listing that indicates payor and amount of all cash received in the field, accompanied by documentation as to reason or purpose of the receipt.

3) A summary and total of contract costs disbursed in each local bank account and/or in local currency. Each transaction should be listed in the local currency amount, translated into U.S. dollars, and coded as to cost type using the chart of accounts.

4) Copies of all documentation that supports field disbursements (invoices, receiving reports, purchase orders, and so forth). Original documents should be retained in the field.

5) For each local currency bank account, and for all cash funds on hand, a summary of monthly activity should be provided in the following format:

- Balance on hand, beginning of month;
- Receipts;
- Disbursements; and
- Balance on hand, end of month.

Naturally, the amounts summarized in sections 3.2e2 and 3.2e3 should agree with respective amounts reported under "receipts" and "disbursements" above.

3.2f Disallowances

Amounts billed by DAI may from time to time be disallowed by the contracting agency for any of the following reasons:

1) Expense incurred is allowable but not covered by the budget.

2) Billable expense disallowed for lack of prior approval from the project officer, contract officer, and so forth.

3) Expense not allowable or erroneously billed.

Whenever disallowances occur, the COP will be expected to determine specifically what has been disallowed and why, and should advise DAI/W promptly so that joint efforts can be made to have the disallowances reversed.

3.2g Cash Forecasting and Reporting

For the home office to make funds available for field use, DAI has instituted the following required procedures consistent with sound cash management practices:

1) Twice a month the COP, on the 15th and last day of each month, should send by telex or fax to DAI an estimate of dollar disbursements to be drawn in the field on the Washington account during the next semimonthly period.

2) At the time of the semimonthly estimate, the amount of actual expenditures for the immediately preceding semimonthly period should also be telexed or faxed. Semimonthly telexes or faxes should be sent even if no expenditures occurred or are anticipated.

3) If a large expenditure (greater than $10,000) not previously anticipated should become necessary, prior to issuing the check a special telex should be sent to DAI to advise of the need and request authorization to disburse.

Failure to advise DAI of cash requirements in the field may result in embarrassment to all concerned as checks presented for payment may be returned for insufficient funds. If, however, the above procedures are followed, DAI/W can ensure that adequate funds will be available for clearing checks drawn on the project bank account located in Washington.

3.3 PROCUREMENT

Often, long-term contracts will have a procurement component. Procurement is governed by the individual contract, which refers to applicable regulations of the sponsoring agency. These regulations are usually lengthy and complex. In each case, the COP and any administrative or logistics personnel assigned to the project will be briefed at DAI by the administrative coordinator and OPS logistics monitor prior to project start-up.

In a typical A.I.D. contract, there are specific steps that must be followed to identify needed commodities, select suppliers, and procure commodities using prescribed competitive procedures. In addition, U.S. government-sponsored contracts normally require that commodities purchased be of U.S. manufacture. In some cases, the advance approval of the project officer or even the contract officer might be necessary before procurement can be undertaken.

It is the responsibility of the COP to learn about, and to follow, the procurement procedures specific to the contract and to maintain an inventory of all equipment purchased under the contract. At project activities completion date, this list and all such equipment will be formally turned over to the contracting agency.