

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE <input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number 6	DOCUMENT CODE 3
2. COUNTRY/ENTITY Yemen Arab Republic		3. PROJECT NUMBER 279-0052		
4. BUREAU/OFFICE USAID/Sanaa		5. PROJECT TITLE (maximum 40 characters) Agriculture Development Support		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 12 31 95		7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4) A. Initial FY <u>79</u> B. Quarter <input type="checkbox"/> C. Final FY <u>95</u>		

8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 86			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	1,200		1,200	123,222		123,122
(Grant)	(1,200)	()	(1,200)	(123,222)	()	(123,222)
(Loan)	()	()	()	()	()	()
Other U.S.						
Host Country					49,439	49,439
Other Donor(s)					25,906	25,906
TOTALS	1,200		1,200	123,222	75,345	198,567

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	000			53,131				123,222	
(2)									
(3)									
(4)									
TOTALS				53,131				123,222*	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 300 600 700 960				11. SECONDARY PURPOSE CODE			
12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each) A. Code XII TNG B. Amount ALL ALL							

13. PROJECT PURPOSE (maximum 480 characters)

The purpose of the overall Agriculture Development Support Project and its subprojects is to improve the capacity of the YARG and Yemeni agricultural producers to develop and sustain an agricultural sector which effectively and efficiently uses Yemen's natural resources, is integrated into the economy, and is supportive of broad-based and equitable social and economic development.

14. SCHEDULED EVALUATIONS Interim MM YY MM YY Final MM YY 09 86 09 94				15. SOURCE/ORIGIN OF GOODS AND SERVICES <input checked="" type="checkbox"/> 000 <input checked="" type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify) 935			
--	--	--	--	--	--	--	--

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page FP Amendment.)

*Life of Project total includes \$29,187 for the Faculty of Agriculture Subproject and \$2,500 for the Ibb Secondary Agricultural Institute Subproject Amendment for which an ad-hoc redelegation of authority has been requested.

17. APPROVED BY	Signature Charles F. Weden, Jr.	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
	Title Mission Director USAID/Yemen	

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE <input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number 2	DOCUMENT CODE 3
2. COUNTRY/ENTITY Yemen Arab Republic		3. PROJECT NUMBER 279-0052		
4. BUREAU/OFFICE USAID/Sanaa		5. PROJECT TITLE (maximum 40 characters) Core Subproject Agriculture Development Support		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 09 30 90		7. ESTIMATED DATE OF OBLIGATION (Under 'B' below, enter 1, 2, 3, or 4) A. Initial FY <u>8</u> <u>1</u> B. Quarter <input type="checkbox"/> C. Final FY <u>9</u> <u>0</u>		

8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 79			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	6,738		6,738	38,404		38,404
(Grant)	(6,738)	()	(6,738)	(38,404)	()	(38,404)
(Loan)	()	()	()	()	()	()
Other U.S.						
1.						
2.						
Host Country		2,400	2,400		5,400	5,400
Other Donor(s)						
TOTALS	6,738	2,400	9,138	38,404	5,400	43,804

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	000			21,400		0		59,804	
(2)									
(3)									
(4)									
TOTALS				21,400		0		59,804	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)				11. SECONDARY PURPOSE CODE	
300	600	700	900		

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)					
A. Code	XII	TNG			
B. Amount	ALL	ALL			

13. PROJECT PURPOSE (maximum 480 characters)

To improve the capacity of the YARG to plan and monitor a national agricultural development program supportive of private sector production and marketing.

14. SCHEDULED EVALUATIONS				15. SOURCE/ORIGIN OF GOODS AND SERVICES			
Interim	MM YY	MM YY	Final	MM YY	MM YY	MM YY	MM YY
	07 87			01 90			
				<input checked="" type="checkbox"/> 000 <input type="checkbox"/> 941 <input type="checkbox"/> Local <input checked="" type="checkbox"/> Other (Specify) 935			

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 175 page PP Amendment)

This amendment extends the Core Subproject for a second five year period.

17. APPROVED BY	Signature Charles F. Weden, Jr.	Date Signed MM DD YY 04 24 85	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
	Title Mission Director USAID/Yemen		

AGRICULTURAL DEVELOPMENT SUPPORT
(Yemen Title XII Program)
Project 279-0052
CORE SUBPROJECT PAPER AMENDMENT

PROJECT DESIGN TEAM:

Jean Britton	Secretary
Edward B. Hogan	Team Leader, Agriculture Economist
Jeffrey R. Meissner	Anthropologist
J. Ronald Miner	Engineer
Robert Morrow	Agriculture Economist
William A. Rutherford	Economist/Institutional Analyst

April 1985

TABLE OF CONTENTS

CORE SUBPROJECT PHASE II

	<u>Page</u>
I. Face Sheet (Project Data Sheet)	i
II. Executive Summary	v
III. Project Rationale and Description	1
A. Introduction and Background	1
1. Introduction	1
a. Income distribution	2
b. Decision making	2
2. Background	2
a. Agriculture Situation	2
b. The Program -- The First Five Years	3
c. Strategy	4
B. The Program	5
1. Goal	5
2. Program Purpose	5
3. End-of-Program Status (EOPS) and Means for Achievement	5
C. Subproject Rationale and Description	8
1. Subproject Rationale Summary	8
2. Subproject Objectives	9
a. Goal	9
b. Subgoal	9
c. Purpose	10
d. Outputs	10
e. Inputs	11
f. Beneficiaries	13
g. Implementation Method	13
h. The Future of Agriculture and the MAF	16
i. Project Parameters	18
3. Subproject/MAF Focus, Phase II	20
4. Training	22
5. Assistance Priorities	23
6. Advisory Training Services	24
a. Appropriateness of Counterparts	24
b. Availability of Participants	24
c. Structuring Advisory Services	24
7. Increasing Advisor/Counterpart Effectiveness	26
a. Organizational Development Study	26
b. Institutional Development Training	27
c. Management Development Training	27

IV.	Cost Estimate and Financial Plan Tables	29
IV-1	Summary Cost Estimates by Uses	31
IV-2	Budget Summary	32
IV-3	Budget Attribution (Core & Subprojects)	33
IV-4	Summary Core Subproject Budget	34
IV-5	Budget Distribution	34
V.	Project Implementation	35
A.	Basic Principles	35
B.	Initial Implementation Tasks	36
VI.	Monitoring Plan	37
VII.	Summaries of Analyses	38
A.	Technical Analysis	38
1.	Subproject Impact	38
2.	Institution Development/Descriptive Analysis	39
a.	Advisory Services	39
b.	Training	40
c.	Project Design/Mobilization/ Coordination	40
3.	New Project Assistance	40
a.	Advisory Services	41
b.	Training	41
c.	Subproject Design/Mobilization	41
d.	Summary of New Subproject Interventions	42
B.	Economic Considerations	43
1.	Incremental Costs/IRR	43
2.	Policy Environment	44
C.	Social Soundness	44
1.	Scope of Social Soundness Analysis	44
2.	Sociopolitical Background	44
3.	YARG and Institutions	44
4.	Role of MAF in Development	45
5.	Sociocultural Feasibility--Intercultural Considerations	46
6.	Social Consequences and Benefits	47
a.	Beneficiaries	47
b.	Women	47
D.	Administrative Analysis	48
1.	The Coordination and Integration Role	48
a.	USAID/ADD Responsibilities	48
b.	Core Subproject Team Leader	49
c.	Program Coordinating Committee	49
d.	Administrative/Logistical	49
e.	Advisory Service/Staff Relations	50
f.	Workplans	51

5X

VIII.	Conditions and Covenants	51
	A. Conditions Precedent	51
	B. Special Covenants	52
XI.	Evaluation Plan	53
X.	Annexes	
	A. Draft Amendment to Project Authorization	
	B. Log Frame Matrix	
	C. Statutory Checklist	
	D. Borrower/Grantee Request for Assistance	
	E. Analyses	
	i. Technical Analysis	
	ii. Economic Analysis	
	iii. Social Soundness Analysis	
	iv. Administrative Analysis	
	v. Institutional Analysis	
	F. Draft Partial Workplan	
	G. Financial Analysis and Budget	
	H. Log of Persons Interviewed	
	I. Bibliography	

EXECUTIVE SUMMARY

This subproject amendment proposes to extend the Core Subproject for a second five year period as part of a 15 to 20 year program of assistance (Agriculture Development Support, 279-0052), to the Yemen agriculture sector. The Core Subproject provides advisory services and training to the Ministry of Agriculture and Fisheries (MAF) and provides support to the development of an integrated program composed of several subprojects.

1. Goal and Purpose

The Goal and Subgoal of the extended Subproject remain the same as for the first phase, while the Purpose has been refined and clarified based on five years of experience. The Purpose as modified indicates that the YARG should be able to plan and monitor a national agricultural development program rather than implement it themselves, and that the program should be supportive of private sector production and marketing.

Goal - Increased income and improved quality of life for rural inhabitants in the context of broad-based and equitable social and economic development.

Subgoal - To improve the capacity of the Yemen Arab Republic Government (YARG) and Yemeni agricultural producers to develop and sustain an agricultural sector which effectively and efficiently uses Yemeni natural resources, is integrated into the economy, and is supportive of broad-based and equitable social and economic development.

Purpose - To improve the capacity of the YARG to plan and monitor a national agricultural development program supportive of private sector production and marketing.

2. Achievement of Subproject Purpose

Successful achievement of project purpose will be demonstrated by an improved functioning MAF providing leadership and support to private sector farmers and other elements of the agriculture sector. The Ministry will have the ability to identify, design/prepare, appraise, implement, monitor and evaluate agriculture activities which assist farmers to increase yields and income consistent with long term conservation of scarce resources.

3. Current Project Inputs

The basic project inputs are: A. technical advisory assistance; B. training; C. subproject design/mobilization; and D. the provision of administrative/logistic support to the program.

A. Technical Advisory Assistance

- (1) Development policy planning, (Core Team Leader).
- (2) Training Advisor
- (3) Agriculture Advisor
- (4) Agriculture Planning Advisor 1/
- (5) Documentation Center Advisor
- (6) Documentation Center Librarian
- (7) Extension Communications Advisor
- (8) Data Management/Statistical Advisor 1/
- (9) Irrigation Advisor

B. Training

- (1) In-service;
- (2) Short technical courses, (third country and US);
- (3) English language;
- (4) Long term academic, (US and third country);

C. Subproject design/mobilization

D. Administrative/logistic support.

4. Current Subproject Outputs

A. In-service training of 60 staff;

B. Documentation Learning Resource Center constructed and partially operational;

C. Twenty-two participants have completed short term technical courses;

D. Forty-three participants are currently in long term academic training;

E. Two hundred twenty-five MAF staff have participated or are participating in English language training;

F. Three subprojects have been designed and are operational at Ibb Secondary Agricultural Institute, Poultry Extension and Training, and Horticulture Improvement and Training;

G. Two subprojects are in design or preimplementation status at Faculty of Agriculture and Irrigated Farm Practices.

H. Administrative and logistic support are being provided reasonably satisfactorily to the Program.

1/ Positions not currently filled.

5. Phase II Inputs and Outputs

A. Inputs

(1) Technical Assistance inputs to the MAF will help identify the relative merits of different organizational structures for effective operation; advise on data collection procedures; apply analytical techniques to problem solving; planning and managing development activities; assist counterparts in satisfactorily accomplishing operational tasks; and offer suggestions to improve management of human, financial and other resources.

(2) Training which consists of on and off the job short term specialized training in scientific, management and administrative subjects and long term education to the BS, MS and PhD levels.

(3) Commodity inputs required to make advisors more effective in undertaking training and demonstrations.

(4) Feasibility Studies and Analyses for the preparation of new subprojects.

B. Outputs

(1) Improved functioning of selected Directorates and Divisions within the MAF in carrying out planning and management of agriculture development activities which effectively provide services to farmers.

(2) Completion of training at the BS or MS level for 46 professionals in the MAF.

(3) The initial identification of possible new subprojects, the undertaking of pre-implementation activities for authorized new subprojects as appropriate, the preparation of studies and analyses and contributions to evaluation of components of the ADSP in collaboration with the USAID.

(4) An adequately functioning and integrated ADSP with effectively operating administrative and logistic support activities.

6. Administrative Arrangements

A. The Core Subproject was initiated as a part of a program of assistance to the agriculture sector which was to be carried out by the Consortium for International Development (CID) using Collaborative Assistance Procedures. CID was to have responsibility for all aspects of program development and implementation, with AID retaining only responsibility for monitoring progress and approval of program activities, including all

subprojects. Because of fragmented lines of authority and responsibility this arrangement did not work out to the satisfaction of AID.

B. During this second phase of the program and of the Core Subproject, AID will contract directly with individual universities or other entities for carrying out each subproject. The USAID will continue to utilize Collaborative Assistance contracts and will institute procedures which will enable an integrated program consisting of a series of inter related subprojects to be continued in an even more effective manner.

C. The USAID will have overall responsibility for maintaining the integrity of the program with the USAID ADO taking the lead in assuring coordination. USAID will have primary responsibility for program development, project design, contractor selection and direct oversight of each contractor.

D. The Core contract Team Leader will also serve as Chairman of the Program Committee. The other Program Committee members will be the Team Leaders for each subproject in the Program and the Senior Agriculture Advisor of the Core Subproject. Ex officio members will be representatives of the Ministries of Education and Agriculture and Fisheries, the USAID ADO and the Chief, Administrative Services and Controller supplied to the program by Core or another contractor. The major functions of the Committee will be to develop program policy, maintain adequate avenues of communication among subprojects, develop new program initiatives and provide a means for contractors to assist each other in problem solving in collaboration with the USAID and the responsible Ministries.

E. Services needed to maintain and enhance integration of the Program, such as technical and financial services, will continue to be provided through the Core contract by Core advisors and administrative staff. Administrative and logistic support will continue to be provided by the Core contract university. However, the USAID is considering alternatives such as the university contractor subcontracting for some part or all of these services. To avoid some of the problems which existed during the first phase of the Program there will be a clear division of responsibilities between the field and university campus headquarters of contractors with appropriately consistent responsibilities and authority being delegated to the Team Leader in the field by his superior on the home campus.

7. Role of the MAF

Two features of the Yemen economy and agriculture sector are of great significance for the organization and operation of the MAF.

A. Equity of income distribution is already reasonably well established for a substantial portion of the population. Earnings from employment in oil producing countries have provided substantial purchasing power to most farm families. An important part of these funds is often invested in agriculture.

B. Decision making is largely decentralized. Most of the decisions affecting agriculture are made by private farmers or other members of the private sector.

Thus it appears that the major role of the MAF should be in planning and supporting systems for providing services to and facilitating private sector development of agriculture. The equity in income distribution and the widespread decision making process can more effectively contribute toward increasing agriculture productivity if Government can provide the advice and guidance on appropriate technology and improved management of resources which will increase returns on investment.

8. Priority Project Focus

Based on the Agriculture Sector Assessment, Ministry priorities, experience with the Core Subproject over the past five years, other donor activities, the external evaluation and an analysis of agriculture trends, the scope of the Subproject should be narrowed to focus institution building on the following priority areas.

- A. Training
- B. Irrigation/Water Use
- C. Planning and Statistics -- including assistance to cope with donor projects and Five Year Plan preparations
- D. Directorate of Agricultural Affairs
- E. Extension Communications
- F. Plant Protection
- G. Provincial Agricultural Offices

9. Project Impact

While precise quantitative measurement of Core Subproject progress is not possible, particularly in regard to advisory services, there is no question that advisory services are being used at an accelerating rate. Core advisors have been able to slowly build confidence with MAF staff and are playing an increasingly significant role in Ministry operations and activities. Ministry staff at all levels continually emphasize

that they are counting on Core advisors to assist them in preparing the Five Year Development Plan and in improving their ability to appraise and evaluate donor projects. Training, both short and long term, of Ministry staff is progressing in the US and in Arabic speaking countries. The number of English language trainees has exceeded targets. Finally, the Core Subproject has identified and developed a number of subprojects.

Despite these successes, there are constraints that need to be addressed in the next five year phase if subsequent progress is to be accelerated. In the Ministry, five areas can be identified as needing priority attention: programming, coordination, training, technical competence, and delegation. Similarly, English language skills, MAF management development and the ability to deal with donor projects, as well as increasing advisor/counterpart effectiveness, are areas that need to be addressed.

Several other constraints that impede project progress have been identified. In the area of participant training these include the inability of the Ministry to release people for training because of staff shortages, a scarcity of personnel with appropriate academic background and, for students going to the USA, a lack of English language facility. There are also a number of constraints that limit the effectiveness of advisors in transferring skills to Ministry personnel. These include the selection and appointment of inappropriate counterparts on the Yemeni side. A number of counterparts are either improperly paired with the advisors or too busy with other duties to contribute to the advisor/counterpart relationship. On the American side there is a lack of precision in the focus of advisor responsibilities and activities. Because both counterparts and advisors are scientists/professionals in specific disciplines, it is uncertain to what degree either of these participants in the institution building process understands the important components of (including the means of) institution building. The advisor understands the "why" but it is not clear that the "what" and "how" are always understood. It is equally unclear to what degree the counterparts understand the roles of the "why", "what" and "how" of institutional development. This should surprise no one, as it is rare that either expert advisors or counterparts are trained in institutional development per se.

Another important constraint has been the lack of a common language among advisors and counterparts. While a few Yemeni have some English language capability and one or two Americans can communicate in Arabic, for the most part language is a barrier to effective interchange between the two parties. Finally, the lack of financial resources on the part of the MAF and the Core Subproject to undertake procurement of modest amounts of commodities and services which would enhance the effectiveness of attempts to transfer knowledge through demonstration is an impediment to increasing the effectiveness of the advisors.

11. New Project Interventions During Phase II

To overcome and alleviate, to a large degree, these constraints, a number of modifications have been made in the amended design for the second phase of the subproject. Adoption of the administrative and project implementation changes described in detail in the body of the paper, in combination with improved counterpart assignments and greater precision regarding institutional development, will eliminate many of the constraints encountered during the first phase. Additional subproject modifications and interventions under Phase II are summarized below.

- A. Advisor personnel will be formed into interest affinity clusters;
- B. Bilingual adjoint advisors will be appointed as necessary for each advisor/counterpart team or cluster;
- C. The provision of discrete working budgets for key advisors;
- D. Appointment of appropriate counterparts supplemented by deputy or alternate counterparts with the concurrence of all interested parties;
- E. Increase use of short term advisors to supplement resident advisor staff;
- F. Improve/modify, to the degree possible, training/testing methods which will contribute to increased YALI and MAF output of qualified English language participants;
- G. Institute ESL training tailored for participants in short term technical and non-academic training courses in-country and abroad;
- H. Employ, to the extent possible, Arabic speaking third-country or Yemeni professionals as replacements for MAF training participants;
- I. Conduct an organization development (O/D) study of the MAF to provide precise guidelines on modifications and changes needed to develop and institutionalize requisite MAF capabilities;
- J. Provide subject specific training to counterparts and advisors on the concepts, parameters, goals, means and techniques of institutional development;
- K. Conduct a series of multi-tiered management development training workshops for (1) Core advisors, (2) MAF staff (central and regional), and (3) Core advisors and counterparts jointly;

L. Make the USAID responsible for project design with participation by the Core contractor as appropriate.

M. To the extent possible, finance expatriate substitutes for Ministry staff in training.

12. Subproject Costs

The cost of the first year of the Core Subproject Phase II will be \$6,738,275, and the total five year cost will be \$38,403,890. These cost figures assume that the implementation pace of the Subproject will accelerate somewhat during the next phase and that current inflation and relative currency exchange rates of the U.S. and Yemen will not change appreciably. Project costs include funding of new elements introduced into the project to increase the effectiveness of advisory services, and, hopefully, accelerate the pace of participant training.

III. PROJECT RATIONALE AND DESCRIPTION

A. Introduction and Background

1. Introduction

Project 279-0052, "Agricultural Development Support", is a major long term Title XII program in Yemen comprised of a series of subprojects. This document is an amendment to the subproject paper (SPP) for the Core Subproject. The Core Subproject acts as the technical and administrative umbrella for all other subprojects and, in addition, serves as the vehicle for technical assistance and training to the central structure of the Ministry of Agriculture and Fisheries (MAF). More specifically, it provides long term and short term technical assistance in planning, policy analysis, technical analysis, design, evaluation and implementation of national agricultural development efforts, and participates in the identification, design and initial implementation (mobilization) of other subprojects. It also serves as the administrative and technical link among the Yemen Arab Republic Government (YARG), AID, and the Program, and provides centralized administrative, professional and logistic support for the implementation of the entire Yemen Title XII Program.

The Yemen Title XII Program (Project 0052) is implemented by the Yemen Government and, primarily but not necessarily exclusively, by US land grant universities generally selected under collaborative assistance procedures. Core, Horticultural, Secondary Education, and Poultry Subprojects are already being implemented; others such as Faculty of Agriculture and Irrigated Farming Practices are in various stages of design, and others will be identified, designed and implemented over the course of the program.

The Core Subproject paper presented here covers the next five year phase of Program implementation. The Core Subproject, in collaboration with other subprojects, is charged with the responsibility for development of a long term relationship with the YARG in the broad field of agricultural and natural resource development and conservation. This relationship is expected to last beyond the life of the program set forth by this paper. The intention is to enable cooperating universities to build a significant fund of knowledge about Yemen's agriculture and thus to be a prime source of expertise and of training facilities over an extended period of time.

As this will be a Collaborative Assistance Program, substantial autonomy will be accorded the universities in program implementation. AID monitoring and evaluation

requirements will be guaranteed in three ways: (a) all subprojects will be subject to approval by either AID/W or USAID/Yemen through the normal PID and PP approval process; (b) specific inputs and implementation activities will be in accordance with the approval of workplans by USAID/Yemen; and (c) external program evaluations will be conducted.

In Program implementation, specific activities will be designed to address the unique set of conditions which characterize Yemen agriculture. Two features stand out:

a. Equity of income distribution is already reasonably well established for a substantial portion of the population. The out-migration of males to work in oil-rich neighboring countries has rapidly monetized the economy. Although customs duties and inflation take their toll of remittances, substantial purchasing power remains for the earner and his family. The implication for development programs is that farmers, who constitute the bulk of the emigrant laborers, are not likely to be dependent on public assistance for investment funds to use in modernizing the agricultural sector. Yemeni farmers, to the contrary, invest money in a variety of improved agricultural supplies and equipment.

b. Decision-Making is Largely Decentralized.

Partly because of the factors described above, and partly because of historical factors, centralized decision-making at the national level is limited. Additionally, use of informal channels of communication rather than formal routes within the government structure is often more effective in achieving access to decision makers. Most of the decisions affecting agriculture development are being made by the farmers themselves. Thus it would appear that the major role of the Ministry of Agriculture will be in planning and supporting systems for providing services to and facilitating development of agriculture by the private sector rather than engaging in operations. The task of the Title XII program will be to assist the Government in developing effective means and the competence for carrying out this role.

The equity in income distribution and the widespread decision-making process can more effectively contribute toward increasing agricultural productivity if the central Government can provide the advice and guidance on appropriate technology and improved management of resources which will increase returns on investments.

2. Background

a. Agriculture Situation

The role of agriculture in Yemen has been changing rapidly in recent years ^{1/}. Agricultural resources -- arable land and water -- are extremely limited. Until recently Yemen was more or less self-sufficient in food production at generally low levels of per capita consumption and nutrition. But, beginning with the modern era of development in 1970, trade deficits in agricultural products widened and since 1974 have accelerated rapidly.

There has been a large labor migration in response to attractive employment opportunities in the Middle East oil producing countries. Since most of these migrants are rural males, it has had a major impact on the agriculture sector. Underemployment in the rural areas has been replaced by labor shortages; some marginal agricultural land is being abandoned, and farm mechanization is increasing rapidly. Remittances by the migrant workers have dramatically increased expenditures for consumer goods and capital investment in agriculture by the rural population.

A sharp increase in income throughout the economy from migrant remittances has provided new market opportunities. Farmers have responded by growing more fruits and vegetables, increasing poultry production, and planting more qat. At the same time total grain production has been declining. While investment in farm improvement has been substantial, the quality in terms of efficiency and distribution criteria appears to have fallen short of the desirable. The sector continues to face a multitude of constraints to increasing agriculture productivity.

b. The Program - The First Five Years

The YARG requested that the US provide long-term assistance in support of the agriculture sector. USAID/Yemen considered this an excellent opportunity to engage the American Land Grant universities in the role described in Title XII of the Foreign Assistance Act. The Consortium for International Development (CID), composed of eleven western United States universities, was selected to plan and implement, in collaboration with USAID and the YAR Government, a long-range program of assistance under a collaborative assistance contract. CID provided a multi-disciplinary team of specialists during the summer of 1979 to make an assessment of the major agriculture subsectors and prepare a baseline report. The resultant CID Base-Line Study served as the basis for determining development

^{1/} For a detailed analysis of the agriculture situation see the Agriculture Sector Assessment.

constraints and identifying priority areas for assistance and strategies for intervention. The CID team was also charged with proposing a long-term (10 - 15 year horizon) Development Program, while designing a more detailed first phase covering the initial five years of the Title XII Program (commencing March, 1980).

Based on the analysis and recommendations of the CID team, USAID/Yemen proposed the Program described in this paper. The long-term Program objective is to develop an agricultural sector which effectively and efficiently uses Yemen's natural resources, is integrated into the economy, and is supportive of broad-based and equitable social and economic development.

c. Strategy

The strategy which forms the basis of the Agriculture Development Support Program (ADSP), addresses the major constraints which must be dealt with if agricultural production and distribution are to be accelerated and sustained. The constraints can be grouped into two sets: (a) those which are currently restricting agricultural production, and (b) those which will eventually constrain agricultural production. Farmers have demonstrated that they will respond to economic incentives. Production has shifted in response to changes in relative prices and the change in the ability to command resources. This is demonstrated by a shift from basic grain production (other than maize) to fruit, vegetable, and gat production. Major constraints to production are inadequate management of land, labor, water, and capital resources, and the lack of functioning institutions which have the human resources and knowledge necessary to provide services which increase production and marketing efficiency.

The major conditions which constrain future production are: (a) a continually deteriorating resource base, particularly soil and water; and (b) an inadequate system for addressing farmers' production and marketing problems and identifying appropriate technologies adapted to Yemen's resource situation.

The choice of strategy for easing the constraints took account of, among many considerations, what other donors were doing, or intend to do, the YARG priority for activities which yield visible results in the short run and the immediate technical needs of farmers. However, the longer-run issues were by no means ignored.

The types of actions required if constraints are to be eased include: (a) institution building efforts to improve the MAF capacity for planning, managing and evaluating an effective national program supportive of increased production

and marketing; and (b) helping farmers to better manage the soil, water and production technologies required to supply efficiently agricultural products demanded in the marketplace in a manner which conserves scarce resources.

The Program strategy is: (a) to provide to the MAF advisory services and staff training to improve its capacity to plan, evaluate and manage agricultural development programs; (b) to increase the capacity of the country to produce high quality agriculture scientists and practitioners; and (c) to develop and initiate specific Program subprojects to ease critical constraints to development.

B. The Program

1. Goal

The goal of the Agricultural Development Support Program (Project 279-0052) is to increase income and to improve the quality of life for rural inhabitants in the context of broad-based and equitable social and economic development.

Achievement of this goal will be reflected in increased agriculture production, natural resource conservation, maintenance of ecological balances, increased farm income, and improved performance of the YARG in planning and implementing its agricultural programs.

2. Program Purpose

The purpose of the Title XII Program is to improve the capacity of the YARG and Yemeni agricultural producers to develop and sustain an agricultural sector which effectively and efficiently uses Yemeni natural resources, is integrated into the economy, and is supportive of a broad-based and equitable social and economic development.

3. End-of-Program Status (EOPS) and Means for Achievement

The Program purpose will be pursued through a Core Subproject and a series of other subprojects. The following lists Program EOPS and the means by which each will be addressed.

a. EOPS - A Ministry of Agriculture with appropriate structure and qualified staff for initiating and managing planning, policy analysis, evaluation, design and monitoring of an effective agricultural development program providing services and technology to Yemeni farmers.

The Core Subproject will be the principal means for achieving this end. The second five-year phase of the Core Subproject is the subject of this paper and is fully described in the following sections.

b. EOPS - An Agricultural Extension Directorate capable of producing and conveying information throughout Yemen utilizing all forms of the media and providing usable scientific and economic backstopping services to a decentralized nationwide extension service.

A decentralized Agricultural Extension System is a long range objective. Substantial assistance activities are not anticipated in the near term as other donors are providing assistance at the provincial level. There are, however, some issues which are and will be addressed through the Core Subproject. Core is currently providing advisory services to the Extension Division of the General Service Directorate on the preparation of materials for presentation through the media. The provision of information on improved agriculture through the mass media, principally radio and television including video cassettes, can reach practically all rural Yemeni. It is probably the best means of conveying information to women. It is anticipated that the Core may in the next phase develop the opportunity to advise the Extension Division on increasing its capability to support and provide guidance to the decentralized field staff. Core staff will also explore opportunities for involving the private sector in extension activities. As this work progresses, the scope of assistance required may reach a magnitude which would justify undertaking a separate subproject.

c. EOPS - An agricultural education system providing physical, biological and social science based training and education in various agricultural disciplines at the secondary and university level in sufficient quantity to satisfy public and private sector demand for agriculturalists.

The initial means for assisting in the development of an agricultural education system was the initiation of the Ibb Secondary Agricultural Institute (ISAI) Subproject in October 1979. With satisfactory progress at ISAI an extension and expansion of the subproject is now being planned to enlarge the scope of subproject activity to provide selected assistance to the technical agricultural school system as a whole and to selected schools.

The YARG is initiating the establishment of a Faculty of Agriculture (FOA) at the University of Sanaa. Construction will be financed by other donors. The FOA Subproject will provide training, technical assistance, commodity support and A & E work for the development of the Faculty and the instructional farm.

d. EOPS - Increased yields through efficient management of soil and water resources and the adoption of appropriate technologies by Yemeni farmers.

Core is providing an advisor to the Irrigation Directorate in the MAF to assist in increasing the operating

effectiveness of the Directorate, to provide training to staff, and to serve as a resource person for design of a subproject. An Irrigated Farming Practices Subproject is being planned to demonstrate improved water management practices which will be used by the Ministry to help farmers to better utilize scarce water resources to maximize production and conserve water.

e. EOPS - Development of effective systems for conservation of natural resources, particularly water, soil, rangelands and forested areas consistent with maximizing agriculture production over the long term.

Activities in this area are not planned for initiation in the immediate future. When current activities are functioning smoothly, it should be possible for the Core Subproject in collaboration with USAID and MAF to devote management resources to initiating exploratory analysis on the most effective approaches to this highly important but very difficult set of problems. It is unlikely that human and financial resources will be available to undertake preliminary work necessary to develop a subproject during the first two or three years of the second phase of the Core Subproject. When such resources are available, it is anticipated that preliminary work on developing a subproject will be initiated.

f. EOPS - Increased effective participation by women in agricultural development through suitable agricultural education, training and extension.

No separate subproject for this area is currently being contemplated. Satisfaction of this EOPS will be considered in the design and implementation of all subprojects; subprojects or components of subprojects will be designed to address identified potential opportunities. All subproject teams attempt to maximize the integration of women in development efforts and increase the effectiveness of women's participation in agricultural production.

g. EOPS - Establishment and initiation of an improved marketing system which provides incentive prices for allocating factors of production in accordance with market demand, delivers high quality produce to consumers at competitive prices, and provides farmers with access to the procurement of appropriate supplies and equipment.

It is not anticipated that assistance to marketing will be initiated under the program until the latter part of the second phase or the beginning of the third phase of the Core Subproject. Marketing of agricultural products, supplies and equipment is largely in the private sector where entrepreneurship is not lacking and there is little in the way of government regulation, restriction or interference. Considerable exploratory work will be required to determine where appropriate

intervention could be made either directly with the private sector or through public organizations.

The criteria for establishing priorities among potential activities in terms of the capacity to serve as means for achieving EOPS include, but are not necessarily limited to, the following:

- (1) extent to which the activity increases the quantity and quality of trained men and women available to the agriculture sector;
- (2) degree to which proposed activities increase the management and technological capability of the MAF;
- (3) degree to which activity will help in increasing the capability of the Ministry to transmit or assist others to transmit information to farmers;
- (4) degree to which assistance increases the flow of appropriate technology to the private sector;
- (5) degree to which YARG demonstrates the priority it attaches to proposed activities;
- (6) extent to which the activity will increase MAF capability to address resource conservation issues;
- (7) extent to which activity is likely to impact favorably on the economic status of farm women;
- (8) extent to which other donors are providing assistance to an activity;
- (9) extent to which activity increases the capability of the MAF to take effective measures to protect against the spread of disease and pests;
- (10) degree to which the activity facilitates distribution at competitive prices.

Under the Program, the Core Subproject will collaborate with USAID and appropriate YARG Ministries, other government organizations, and the private sector in identifying, selecting and preparing activities, which may or may not take the form of separate subprojects, that are consistent with established criteria and show reasonable promise of contributing successfully to reaching the projected EOPS.

C. Subproject Rationale and Description

1. Subproject Rationale Summary

The approved Agriculture Sector Assessment established four areas for US assistance in priority order. These are:

a. Education, emphasizing first BS level and then secondary level agricultural education;

b. Improving the institutional capability of the Ministry of Agriculture and Fisheries (MAF) to provide services to private farmers.

c. Increasing the capability of the MAF to undertake improvements in the effective utilization of irrigation water supplies.

d. Private sector development with particular attention to marketing agriculture products, supplies and equipment.

The approved Program Strategy Statement for the Yemer Title XII Agriculture Development Support Program selects among growth opportunities identified in the Agriculture Sector Assessment to identify activities to be supported under the ADSP as shown below:

GROWTH OPPORTUNITY CATEGORY	ACTIVITY SELECTED
I. <u>Increased Exports</u>	Increased Fruit Production On-Farm Water Management
II. <u>Import Substitution</u>	Increased Egg Production Increased Fruit and Poultry Production
III. <u>Increased Yields and Lower Costs of Production</u>	Improved Fruit Production Management Improved Poultry Production Management Improved Plant Protection Methodology Improved Soil and Water Management Improved Feed Production
IV. <u>Improved Managerial Ability/Level of Education</u>	Educational Opportunities in Agriculture at the Secondary, BS and graduate degree level. Improved and Expanded Extension Service Expanded Documentation/Statistical Capability Increased MAF Ability to Service Clientele and Manage Resources

23x

These activities indicate areas in which subprojects might be designed and carried out within ADSP. Under Core, assistance will be provided to increase MAF ability to service clientele, manage resources and expand the MAF's planning, programming, appraising, monitoring and evaluation capacity. In addition, Core will carry out functions associated with direction, administration, and management of activities necessary for the ADSP as a comprehensive, integrated program composed of mutually supporting subprojects.

2. Subproject Objectives

a. Goal

The goal of the Core Subproject is increased income and improved quality of life for rural inhabitants in the context of broad-based and equitable social and economic development.

b. Subgoal

The Core subgoal is to improve the capacity of the YARG and Yemeri agricultural producers to develop and sustain an agricultural sector which effectively and efficiently uses Yemeri natural resources, is integrated into the economy and is supportive of a broad-based and equitable social and economic development.

c. Purpose

To improve the capacity of the YARG to plan and monitor a national agricultural development program supportive of private sector production and marketing.

Reaching the goal and subgoal is dependent on Yemeri farmers having access to the resources and knowledge necessary to increase agricultural output and net returns. This can be most effectively achieved with the existence of a MAF which encourages the private sector to provide farmers with the means to improve agricultural production. This means development of systems which provide the appropriate technological inputs necessary for increasing crop and livestock yields and output and provide farmers access to efficiently functioning markets.

d. Outputs

(1) Improved functioning of selected Directorates and Divisions within the MAF in carrying out planning and management of agriculture development activities which effectively provide services to farmers.

(2) Completion of training at the BS or MS level for 46 professionals who are staff members of the MAF, Provincial Agricultural Offices (PAO), or persons beginning service with the Ministry. (See Technical Annex for details on training plans.)

(3) The initial identification of possible new subprojects, the undertaking of pre-implementation activities for authorized new subprojects as appropriate, the preparation of studies and analyses and contributions to evaluation of components of the Agricultural Development Support Program in collaboration with USAID.

(4) An adequately functioning and integrated ADSP with effectively operating administrative and logistical support activities.

The capacity of Government to carry out an effective national agriculture development program depends on Government being able to affect (often through intermediaries) agricultural production and distribution at the farm, supply and marketing levels. The Government instrumentality for doing this is the MAF, including both the central Ministry and the various decentralized components. Thus, the MAF and its component parts need to be satisfactorily organized and capable of exercising leadership and carrying out programs consistent with its doctrine. In order to do this it is essential that the MAF have three resources: (1) qualified and trained personnel capable of developing and carrying out programs; (2) command of information necessary to analyze and understand constraints to agricultural development and propose means of removing or mitigating the constraints; and (3) adequate financial resources.

Outputs (1) and (2) are the ingredients introduced into the Ministry of Agriculture that provide it with the essential personnel organized in a manner which makes it possible for it to exercise leadership in carrying out doctrine or policy through programs. It is a process which over time rationalizes and solidifies the MAF and turns it into a functioning institution.

Outputs (3) and (4) are directly related to Core Subproject functions and responsibilities in providing the leadership, administration, policy, strategy and management in collaboration with the USAID Agriculture Office necessary for the successful functioning of the ADSP as integrated assistance to the agriculture sector. These outputs, in effect, represent the manifestation of the means selected for achieving program purpose and goal.

e. Inputs

The Core Subproject performs two separate but related functions. The first function is to provide technical assistance and training to the MAF. The second is to provide the leadership and support necessary for the operation of the ADSP. Details of the organization, administration and staffing necessary to carry out these dual functions are provided in Section VII.D. below, and Annex E.4.

(1) Technical Assistance

Technical assistance inputs to the MAF will help identify the relative merits of different organizational structures for effective operations; advise on data collection procedures, apply analytical techniques to problem solving, planning and managing development activities; assist counterparts in satisfactorily accomplishing operational tasks; and offer suggestions to improve management of human, financial and other resources.

Advisors also are expected to apply their expertise to identify constraints to development within the agriculture sector. In concert with counterparts, alternative means for dealing with these situations should be explored and where appropriate, consideration should be given to requirements for external assistance. This may lead either to proposals for new subprojects to be undertaken within the ADSP or for projects to be financed by other donors. Within the Yemen context where most development activities are supported by and usually proposed by external donors, the capability to appraise such proposals and assign order of priority consistent with development objectives, resource availabilities and the agriculture environment is of major importance. Advisors to the MAF thus have a highly important advisory function in aiding counterparts to develop their capability for appraising donor proposals and participating as advisors in such examinations of the merits of proposed projects.

(2) Training

An equally important input into the institutionalization process is the provision of education and training for staff and potential staff of the Ministry. This consists of on and off the job short term specialized training in scientific, management, and administrative subjects and long term education in a variety of agricultural disciplines. Education to the Bachelor of Science or similar level to assure new entrants to the Ministry have an adequate grounding in agricultural science, and advanced training for agricultural scientists capable of analyzing and understanding complex problems associated with agriculture production and marketing are both essential.

Core Subproject inputs are also essential for maintaining the ADSP as an integrated system of assistance to the agricultural sector. The Core agricultural advisors, in addition to providing assistance to the Ministry, provide scientific and administrative support to the other subprojects. Training is coordinated through the Core training advisor. Core professional expertise in collaboration with USAID as well as the Ministry is also applied to identify and design subprojects and, as appropriate, undertake responsibility for pre-implementation activities. Management/financial support to the various subprojects is an important input of the Core Subproject which also provides logistic support to the maintenance of program personnel. Additionally, a major input of senior management of the Core Subproject, in collaboration with the USAID Agriculture Development Officer, (ADO), is providing leadership for the coordinated undertakings of the various subprojects.

(3) Commodities

Commodity requirements for the Core Subproject are modest. This amendment proposes to increase project commodity requirements. In order to make the efforts of the advisors more effective, funds will be provided in the budget for "mini subprojects" for individual advisors or clusters of advisors. This would make it possible for advisors to procure commodities and services to combine with advisory activities in a way which would increase their effectiveness. For example, a statistics advisor might wish to procure tabulating equipment so he could provide demonstrations or obtain the TDY services of a specialized consultant to teach or install an improved system for data collection. It is not anticipated that commodity procurement will become a large budgetary item. Three hundred thousand dollars are proposed for the first year of the amended subproject.

(4) Feasibility Studies and Analyses

With regard to the Core Subproject's role in the identification and design of future subprojects, there are certain elements of project design which AID does best, and functions where the technological capability of the universities can best be put to use. AID, drawing upon whatever resources it deems necessary, including the Core Subproject, has the responsibility for first identifying program directions and possible subprojects during annual programming exercises. The Core advisors would be responsible for calling the attention of USAID to potential subproject opportunities. Carrying out underlying technical, economic, social or management feasibility studies -- either for formal submissions of Project Identification Documents, Concept Papers or Project Papers could be carried out by Core or some other entity selected by USAID. AID would assume responsibility for final

packaging of the documents and preparation of portions of the documents peculiar to AID's operations, e.g. the general format and the statutory check list, waivers, draft authorizations, etc. Similarly, the responsibility of the Sector Assessment updates can be a joint responsibility of AID and the Core contractor.

f. Beneficiaries

The intended direct beneficiaries of the project are Yemeni farmers. If, as a result of the project, yields are increased and per unit costs of production are decreased, the indirect beneficiaries will be Yemeni consumers, and ultimately the entire economy, through a reduction in the wage bill from what it would have been without the subproject. It is reasonable to believe that benefits from the Subproject will be substantially spread across the farm population. The MAF follows the "open tent" policy characteristic of the YAR. Access to the Ministry and its programs is generally not a function of wealth. Benefit flows are apt to be a function of membership in a segment of Yemeni society, but the degree of access may or may not also be associated with wealth. Because of the relatively easy access by all male elements of the rural community to external employment which permits the accumulation of capital for investment in agriculture, and the predominant role played by private enterprise in the agriculture sector, the capability to utilize and benefit from Ministry programs is generally spread throughout various strata of the rural community.

g. Implementation Method

When the Core Subproject was first initiated, it operated under administrative arrangements different from those which will be in effect during successive phases of the subproject and the ADSP. The initial PP for the Core Subproject contained the following statement in the second paragraph of the Introduction and Summary:

"The Yemen Title XII Program (Project 0052) will be implemented by the Yemen Government and the Consortium for International Development (CID), a group of eleven US universities selected for program implementation under collaborative assistance procedures."

The USAID contracted directly with CID using Collaborative Assistance procedures. Under this arrangement, CID was given the exclusive right to and charged with the responsibility for all tasks related to the development of the program and its constituent parts in collaboration with the responsible YAR Ministries. The tasks included preparation of an Agricultural Sector Assessment, program strategy, project identification, subproject design and implementation, and

evaluation. AID retained the right to review all proposals and through its approval process to decide which activities it would finance. Similarly, CID had the right and responsibility to provide the universities which would furnish the technical assistance components -- technicians, commodities and training, plus supporting staff -- for the program. AID retained the responsibility and right to monitor and evaluate the program, to approve proposed positions and candidates for these positions, and to approve work plans.

AID considered that the CID Advisory Board would play a major role in determining the success of the programs:

"The CID Advisory Board will play a vital leadership role in fulfilling CID's implementation responsibilities for the program. As CID will have a substantial degree of autonomy in the management of Program implementation, and as resources will be coming from a number of universities delegated implementation responsibility for subprojects, the Advisory Board will be responsible for developing mechanisms for overall management of CID inputs. Another prime responsibility of the Advisory Board will be to insure that adequate incentives are provided to CID institutions and their organizational components and staffs to attract the best resources and talent that are able and willing to make long term commitments to the Yemen Title XII Program. The Advisory Board will also have the ultimate responsibility for developing and sustaining the linkages between CID and the YAR Government that will facilitate the application of CID's resources and commitments to Yemen's agricultural development efforts over an extended period of time." 1/

In the event, this arrangement did not work out as expected, for a variety of reasons which need not be detailed here. The exclusive nature of CID's involvement in the Program was discontinued early in 1985. It was also decided by AID that CID would no longer be the agency with which AID contracted and that the existing contractual arrangements would be discontinued at the conclusion of the existing contract. AID decided to contract directly with the universities to continue subproject implementation they had begun under the CID contract. Additionally, future participation in the program by CID, if any, would be at the discretion of individual universities with the concurrence of AID.

1/ Agriculture Development Support (Yemen Title XII Program) Project 279-0052 Core Subproject Paper, USAID/Yemen, Sana'a, Yemen Arab Republic, December 1979, pp. 29-30.

Although the Collaborative Assistance Agreement with CID is being discontinued, the USAID will provide future assistance to agriculture in Yemen under arrangements which will continue a program of integrated subprojects. Contractual arrangements with individual universities will be undertaken in the Collaborative Assistance mode consistent with the spirit of Title XII. The structure of the new arrangements will be detailed in the administrative analysis section of this paper and its annexes. In this new system, the Core Subproject will continue to be the central part of an integrated program which emphasizes the collaborative approach among the three parties: the YAR Government, the universities and the USAID.

In the first phase of the Core Subproject and the overall Project, the contracts for provision of advisory and technical services provided that virtually all of the project funds would be administered through a single contractor, in this case CID. This is neither the usual procedure, nor a desirable one. There are numerous instances when AID or the host country, through their own resources, third country services, or other intermediaries, can provide project preparation and analytical requirements. These might consist of A & E services, evaluations, particular aspects of feasibility studies, consultations to or from the private sector, or still other highly specialized services in which US federal government agencies might be the appropriate provider of expertise. As there is no way to accurately estimate the exact nature, scope or costs of such non-university provided services, (for the life of the project), it is not readily possible to estimate a budget item or " earmark " a reserve for AID or MAF administration. However, the following principles should govern the reserve item.

The work plan should itemize and reserve funds for any known primary requirements. Sub obligations for the primary contractors would receive the bulk of remaining obligated funds, and finally, a small reserve for unforeseen AID or MAF administration would be established on the basis of experience. In any event, barring major studies, A & E contracts or construction activities (which would be identified in the work planning drill), funds for unforeseen items would not likely be more than several thousand dollars. And, as a practical matter, AID and the MAF would have first option on new allotments and new obligations, so newly identified items during the course of the year should not encounter problems of access to funds.

h. The Future of Agriculture and the MAF:

In planning assistance to agriculture in Yemen, it is important to make some projection of how agriculture is likely to change and develop over the next decade or two. Most Yemeni farms are small, about 90 percent one hectare or less, and 60 percent a half hectare or less. Assuming that Yemen

continues to export substantial amounts of labor and that the workers continue to repatriate a substantial part of their earnings to Yemen, which appears to be a likely scenario, it is unlikely that farm income will be the major source of income for most rural Yemeni. Some geographical differences may well develop, with small farms, more like gardens, predominating in the Uplands, and large farm units, partially made up of rented land, predominating in the Tihama.

One new element which may have an effect on the market for agriculture products, and -- through the price effect -- on agriculture production and investment, is the discovery of possible commercial supplies of oil. The field lies in the eastern part of Yemen near the imprecise border with Saudi Arabia and South Yemen. Neither the extent of the field or the portion of it which may fall within the YAR is yet known. If, indeed, significant amounts of commercially exploitable oil are available, the secondary effects of the resulting income flows are likely to favorably impact on the demand for agricultural products. An oil industry itself would create some jobs, but much more important are likely to be the jobs created from the investment of oil revenues in both the public and private sectors. The resulting increase in individual income should lead to some increase in demand for farm products. The magnitude of the increase in demand will depend on the income elasticity of demand, which will vary for different types of agriculture products. It is likely that the demand for qat, fruit, and meat and animal products would increase and that the demand for wheat would increase at the expense of sorghum and millet. On the basis of past experience, it would also appear highly probable that a portion of the increased incomes would be invested in farming, not only to increase productivity but to shift the composition of farm output to meet changing market demand. Local oil revenues, like the petrodollars already coming from other Gulf nations, will impact on water resources and the need to introduce efficient use of technology. However, it must be remembered that this is all very "iffy" until possible oil revenues become actual.

In the Tihama, the predominant mode of production is likely to be of the plantation type producing such crops as grains, cotton, citrus, bananas and other tropical hot weather crops with substantial mechanization. In addition, there will be vegetable production during the winter months. In the Uplands, it appears likely that grain production, except for maize, will continue to decline, and that production will be discontinued on marginal terraces that would require substantial labor intensive maintenance. Annual or perennial forages may, perhaps, be grown in the Uplands. Qat production and marketing will likely continue to increase and it will be the most important crop -- at least in terms of income and employment -- in the Uplands. Allocation of resources to other production and marketing activities will be determined by

on-farm consumption requirements, changing market demands, and suitability of crops to part time farming. This would indicate that grain production will tend to be replaced by horticulture products, both fruit and vegetables, and on farm pasture/livestock. Some poultry and egg production will probably be continued on these small garden-type farms.

In the Tihama production from the larger farms is expected to predominate and will be almost entirely for commercial marketing within Yemen, with some possible exports to Saudi Arabia. In the Uplands area much of the production from the mostly garden type farms will be utilized for on-farm consumption, with some portion being marketed on a regular basis. Clearly qat, coffee, citrus and grapes will be important market crops, but there will also be some marketing of other horticulture crops, particularly vegetables, small livestock -- goats and sheep -- and such things as honey. The market for broilers and eggs from the small farms is not apt to be large because of the predominance of modern commercial broiler and egg producers.

One element that is currently largely unknown is the influence on agriculture production and marketing of the reconstruction of the Marib dam. Depending on the amount of water availability resulting from completion of the dam, there will be an effective command area of about 4,000 hectares which is likely to be largely devoted to commercial production of crops on farm units larger than is characteristic of much of the Uplands. Similarly, the development of water resource utilization in the Wadi Jawf area under a World Bank project may result in larger than normal farm operations producing mostly for the commercial market on a limited amount of land. Certainly the Core Subproject will want to modify planned assistance in accordance with the additional service requirements of farms within the command areas.

Unless there is some radical change in the policy and power of Government, it appears fairly certain that the private sector will continue to lead agricultural development in Yemen. This is true not only with respect to farm management, but also for provision of supplies and equipment, for marketing of farm products, for investment of capital, and for some technical information.

The probable future configuration of farms, the role of the private sector in agriculture, plus the heavy reliance of the MAF on external donors for undertaking agriculture development projects, are major factors in determining what ought to be the future role of the MAF and of Core advisors to the Ministry. Also relevant are the limits on the ability of the MAF to impose its will on farmers and others operating in the agriculture sector. The future role of the MAF should consist largely of providing services, including

knowledge about better appropriate technologies, to the agricultural private sector -- farmers, suppliers, traders, etc. Thus there would appear to be little need for the Ministry to engage in productive operations except, possibly, for time-limited demonstration purposes. Because the Ministry is willing to delegate, to external donors on an individual basis, the responsibility for agricultural development projects, at least in the short to medium term, it does not appear to be a high priority for the Ministry to gear up to manage projects. However, on the other hand, it is important for the Ministry to have the analytical capability and information to pass judgment on the feasibility of proposed donor projects, both in terms of Government policy objectives and the projects' potential contribution to agriculture development, and to monitor the implementation of projects.

The MAF will need to structure itself so it can provide services to the different types of farming. One type, largely in the Tihama, would be likely to require that the Ministry service a few farmers producing a limited number of tropical crops for the commercial market. For these farmers, agriculture earnings are likely to be the main source of their income. The other type would require the Ministry to provide services to a large group of small farmers producing a wide variety of crops and livestock, a substantial proportion of which would be for auto-consumption, though marketing of greater or lesser proportions of various crops would not be unimportant.

Finally, the Ministry will need to focus on ways in which it can effectively limit individual action to serve the interests of other farmers and the public. The Ministry's ability to apply sanctions appears to be limited to the areas of controlled access -- Sana'a and Taiz, international airports and the major seaports. It should, therefore, be possible for the Ministry to take regulatory actions necessary to limit some but not all imports and exports not considered to be consistent with the public good as an initial step. At the same time the Ministry can undertake educational campaigns and other undertakings which will increase its influence in the agriculture community and thus increase its potential for imposing necessary sanctions.

It is within the context of the above scenario that the Core will be providing technical assistance to the Ministry. The form, substance and structure of the assistance effort will be the subject of the various analyses in the annexes and summarized within the body of this paper.

i. Project Parameters

The first five year phase of the Core Subproject proposed to provide advisory services to the Ministry of

Agriculture across the board with emphasis on assistance to the Directorate of Planning and Statistics. Other than this emphasis, no criteria were established for identifying assistance priority areas within the Ministry. Except for the emphasis on Planning and Statistics, all units in the Ministry were equally eligible for assistance.

Based on experience gained during the first five years of the subproject, the 1984 external evaluation, and the design team's analysis of current and probable future trends in agriculture and the most appropriate functions for the Ministry to focus its scarce resources on, the scope of Core assistance should be limited to a few high priority areas. In summary, the following were the most important factors influencing the decision to narrow and focus the project concept. Agriculture, particularly in the Uplands, is expected to consist largely of part time farms with a significant portion of the product from small units being utilized for auto-consumption. While this agriculture is not expected to be a major engine of growth within the country, it can make some contribution to development through improved diets, increased real income for the general population, increased farm income, an increase in national wealth, and a favorable impact on the balance of payments.

Agricultural growth and change in Yemen has largely been the result of private initiative and this is likely to continue. The private sector has larger amounts of resources to invest and more investment opportunities than the public sector. The MAF has very limited personnel and financial resources and is largely dependent on external donors for development activities. As a result, many of the public development activities and the provision of services to farmers are decentralized at the provincial level. Because of the substantial inflow of remittances, in cash or kind, investment funds do not appear to be a constraint on agriculture growth. Agriculture labor is not a plentiful resource. Most farms are too small to provide an adequate standard of living for farm families. Part time farming may be either part time farm employment for individuals, or part time in the sense of part of the family engaged in farm work and part in work off the farm. In the Tihama (coastal lowlands) conditions may well differ, as larger commercial farms specializing in a few tropical products are likely to emerge.

In this situation, given the limited resources of the Ministry, it would appear that the Ministry should function largely as a service unit providing planning, technological and information services and devising methods for instituting conservation measures, particularly of water and soil resources, and controlling disease and pest infestations. Clearly the Ministry has already moved in this direction. Responsibility for research has been assigned by the Ministry to the Central Agriculture Research Authority, financed and largely staffed by UNDP/IDA/FAO, and most extension work has been decentralized to

the provinces through donor sponsored integrated rural development projects. Credit requirements are handled by the Agriculture Credit Bank or private sources. The Ministry gives priority to assisting private entrepreneurs investing in agriculture and espouses a policy of engaging in productive activities only on a demonstration basis. In staffing decisions, the Ministry appears to have assigned high priority to water resources and it evidences great concern about disease and pest control despite limited capability to deal with these problems. Finally, as indicated elsewhere, the Ministry does not prepare or carry out many development projects. Rather, that role is left to external donors, with the Ministry limiting its involvement to approval, monitoring and evaluation. The design team believes the course which the MAF has set is one which is best suited to conditions in Yemen and should be supported and assisted by the Core Subproject.

The immediate decision to delegate many of the agricultural developmental responsibilities to regional authorities is an expedient based upon lack of staff and availability of donor funds which want to "reach the farmer" and yield some identifiable return on investments. Nevertheless, the long range role of the MAF should remain that of a planning, financing and monitoring institution which works through various intermediaries rather than a Ministry which, in and of itself, has an organizational structure reaching farmers directly. Thus, the institutional development goals of the subproject are to strengthen the MAF capabilities in planning investments in supporting infrastructure which is not likely to be undertaken by the private sector, and in support of a private sector supply, marketing and farming system. This will, inter alia, mean developing some government units for agricultural research, regulatory agencies, and probably water use regulations, but even these should be organized and managed in a decentralized fashion rather than as units of Ministry headquarters.

3. Subproject/MAF Focus, Phase II

During the second phase of the Core Subproject, the high priority Directorates and Divisions on which advisory services should be concentrated are the following:

a. Directorate of Irrigation.

This Directorate is responsible for the most critical scarce resource in Yemen. The efficient use of water to obtain maximum crop and livestock production from a given supply of water is extremely important. As important are the ability to get access to new sources of water and to initiate conservation measures which will assure the availability of water over the long run. Advisory assistance to this Directorate to increase its competence adequately to address these highly complex issues in the national interest is certainly warranted.

b. The Directorate of Planning and Statistics

(1) Statistics Division. Here the emphasis should be on developing improved collection and analysis of data and establishing a usable information base.

(2) Planning Division. The focus should be on assisting in agriculture sector planning, assisting donor agencies, and preparing reports.

(3) Follow Up and Loans and Assistance. Assistance should be to improve the competence of these two Divisions to appraise, monitor and evaluate external donor projects.

(4) Documentation and Learning Resource Center. It should be established with a reference library and statistical unit under the direction of and operated by Yemeni capable of providing planners with requisite data and information.

c. Directorate of Agriculture Affairs. This Directorate has responsibility for a broad spectrum of important agriculture fields -- plant protection, horticulture, field crops and soils, extension, agriculture mechanization, forestry, and coffee. Because of the importance of this Directorate for a broad spectrum of important agricultural areas, it would appear to make sense for the Core Subproject to continue providing the Director of Agriculture Affairs advisory assistance in managing a very complex and very important Directorate. Within the Directorate there appear to be two areas in which advisory services should be provided:

(1) Plant Protection Division. Because of the limited capability of the Ministry to enforce disease or insect control measures, assistance to this Division should focus on ways of best carrying out disease and insect control through the cooperation of various groups important in the rural communities. Technical specialists such as plant pathologists and entomologists should be given top priority for training for advanced degrees.

(2) Extension Division. Assistance to extension should be limited. Assistance to the field extension service is being adequately addressed by other donors through integrated rural development projects. Extension activities directed to specific crops or animals can be more appropriately provided through other subprojects within the program or by other donor projects. The one limited area that warrants attention is the provision of extension information on a nationwide basis through mass media, audio and video. Since a well developed system for transmitting and receiving audio/video information already exists, the use of this asset for communicating with the farm population should be maximized. Because the Ministry lacks the capacity to prepare materials for use through the mass media, this is an appropriate area for Core assistance.

d. The Private Sector and Agri-business Investments

Since many of the productive investments in agriculture may be dependent upon a combination of better technological knowledge and organization of business ventures, the Core Subproject should provide resources, and develop a response capability, for either "walk in" requests or for follow up of project generated ideas for private agricultural developmental investments. The service would essentially be to provide initial advice on the technological and likely financial viability of a proposed investment and next steps for the investor to take regarding his proposal.

Such requests for advice usually range from farmland development schemes to food processing ventures, and therefore require a set of diverse skills which might be best served by short term experts rather than resident staff. Additionally, the university contractor may not have, either internally nor readily available off campus experts from the private sector to respond to various requests. Therefore, some project funds should be reserved for AID or MAF to administer for this project component. As this service is new to the Core Subproject, it is not prioritized, nor is any particular section of MAF identified as the "counterpart". The service is experimental in nature and would need to be evaluated as to its utility in terms of financial costs, staff time, MAF acceptance and benefits.

e. Provincial Agricultural Offices

Finally, it may be appropriate to provide advisory assistance to one or more of the Provincial Agricultural Offices (PAO), to help in measuring the effectiveness of decentralized operations. Any assistance of this sort would need to be preceded by a careful study of the functions of these offices and their relationship to the central Ministry and other agriculturally related organizations and donor projects. It would not be expected that involvement with the PAO would be initiated early during the second phase, and it might well slip to the third phase.

4. Training

An integral part of the Core assistance to the Ministry is training. The training includes long term academic education to the BS, MS and PhD level in the US, short term non-degree training in the US, and third-country degree and non-degree training and in-service training.

"In the early stages of institutional development, the most urgent requirement is to get a "critical mass" of staff members who have a sufficient technical background to be able to initiate programs. This part

of technical assistance takes the longest time and suggests that staff training should receive very early attention." 2/

Training is an integral part of each advisor's work. It is also an important activity in other ADSP sub-projects and in most other donor projects. The Ministry needs to develop the capability to organize and set priorities for training, to provide opportunities for staff to prepare themselves so they might take part in educational activities abroad, to develop the capacity to manage all aspects of training within Yemen and abroad, and to prepare and conduct adequate in-service training for staff members. It is also important for the Ministry to develop a systematic method for replacing staff members who are in training. This can include use of expatriate personnel financed under the Core Subproject as proposed elsewhere in this paper. The Ministry does not currently have a Division specifically established to handle training matters. The Core training advisor works with a counterpart in the Follow-Up Division of the Directorate of Planning and Statistics. Advisory services in the field of training are necessary not only to deal with ongoing training issues and requirements, but also to assist in the establishment, organization and training of a functioning training unit in the Ministry.

5. Assistance Priorities

The priority ranking of assistance fields identified above as important areas for Core involvement is shown below.

- a. Training
- b. Irrigation/Water
- c. Planning and Statistics, including assistance to cope with donor projects and Five Year Plan preparation.
- d. Directorate of Agricultural Affairs
- e. Extension Mass Media
- f. Plant Protection
- g. Provincial Agriculture Offices

The major source used in arriving at priorities was the approved Agriculture Sector Assessment. However, several other factors were also used to determine the final priority

2/ Milton M. Snodgrass, Strengthening the Ministry of Agriculture and Fisheries in the Yemen Arab Republic as an Institution, CID, 1985.

ranking. First, Ministry priorities are training, horticulture development -- particularly fruit -- water resources, appraisal of donor proposed projects, and preparation of the new Five Year Plan. Assistance to horticulture is being catered to under a separate subproject, HITS. The remainder of the Ministry priorities fit well with sector assessment priorities and are well suited for attention by the Core Subproject. Priority number three is somewhat expanded beyond the sector assessment priority of assistance to Planning and Statistics by the inclusion of specific repeated requests from the MAF for Core advisor assistance in assisting Ministry staff in preparing the Five Year Plan and in appraising and evaluating proposed and ongoing donor projects. Second, other donor activities influenced the selection of priorities. For example, no assistance to research and only limited assistance to extension are proposed, largely because these needs are being met substantially by other donors.

6. Advisory Training Services

There are two issues with respect to providing advisory and training assistance to the Ministry which will be briefly touched on here but will also be presented in greater detail in other parts of the paper and its annexes.

a. Appropriateness of Counterparts

The selection of appropriate counterparts is critical to the success of the Core advisors. The counterpart must be of sufficient stature and his position in the Ministry must make it possible for him to provide leadership in the part of the Ministry to which the advisor is assigned. At the same time, it is essential that the person designated as counterpart not occupy so high a position that only a small portion of his duties are concerned with the major functional area which the advisor is to address. If this occurs, the advisor in fact will not be able to spend sufficient time in an advisory capacity to assist in improving capacity in the area of concern.

b. Availability of Participants

Lack of qualified applicants who can be made available for training assignments is a continuing problem. It is, in fact, one of the most persistent and discouraging constraints to institutional development. Because organizations requiring assistance in institutional development are almost by definition short of adequately trained personnel, releasing staff -- particularly staff in those critical positions most needing upgrading -- for training is a most difficult task. When this is exacerbated as it is in the MAF by competing demands among many donors for trainees, language constraints and insufficient release time to rectify this problem, etc., a major effort to ease constraints is required. Certainly in this subproject and

other subprojects within the Program, it is going to require a collaborative effort by the three parties concerned -- Contractor, USAID, and the Ministry -- to come up with imaginative but practical ways of maximizing Ministry use of training opportunities.

c. Structuring Advisory Services

Advisory services furnished to the MAF need to be structured in accordance with the critical constraints to effective functioning of the Ministry. While one can with justification say all aspects of organization and management need to be addressed, it is possible to order the ones which should be addressed first so that the internal organization is functioning in a manner which permits it to handle daily tasks as well as longer range planning and implementation issues.

Five areas can be identified as needing immediate attention:

(1) Programming -- this is the ability to organize the operational unit to achieve objectives and to develop plans setting forth the actions required to reach the objectives;

(2) Coordination -- this requires the establishment of means of communication within the Directorates and Divisions within the central Ministry as a whole and between the Ministry and its decentralized units. Second, it requires that various Directorates and Divisions develop as part of their normal activities assisting each other in a way which will increase their effectiveness as a service and planning Ministry.

(3) Manpower Training -- The Ministry needs to establish a unit to plan, organize and implement a variety of training programs in Yemen and abroad. Training is required to upgrade the technical competence and administrative/management capabilities of staff at all levels. Plans need to be developed so that work in various Directorates and Divisions can be allocated in a way which makes it possible for people to be sent for training.

(4) Technical Competence -- All Directorates and Divisions are woefully short of staff. For example, the very important Field Crops Division is staffed by one and one-half persons. This is the Division that would be responsible for carrying out a proposal by the Ministry for increasing wheat hectareage by over eight times. Similarly, the professional education level of staff leaves much to be desired. The Agriculture Affairs Directorate, which includes Divisions of Extension, Horticulture, Forestry, Field Crops and Plant Protection has, according to the best count available, eighteen members of whom eight have University degrees -- four BS, three MS and one PhD -- three a secondary school education, and nine have less than a secondary school education.

(5) Delegation -- There is a great reluctance by senior officials to delegate tasks or responsibility to subordinates. Directors try to hold everything in their own hands and often spend a considerable amount of their time dealing with trivial or routine matters. Thus, in the face of persistent shortages in staff numbers, many of the Ministry staff are substantially misemployed/underemployed. Senior staff need to learn how they can increase the effectiveness of their Directorates and Divisions and themselves by a proper allocation of duties and responsibilities among staff.

Two other areas of a somewhat different character, which are dealt with in other sections of this paper need to be mentioned briefly here. Because of the heavy reliance of the Ministry on donor projects to carry out development activities, all Directorates and Divisions need to develop the capacity to appraise the feasibility of donor projects and their consistency with development needs and to monitor and evaluate progress. This capability is now virtually nil and advisory assistance is necessary to upgrade this skill. Second, learning English is important for Ministry staff, not only because it is necessary to qualify for educational activities in the United States, but because it gives staff members access to a wide variety of opportunities for increasing their technical competence. Ministry operational plans should provide opportunities for expanded assistance to be provided to the teaching of English through Core activities.

As the project progresses, it can be expected that additional needs and priorities will be established. The Core advisors are currently conducting two studies which should substantially increase understanding of needed improvements in the Ministry. The Training Advisor is currently conducting a manpower/training study which will help to establish overall Ministry training needs and establish training criteria, priorities and schedules. The General Agriculture Advisor is undertaking a study of the organization and staffing of the PAO, which will provide the Ministry information on duties performed, organization and structure, staffing levels, areas of competence, and current duties and tasks. This should make it possible for the Ministry and Core to begin planning for necessary assistance to improve the performance of PAO and strengthen links between these Offices and Ministry central staff.

7. Increasing Advisor/Counterpart Effectiveness

The design team has noted a lack of precision in the focus of advisor responsibilities, particularly as related to institutional development. The job descriptions of Core Advisors almost invariably mention the need and goal of increasing and institutionalizing MAF capabilities. However, no precise plan for achieving this goal exists. Advisors tend

to function in their areas of expertise in a reactive manner, rather than in keeping with a systematic and progressive work plan.

a. Organization Development Study

To assist the Ministry and Core in improving performance in this area, an organizational development (O/D) study will be conducted under the Core Subproject by an institutional analyst and management development specialist to determine the finite and precise institutional development targets and goals. The O/D study will identify and spell out what has to occur for efficient MAF unit functions and operations to become institutionalized. Specific essential Ministry capabilities will be delineated or targeted and specific milestones will be established for their development and institutionalization. The O/D analysis will outline the "what" of overall MAF institutional development goals and will serve as the basis for the elaboration of specific work plans by each advisor for the "how" to achieve the desired ends. Achievement of goals should be time phased in specific work plans, and the latter will be reviewed semiannually and updated at least annually with an indication of progress by percentage from base level to end goal. It is proposed that the O/D study be conducted ASAP after approval of this subproject amendment.

b. Institutional Development Training

Core advisors as well as their MAF counterparts are professionals who are specialists in specific disciplines and/or sector activities. The provision of additional skills to the Ministry as well as improving and enhancing existing ones is the fundamental and underlying basis for the advisor/counterpart relationship. This "institution building" is a specific responsibility of both the advisor and the counterpart. It is usual that the advisor understands the "why" of this responsibility; however it is by no means clear that all the advisors understand the "how" to accomplish the desired end. It is equally unclear to what degree the counterparts understand their own roles or the "why" and the "how" of institutional development.

This anomaly is neither unusual nor surprising. It is not often that advisors or counterparts are really trained in institutional development. In certain instances, an advisor may have some experience in institution building, but it is exceedingly rare for the counterpart.

Consequently, in addition to the O/D study recommended above, it is proposed that a number of periodic seminars, quarterly or biannually depending upon perceived need, be held to acquaint both advisors and counterparts with the concepts, parameters, means and goals of institutional development and to jointly review their activities and progress.

These seminars would be multi-tiered and be addressed to:

- (1) Advisors
- (2) Counterparts, and
- (3) Advisors and counterparts jointly.

c. Management Development Training

It is inherent in the aim to increase MAF capabilities to plan, implement and monitor agriculture sector development programs that its managerial capabilities be increased proportionately. Long term academic and short term technical training, as well as the transfer of information and experience through the advisor/counterpart relationship contribute to this end. However, there are two major factors which limit the effectiveness of this approach alone:

(1) Both advisor/counterpart transfer and long-term academic training are slow, time consuming processes; and

(2) Both the advisors' professional skills and academic training courses are subject specific and do not focus on developing management skills as such.

Given the priority need to increase MAF staff managerial skills, the obligatory limitations on the number of advisors who can be made available, and given the multiple problems limiting participant training, it appears to be imperative that a further management development element, in the form of direct training in management techniques, be added to the Core Subproject program.

It is proposed that a series of bi-annual management development workshops be conducted in Yemen in each year of the program. The workshops would begin with the fundamentals of basic management principles and focus on specific skills and techniques germane to development assistance programs such as (a) project identification, (b) project preparation, (c) use of the logical framework and IRR in project planning, (d) project implementation, (e) project monitoring and (f) project evaluation. Each succeeding training cycle would be slightly more advanced than the preceding one and would build on previously acquired skills information. Training subject matter would be presented in the "action-training" mode and utilize themes, topics and specific course exercises based on actual working problems/experiences currently being dealt with on a day-to-day basis and the MAF by workshop participants. Later in the series, perhaps in year 3 or 4, and depending on

the status of MAF staff development, more sophisticated concepts could be introduced such as management by objectives, collaborative or team management and so on.

In the likely event that specific management development needs are identified in the course of the training program, such as staff incentives, intergroup communications, personnel management, etc., special and relevant presentations would be made by trainers.

It is proposed that teams of at least three trainers, one or more of which, at an absolute minimum, must be Arabic speaking, would present a series of workshops cum seminars over an eight to ten week period. The management development workshop/seminars will be presented in successive sessions of varying and appropriate length to address the following audiences:

(a) Core subproject advisors and professional staff;

(b) MAF senior/mid-level managers and professional staff; and

(c) Core advisors/counterparts jointly.

IV. COST ESTIMATE AND FINANCIAL PLAN

This summary is derived from presentations of the first year's budget and the life of subproject budget shown in Annex G. The nature of the Subproject makes cost estimation difficult because: (1) the level of effort in administrative, management and logistic support is a function of the number of other subprojects to be developed over the course of the life of the Core Subproject; (2) the nature of amendments to the existing set of subprojects is unknown; (3) future cost accounting systems may be developed in which a greater amount of local costs are actually borne by the subprojects; (4) the degree of success or lack of it of new initiatives within this subproject amendment; and (5) the location of administrative/management responsibilities for the project remains uncertain.

Fortunately, the Subproject has been operational for about four years and there are data on current payrolls, indirect costs and general costs of operating a program containing management, advisory services and administrative support activities. Accordingly the summary tables present information for the first year of operations, primarily to illustrate the attribution of costs across project components, and in life of project terms using extrapolations of the current level of effort. In the event separate contracts are negotiated for the Core Subproject advisory and technical services on the one hand and logistic and administrative support to all subprojects on the other, it would no doubt be advisable to develop separate budget estimates for both major subproject components.

Table 1 presents the summary life of subproject cost estimates derived from the life of project budget and assumes a nearly constant level of effort in financial terms, although the mix of types of activities can, and no doubt should, vary over the life of the Subproject. Table 2 provides a summary breakdown by cost elements of the life of project budget.

Table 3 presents the Subproject cost estimates for year one. The table attributes Subproject costs against Core advisory services and the poultry, horticulture and secondary agriculture education subprojects. Table 4 divides the total first year costs among the standard AID components of technical assistance, training and commodities. As this subproject services itself and several other subprojects, Table 5 shows the distribution of costs between the Core advisory activities and services provided to Program support services.

In computing subproject costs, the procedure used has been to calculate full costs of the operation using constant dollars and thus adjusting for inflation, contingencies and lapse rates. In the draft work plan, consistent with other draft work plans the team has reviewed, corrections for inflation and

contingencies have not been made. However, lapse rates have been included. The five year budget included as Annex G does include adjustments for inflation, contingencies and lapse rates.

Varying inflation rates have been used for different component costs of the project. For all US procurement of goods and services, a six percent inflation rate has been used. This is a conservative estimate which allows for an approximate fifty percent increase in current and near term projected inflation rates for the US. For third country training, a six percent inflation rate has also been used. While inflation rates in the countries most frequently used for third country training of Yemeni agriculturists, Egypt and Jordan, may well be anticipated to exceed six percent, Government policies with respect to moderating education cost increases would appear to make a six percent cost increase projection reasonable.

The inflation rate used for local currency costs in Yemen was computed in the following manner. The evidence appears to indicate, and it is by no means firm, that the current inflation rate is around 25 percent. However, the Yemen Rial has been depreciating against the dollar because of balance of payments problems. Over the past six months, the Rial has depreciated by 12.5 percent. With one exception noted below, there is little reason to expect that the Rial will not continue to depreciate. Therefore, we are using an inflation rate for local costs other than wages and salaries of about one-half of the estimated inflation rate of 25 percent. This rate is 13 percent. The inflation rate applied to local personnel is set at a lower rate than the general inflation rate less the increase in the value of the Dollar to the Rial. This accords with the current U.S. Government theory and practice of setting wage and salary cost-of-living adjustments below the rate of inflation. The inflation rate used for personnel costs is ten percent, three percent below the general inflation rate used in this paper for Yemen. The one factor which might affect the depreciation of the dollar would be oil. If the recent discovery of oil proves to have substantial commercial value on the international market, then the Rial would probably stabilize or might appreciate. This, of course, is all very "iffy" for now, and in the future. If such good fortune comes the Yemenis' way, then the US would probably discontinue financing local costs and the inflation rate would become moot.

Both a lapse rate and a contingency factor have been used in computing project costs. The lapse rate is used for long term field personnel and related costs and participant training. It is similar in concept to the occupancy rate in a hotel. Experience has shown that over a five year span it can be expected that the vacancy rate for subproject staff positions in the field will average in excess of twenty

percent. We have, therefore, applied a 20 percent lapse rate for all long term field personnel, American and local, and associated costs such as overhead. Similarly, for a variety of reasons discussed in other parts of the paper, participant training consistently lags substantially behind plans. As there does not appear to be any good reason to believe this will change substantially in the near future, we have applied a 30 percent lapse rate to long-term participant training.

For the remainder of project costs, we have applied a contingency factor of minus 12 percent. This negative contingency factor is based on subproject implementation performance to date. Examination of the expenditure rate (actual expenditures as a percentage of planned expenditures) shows that over the four and a half year period, FY 81 to mid FY 85, the expenditure rate has averaged nearly 65 percent with an irregular but noticeable upward trend. For FY 85, it appears that actual expenditures will total between 75 and 80 percent of planned expenditures. Based on historical expenditure patterns and trends, the contingency amount has been conservatively estimated for this subproject at minus 12 percent.

In sum, project costs have been adjusted in the following manner:

<u>Inflation</u>	- US Costs	6 percent
	- Third Country Training Participants	6 percent
	- Local Costs	13 percent
<u>Lapse Rate</u>	- Field Personnel	20 percent
	- Long-Term Participant Training	30 percent
<u>Contingency</u>	- All Other Costs	-12 percent

TABLE 1
 Summary Cost Estimates by Major Uses
 Life of Project
 (US \$000)

USE / SOURCE	AID		HOST COUNTRY		TOTALS
	FX	LC	FX	LC	
Personnel					
Tech. Ass't	9,663				9,663
Management	4,012				4,012
Local Hire		4,607		4,700	9,307
Commodities	2,350	2,909		50	5,309
Training	5,252			450	5,702
Support Services* (non personnel)	2,800	6,810		200	9,810
TOTAL	24,077	14,326		5,400	43,803

*Travel, per diem, POL, rents, expendable supplies, communications, etc.

Assumptions: Commodities and training costs are direct costs, i.e. no TA or management costs attributed; 66% of TDY's are technical, home campus costs divided 50/50 against technical support and management support, Team Leader charged against management, and Senior Advisor against TA.

TABLE 2
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - AID BUDGET SUMMARY

COST ELEMENT	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL COST	ROUNDED TOTALS (\$000)
Core Team Payroll - Table 6-2	1,364,859	1,388,877	1,506,467	1,611,843	1,708,911	7,580,857	7,581
TDY Payroll - Table 8-3	257,990	273,567	289,874	307,154	325,652	1,454,237	1,454
TDY Int'l Travel - Table 6-4	129,193	136,993	145,159	153,813	163,075	728,233	728
On-Campus Payroll -Table 6-5	428,919	454,815	481,926	510,656	541,408	2,417,724	2,418
Other On-Campus Costs - Table 6-5	567,103	800,157	637,189	898,396	715,835	3,618,680	3,619
Core Academic Training Costs - Table 6-6	439,700	523,150	642,854	847,718	920,140	3,373,562	3,374
In-Country Training Costs- Table 6-6	200,000	212,000	224,472	238,202	252,495	1,127,169	1,127
Core Short-Term Training Costs - Table 6-6	175,250	151,400	157,954	164,662	134,207	783,473	783
Travel & Commodities - Table 6-7	539,158	583,383	612,917	610,586	647,357	2,993,401	2,993
SUBTOTALS - DOLLAR COSTS	4,102,172	4,524,342	4,698,812	5,343,030	5,409,080	24,077,436	24,077
Local Hire Payroll-Table 6-8	754,557	830,013	913,014	1,004,247	1,105,083	4,606,914	4,607
Other Costs - Table 6-9	1,556,180	1,511,457	1,415,872	1,585,012	1,791,161	7,869,682	7,870
Core Travel, Per Diem & Transportation - Table 6-10	315,366	340,479	367,928	397,128	428,957	1,849,858	1,850
SUBTOTALS - LOCAL CURRENCY COSTS (US \$ EQUIVALENT)	2,636,103	2,681,949	2,696,814	2,986,387	3,325,201	14,326,454	14,326
TOTAL COSTS	6,738,275	7,206,291	7,395,626	8,329,417	8,734,281	38,403,890	38,404
ROUNDED TOTALS (\$000)	6,738	7,206	7,396	8,329	8,734	38,404	38,404

TABLE 3
 ATTRIBUTION OF CORE SUBPROJECT BUDGET TO CORE ADVISORY PROGRAM
 AND TO OTHER SUBPROJECTS FOR FISCAL YEAR 1986

=====						
ATTRIBUTION OF POOLED MANAGEMENT & SERVICE COSTS						
BUDGET CATEGORY	TOTAL CORE BUDGET	CORE ADVISORY PROGRAM	CORE	POULTRY	HORTICULTURE	SECONDARY AGRICULTURAL EDUCATION
=====						
DOLLAR BUDGET						
US Hired Professionals 1/	\$1,284,474 2/	\$779,684	\$154,137	\$102,758	\$154,137	\$102,758
Travel, Per Diem & Transportation	185,575	179,575	1,800	1,200	1,800	1,200
Equipment & Materials	345,000	145,000	60,000	40,000	60,000	40,000
IAF Trainee Replacements	105,000	105,000	-0-	-0-	-0-	-0-
Participant Training	786,950	786,950	-0-	-0-	-0-	-0-
Program Management & Support Stateside	892,915	178,583 3/	214,300	142,866	214,300	142,866
TDY Short-Term Advisors	502,258	502,258	-0-	-0-	-0-	-0-

LOCAL CURRENCY BUDGET						
Salaries	685,960	85,264	180,209	120,139	180,209	120,139
Operations	743,000	-0-	222,900	148,600	222,900	148,600
Travel, Transportation and Per Diem	471,143	395,760	23,557	14,134	23,557	14,134
Training	94,000	47,000	14,100	9,400	14,100	9,400
Equipment, Materials and Services	642,000	400,000	72,600	48,400	72,600	48,400
=====						
TOTALS	\$6,738,275	\$3,596,074	\$ 943,603	\$627,497	\$ 943,603	\$627,497
=====						
In Pipeline from Prior Years	\$2,000,000					
Needed from FY 86 Funds	\$4,738,275					

1/ Management and service costs attributed as follows: Core Advisory Program - 60%; Core - 12%; Poultry - 8%; Horticulture - 12%; and Agriculture Education - 8%.

2/ Based upon individual position descriptions and salary levels.

3/ Twenty percent of campus based support directly attributable to advisory program.

50

Table 4
SUMMARY OF CORE SUBPROJECT BUDGET
 FY 1986

=====	
DOLLAR BUDGET:	
=====	
Core Program (Management Support, Advisory Program, DLRC, Other)	\$1,928,021
Participant Training	786,950
Program/Management/Support (Home Campus)	<u>1,387,201</u>
TOTAL DOLLAR BUDGET	<u>4,102,172</u>

LOCAL CURRENCY BUDGET:	<u>2,636,103</u>

TOTAL SUBPROJECT BUDGET:	<u>\$6,738,275</u>
=====	

Table 5
BUDGET DISTRIBUTION
 FY 1986

=====		
Item	Core Direct Program	Overall Program Support
=====		
Core Program	\$1,280,432	\$ 625,143
Participant Training	786,950	- 0-
Program Management/Support	727,734	681,913
Local Currency	843,553	1,792,550
TOTALS	<u>\$3,638,669</u>	<u>\$3,099,606</u>
=====		

S/S

V. PROJECT IMPLEMENTATION

A. Basic Principles

The basic principles guiding implementation of the amended Core Subproject, and its relationship to other subprojects within the total ADSP, are derived from the determination that this is a collaborative assistance type subproject. Specifically, the Collaborative Assistance Method is a type of AID contracting and is set forth in AID Handbook 14, Appendix H to deal with certain types of projects. Therefore, the collaborative assistance approach (CAA) refers to both a type of contract and a type of project. Among the underlying reasons for determining when a collaborative assistance mode is appropriate are when:

1. The nature of the project precludes defining in advance precise and objectively verifiable contractor inputs (and hence a need for flexibility in project design, contracting and implementation).
2. The problems being addressed are of great complexity and varying uncertainty.
3. There is a desire by AID, the contractor and the host government to increase the joint implementation authority and responsibility of the contractor and the host government.

The nature of the subproject and the type of contract negotiated have obvious relevance to subproject implementation. Of particular importance are the need to maintain flexibility and evolve a realistic determination of the meaning of "increasing (relative to normal contracts) the authority of the contractor". Because of the ambiguous nature of CAA (notwithstanding detailed guidance in Handbook 14, Appendix H) a subproject of this nature is more difficult to implement than a simple project with a simple contract. By definition, a collaborative assistance subproject should not attempt to lay out a length of project detailed implementation schedule, nor can the subproject be an "unguided missile".

The development of the Operational Plan for the contract and the rolling work plan are the operational documents for establishing the bounds of the contractor's operations. Therefore, these documents and getting the subproject in place are the first items in the implementation plan. Accordingly, some of the key implementation tasks are listed below. As this amended subproject will require a new contract for the US supplied services, a draft of the Sixth Work Plan is attached as Annex F to illustrate initial budget requirements and the nature of the work to be performed.

B. Initial Implementation Tasks (FY 1985-1986)

<u>Item</u>	<u>Responsibility</u>	<u>Approximate Date</u>
Amended Program and Core SPP Submitted to AID/W	USAID	15 April 1985
AID/W Review & Approval	AID/W (with USAID representation)	May 1985
Grant Agreement Amendment Signed	USAID/MAF	22 May 1985
PIO/T Issued for Contract Services	USAID	30 May 1985
Core Subproject Contract Negotiated and Signed	AID/W CA Contractor	15 July 1985
Contract Signed	AID/W/Contractor	1 Sept. 1985
6th Work Plan Approval	USAID/MAF/ CA Contractor	15 Sept. 1985

In addition to initial steps to make the subproject operational, the collaborative parties will need to make some decisions relevant to Program implementation:

<u>Item</u>	<u>Responsibility</u>	<u>Date</u>
1. Nature of (and any required studies for) reorganization of Core management structure and section responsibilities.	OSU/USAID	1st Year
2. Decision on clustering advisory activities.	OSU/USAID/MAF	1st Year
3. Decision on MAF PSC's to replace MAF staff while in training.	OSU/USAID/MAF	1st Year
4. Decision in which sections to use adjoint advisors.	OSU/USAID/MAF	1st Year
5. In depth institutional analysis of human resource development needs for MAF.	MAF/OSU/USAID	1st Year
6. Development of Directorate institutional development plans.	OSU/USAID/MAF	1st Year

53x

<u>Item (Continued)</u>	<u>Responsibility</u>	<u>Date</u>
7. Analysis of effectiveness of extension.	MAF/OSU/USAID	2nd Year
8. Analysis of effectiveness of research content and organization.	MAF/OSU/USAID	2nd Year
9. Update of sector analysis	MAF/OSU/USAID	2nd Year

VI. MONITORING PLAN

The USAID has established a system for monitoring all projects. The Core Subproject will be monitored in accordance with this system which is based on quarterly project review meetings and the Annual Project Review. Monitoring ADSP sub-projects is the responsibility of the Agriculture Development Officer, who can delegate operational responsibility to his staff. The ADO is the project officer for the Core Subproject. The quarterly report is distributed to interested offices throughout the USAID, AID/W, the contractor(s) and the relevant government Ministry(s).

Quarterly project review meeting status reports are prepared by the responsible AID project officer in cooperation with the contractor and the MAF. The spring quarterly review is a portfolio review with participation from AID/W. The quarterly meeting is chaired by the Mission Director and attended by representatives of relevant USAID offices, the contractor(s) and the relevant Ministry(s). The quarterly meetings range over all issues, interests and concerns associated with the project including progress in implementing scheduled tasks. In addition to the quarterly meetings, interim meetings are held midway between the quarterly meetings. These meetings are also chaired by the Mission Director and the same representatives who attend the quarterly meetings. The purpose of the interim meetings is narrower than the quarterly meetings. It is confined to a review of progress in meeting operational objectives. Ten days following the completion of the quarterly meeting, the USAID Program Office issues an action memorandum setting forth decisions taken at the meeting on required actions and due dates. This memorandum is cleared with the Agriculture Office, which is responsible for coordinating with the contractor. The clearance and coordinating function is highly important as a means for maintaining participatory involvement in the process. No action memorandum is issued following the interim meeting. Continuous monitoring between review meetings is the responsibility of the assigned project officer.

The quarterly status report examines subproject progress in terms of achievement of outputs, degree of accomplishment of activities contained in the current year workplan, including contracting, commodity procurement, training, construction, technical assistance, production and other pertinent activities. Completion status with respect to conditions precedent, covenants etc. as contained in the Project Paper, Project Agreement and other documents is monitored. The report then sets forth accomplishments of planned activities in the previous quarter and required actions from the last project review meeting. The current quarter's planned activities are set forth and action responsibilities assigned. The report also contains program issues and concerns for discussion at the meeting as well as financial and administrative status of the subproject. Finally, problem items and issues are identified for particular attention or executive management consideration.

VII. SUMMARIES OF ANALYSES

A. Technical Analysis

1. Subproject Impact

The ability of the MAF to support agriculture development is limited by lack of adequate staff and budget resources. Additional constraints include fluctuating and shifting priorities, a lack of central direction and planning, and decentralization of Ministry functions without clear lines of authority or organizational linkages.

It is difficult to measure Core effects on MAF capabilities with precision. Nevertheless, it is clear that Core intervention through the various project components is being utilized at an accelerated rate. Technical assistance advisors were first provided under the Subproject at the time the Ministry was going through a "Yemenization" process. At that time a number of MAF posts were filled by IBRD and other donor support third country professionals. The incumbents of these posts were all terminated and replaced by Yemeni nationals.

However, Core advisors have been able to slowly build up the necessary levels of confidence with MAF staff to allow them to play a growing role in ongoing Ministry operations and activities. Core advisors are called on increasingly for support related to particular Ministry development problems/activities as well as reviews of planned sectorial interventions. The Ministry has recently made it emphatically clear that it is counting on continued Core advisor support and assistance in preparing the Five Year Development Plan due to commence in 1987.

A number of MAF staff are in long term academic training in Egypt and the US, while a large number have completed in-service and technical training in Yemen, the US, and third countries. The numbers of MAF staff who have been exposed to some degree of English language training exceed the PP target goals.

Similarly, a number of technical subprojects have been developed under the program and are in place or in process of approval.

See Annex E/1, Technical Analysis, for further details of project impact.

2. Institutional Development/Descriptive Analysis

Core interventions consist of advisory services, training, and developing new subprojects. A brief overview of these activities as well as their accomplishments and constraints encountered are presented below. Proposals for eliminating these problems are presented in detail elsewhere in this paper and are summarized in the following section under 3. New Project Assistance.

a. Advisory Services

(1) Overview

To date Core has provided seven long term advisors. Some advisory services are also provided by other subprojects. The primary objective of advisors is institution building. Advisors of necessity are both trainers and doers. While the mix will vary, the essential concept is to assure that both contribute to increasing Ministry institutional capability. In all events, the advisor needs to be selective, discreet and tactful.

(2) Advisory Accomplishments

Most indicative of advisor success is the increasing demand by MAF staff, from the Deputy Minister on down, for advisory assistance. Requests for additional advisory help in developing the next Five Year Plan are being heard at all levels of the Ministry. Construction of the DLRC has been completed and operations are moving forward with the help of the advisors. A manpower inventory is underway for use in establishing training priorities and a survey of PAO's is underway, to be used in establishing better linkages between them and the central Ministry.

(3) Constraints

To date, with the notable exceptions mentioned below, most problems in providing advisory services have been relatively minor and are gradually being overcome. In addition to communication barriers because of language incompatibility, the two major problems have been (1) the lack of systematic work plans and (2) inappropriate counterparts.

b. Training

(1) Overview

Core has direct responsibility for the ADSP training portfolio. On-the-job, in country technical, short term overseas, and academic training is a major portion of the Program. Pending completion of the manpower survey,

participant selection has tended to be ad hoc, with strong reliance on language ability and availability. English instruction is emphasized for a variety of reasons, ranging from preparation for study in the US to increasing access to the store of information available only in English.

(2) Accomplishments

In the past three years, 225 participants have received some English language training. At present, 45 attend classes ranging from beginning to advanced, a few through work release arrangements or on their own, outside work hours.

To date, only five MS participants for the Ibb school have returned from academic training. However, the four subprojects have a total of 43 academic participants in training. Currently, there are 22 participants in short term training.

(3) Constraints

Most important is the low percentage of Yemeni who have received as much as a high school education. Secondly, it is usually difficult to get any of the small number in the MAF who do have the required educational background and English language ability released for long term academic training.

c. Project Design/Mobilization/Coordination

(1) Overview, Accomplishments and Constraints

Assistance in identification, design and/or premobilization of subprojects has included ISAI, PETS, HITS, FOA and IFP. The first was redesigned for extension and expansion of the project. The second two received assistance in all three categories, while the FOA received identification and design assistance and will benefit from considerable preproject activities. The IFP has been identified and design will start soon. The major constraint to these project development tasks has been a lack of design personnel with experience in meeting the complex project preparation requirements of AID.

3. New Project Assistance

The amended Core Subproject will include the following:

a. Advisory Services

Advisory services, consisting of ten staff positions, of which three are vacant and one not determined will be maintained.

b. Training

The following will be accomplished over the Life of Project: completion of ongoing training in progress under Core I for 58 participants; completion of planned new starts for 513 participants; and training initiated under Core II but not completed by the PACD for another 62 participants. Details are provided in Table VII-1 below.

TABLE 6

Training Provided Under the Core Subproject
(Number of Participants)

Nature of Training	On-going (Initiated under Core I)	Planned New Starts	
		Completed by PACD	Incomplete by PACD
<u>Long Term:</u>			
BS Degree	17	48	45
MS Degree	3	14	12
PhD Degree	0	1	5
Non-Degree Technical	4	50	0
Total Long Term	24	113	62
<u>Short Term:</u>			
US Short Course	17	50	0
Arab Country Short Course	12	75	0
In-Country	0	60	0
Total Short Term	29	185	0
ESL In-Country	5	215	0
TOTAL PARTICIPANTS	58	513	62

c. Subproject Design/Mobilization/Coordination

Support for new project development under the amended Subproject will be different than under the first phase. Project preparation activities by the Core contractor will be confined to initial identification and providing feasibility and other studies and analyses for project design. However, USAID will utilize Core funds to finance subproject identification and design as it carries out its responsibilities for preparation of required documentation. To the extent possible, pre-implementation activities will continue as before.

597

d. Summary of New Subproject Interventions

Adoption of the following administrative and project implementation changes identified below and elaborated on throughout the paper during the second phase of the Subproject, in combination with modifications in counterpart assignment and advisors' roles as described above, should eliminate many constraints encountered during the first phase:

- (1) Advisor personnel formed into interest affinity clusters;
- (2) Appoint bilingual adjoint advisors as necessary for each advisor/counterpart team or cluster;
- (3) Provide discrete working budgets for key advisors;
- (4) Appoint appropriate counterparts supplemented by deputy or alternate counterparts;
- (5) Increase use of short term advisors to supplement resident advisor staff;
- (6) Use AID staff or other appropriately trained personnel for subproject preparation;
- (7) Improve/modify to degree possible training/testing methods which will contribute to increased YALI and MAF output of qualified language participants;
- (8) Institute ESL training tailored for short term technical and non-academic training courses in-country and abroad;
- (9) Employ, to the extent possible, Arabic speaking third-country or Yemeni professionals as replacements for MAF training participants;
- (10) Conduct an organization development (O/D) study of the MAF to provide precise guidelines on modifications and changes needed to develop and institutionalize requisite MAF capabilities;
- (11) Provide subject specific training to counterparts and advisors on the concepts, parameters, goals, means and techniques of institutional development;
- (12) Conduct a series of multi-tiered management development training workshops for (a) Core advisors (b) MAF staff (central and regional) and (c) Core advisors and counterparts jointly;

(13) Making the USAID responsible for project design with participation by the Core contractor as appropriate.

(14) To the extent possible, finance expatriate substitutes for Ministry staff in training.

B. Economic Considerations

Annex E/2 sets forth the reasons why the Core Subproject appears to be an economically rational investment for AID, the Government of Yemen, and for collaborating institutions. There are several interrelated reasons for making the investment:

First, agriculture remains the paramount domestic production sector, and it has growth potentials. In aggregate value, if these potentials are realized, even marginally, they would probably exceed growth potential in any other sector (barring oil). Thus overall growth is partially dependent upon agriculture, since it employs about 70% of the domestic labor force.

Secondly, with a rapidly growing population and increasing family incomes, the demand for food, both traditional foods and for emerging diet patterns of more fruit, livestock products and vegetables, has grown far beyond the current local production capacity. The result is a current, and foreseeable, balance of payments crunch caused, in a large part, by food imports which are running around 30% of all imports.

Although lacking in desired detail, results from applied agronomic and economic research are sufficient to show some agricultural potentials which are far from being exhaustively exploited. Farmers have shown remarkable response to economic opportunities for qat, poultry, and fruits and vegetables. As these markets eventually become saturated, there remain opportunities in livestock feed crops, and to a lesser extent, legumes and cereals.

1. Incremental Costs/IRR

The combined US and host government incremental costs of the Core Subproject may run about \$12 million per year for five years. The Core Subproject would need to generate an incremental net benefit stream of a little less than \$7 million for fifteen years to earn a 15% internal rate of return. Since the Core Subproject does not directly work on any specific productive enterprise, the likelihood of generating \$7 million annually is necessarily subjective. There are, nevertheless, single sources of economic income which the subproject might very well affect. These include:

(a) Increase in overall agriculture GDP. Core efforts would need to increase output by one-eighth of one percent to yield a 15% internal rate of return.

(b) Increase in efficiency in the use of annual imports of three major agricultural inputs: live animals, feed, and fertilizer. An increase in efficiency of 6% would be needed to generate \$7 million savings.

(c) Increase in efficiency of fixed capital investment postulated for the Second Five Year Plan. Efficiency gains of 4% would be needed to yield \$7 million in each year of the plan period.

(d) The Core Subproject's technical services to other subprojects might increase the other subprojects' own IRR's.

(e) Combinations of the above should occur.

2. Policy Environment

Annex E-2 also contains a brief description of the policy environment in which the subproject operates. The conclusions are that, on balance, the policy environment is quite free of administered, or distorted, price; the agricultural economy is market oriented and conducive to agricultural growth and poses no significant obstacles for the operations of the subproject.

In summary, there appear to be good and sufficient economic reasons to invest in the Core Subproject based upon food needs and agricultural growth opportunities.

C. Social Soundness

1. Scope of Social Soundness Analysis

This section examines the Core Subproject in the light of socio-cultural factors. This section touches on other sub-projects only where they are implicated in implementation of Core, particularly training within the MAF, the development of linkages between the MAF and producers in the agricultural sector, and the ability of the MAF effectively to extend new technologies and management practices in the context of broadly-based and equitable social and economic development.

2. Socio-Political Background

The Yemen Arab Republic, founded in 1962, is a relatively young state. However, Yemen has a long recorded history, and reference to this history will shed some light on contemporary development issues. The Republic was established through the overthrow of the Mutawakkilite Kingdom of Yemen,

which had been founded by the Zaydi Imam Yahya Hamid al-Din at the end of World War I; the Hamid al-Din imams of this century were the last Zaydi imams in a series that goes back over a millenium in Yemen.

A consideration of certain fundamental differences between the old regime and the Republic, with respect to views of the role of government, and the bases of legitimacy and support, should prove instructive. The old regime was conceived essentially as a sectarian state; the imams were generally accepted as "legitimate" rulers only by Muslims of the Zaydi "rite". Shafi'i Muslims had a subordinate role, felt themselves discriminated against and exploited, and were consequently one of the main sources of opposition to the old regime. The imams showed little evidence of having a serious concern for social welfare or economic development. Imam Yahya and his son and successor, Ahmad, pursued a policy of isolation, to exclude foreign influence and preserve their rule. Finally, the Zaydi imams presided over what was essentially a weak central government, focused on the person of the imam. Imams ruled by manipulating coalitions which consisted, for the major part, of northern tribes and power-holders of the Zaydi confessional group, and enforced their rule, at times, with draconian sanctions.

In stark contrast to the old regime, the Yemen Arab Republic has made a commitment to the development of Yemen, and to the improvement of the standard of living and welfare of its people. Moreover, the YARG seems to be truly popular with its people, with claims on the loyalties of the majority of the population, and not merely, as in the old regime, on segments of the old elite.

3. YARG and Institutions

Although the modern Yemen Arab Republic Government has a much wider base of support than the old regime, elements of distrust -- or, at best, ambivalence -- toward central authority remain. A long history of relative decentralization and a weak central state is not overcome immediately. Centrifugal tendencies persist. Although continued economic growth and national economic integration may lead to the decay of relatively autonomous regional power blocs, it will not happen all at once. This historical background is important to consideration of the ability of the YARG, and specifically the MAF, to promote development, and of constraints that might impede such intervention in the agricultural sector.

The MAF's existence as a modern Ministry dates back only to 1970; consequently the MAF, like the YARG, is relatively young. Snodgrass ^{1/} has discussed the process of institution-building with special reference to internal structures of the MAF. His discussion shows that the formal or official institutional structure does not necessarily coincide with the "true" or "functional" structure as expressed by the actual flow of information and power within the Ministry and between it and other agencies of government. It is not surprising, considering the socio-cultural matrix within which the Ministry is located, that some individuals -- owing to interpersonal linkages mediated through other social institutions (including kinship), that are not readily perceived by the outsider -- should have more power, or less, than their official title may indicate. Put in another way, the authority actually residing in a particular office may not be independent of the individual occupying it.

4. Role of MAF in Development

The MAF has played more a reactive role than a directive or originating role in agricultural development. Rather than directly involving itself in investment and production, MAF policy has been to encourage the private sector. The growth of the domestic broiler industry has been almost entirely the accomplishment of private entrepreneurs. The MAF has responded to requirements of this development rather than leading it. It has been somewhat more directly involved in the program to achieve self-sufficiency in fruit, for the MAF has imported fruit trees and engaged in some nursery production; the goal, however, is to sell trees to private farmers, and to encourage private sector fruit production.

At this time, an emphasis on providing advice is an appropriate role for the MAF. Many farmers already see the Ministry as a source of technical advice; many of the visitors to the MAF during the hours of business are farmers with requests. There is a nation-wide demand for technical assistance; requests for advice are even initiated at high levels of the government -- the Presidency and Office of the Prime Minister -- and referred to the MAF for action.

The Ministry's ability to intervene and enforce compliance with its regulatory directives is limited. One problem the MAF has had with enforcement is vitally important for the YARG's current top production priority: self-sufficiency in fruit production. It has been unable to enforce destruction of citrus trees infected with canker due, in part, to a lack of support elsewhere in government and in part to insufficient

^{1/} Snodgrass, op. cit., pp. 9ff.

power or influence to enforce destruction of diseased trees. This illustrates something about the Ministry's ability to gain compliance, and the limited nature of the sanctions it has at hand; also, about its relations with other departments within the government and, perhaps, about its credibility.

However, there are other issues. Under the old regime one of the sanctions applied against rebels was the destruction of trees. Any such action taken by the Republican government must appear to be justified. The destruction of diseased trees is sound from the point of view of horticultural practice -- and the ability to do so will be necessary, if the stated YARG goal of self-sufficiency in fruit is to be attained. However, a person whose trees are diseased must be convinced that the action is in no wise directed against him, but rather that it is necessary for the good of the country and, ultimately, of the farmer himself. In addition, some system is needed that provides a means for society to assume at least a share of the farmer's loss.

Socio-Cultural Feasibility - Inter-Cultural Considerations

The placement of technical advisors in the MAF has been one of the key elements of the Core Subproject design. One problem has been that of the appropriateness of the match between advisor and counterpart. This problem has also been noted on the Yemeni side by officials in the Ministry. Yemeni and American perceptions coincide on some points, and diverge on others. For example, it was contended on the Yemeni side that American advisors are often too specialized in their competence, while, on the American side, it was thought that the MAF would not accept a candidate who lacked credentials which are in fact the result of considerable specialization.

One step toward solving these problems might be to specify, in the job posting, that the advisor will be expected to instruct and to work at a level more basic and general than his level of specialized competence. Advisors must also be given a thorough orientation regarding available resources and technical capabilities. The need to deal, at times, with this technological "gap" may suggest another function for the Arabic-speaking "adjoint advisors" suggested elsewhere in this subproject paper.

The issue of linguistic competence has also arisen. Requiring that advisors be fluent in Arabic would be an insuperable obstacle to Subproject implementation. Yet, it is incontestable that learning some Arabic would add significantly to an advisor's rapport with and ability to communicate with both personnel in the MAF and Yemenis in general. This is an issue which will require continuing attention even with the addition of Arabic/English speakers, or adjoint advisors, to the project.

6. Social Consequences and Benefits

a. Beneficiaries

The most direct beneficiaries of the Core Subproject within the MAF are, perhaps, the MAF officials who receive training. Some of the social benefits of Core and the other ADSP subprojects may be, in effect, in mitigating or alleviating some of the effects of recent economic trends in the YAR. For example, the past half decade has seen a remarkable development of a domestic broiler and egg industry. This private sector development may be to the benefit of the Yemeni populace in general but it has, to an extent, been detrimental to small household producers (especially women, who have traditionally raised poultry). The MAF, through its extension program and with technical assistance and training provided by the PETS program, is assisting the small-scale domestic poultry operations. Such operations can be viable as a supplement to domestic income and diet, because the opportunity cost of labor is close to zero.

b. Women

The MAF in Sana'a does not appear to employ any Yemeni women except as secretaries. The DLRC, a project within the MAF under the leadership of a Core advisor, has made some efforts in this direction. The Extension Division of the Ministry has a number of women extension agents in Rada', in the Southern Uplands Rural Development Program area, and in the Tihama Development Authority area. Extension outreach programs through the mass media, particularly through television and video, present opportunities for using the talents of educated Yemeni women to transmit agricultural advice and for farm women to secure it.

Women have had an important role in traditional subsistence agriculture; in some respects, economic development has had as a concomitant a restriction of women's economic activity and of the sphere of their social contacts. The resolution of the tension between the tendency toward further restriction of women's scope, on the one hand, and the expanded participation of women to whom new opportunities have been made available, on the other, cannot be predicted with any certainty. YARG policy will influence the outcome, as may ideological influences originating outside of Yemen; in the absence of such activities as the Core program which are concerned with women's status, there might be little institutional pressure toward mitigating the more restrictive tendencies.

D. Administrative Analysis

The Core Subproject Administrative arrangements include provisions for two separate but related responsibilities. These are providing technical assistance to the MAF, and leadership for maintaining the integrity of the Agriculture Development Support Program as integrated assistance to the agriculture sector in collaboration with USAID and the host government.

1. The Coordination and Integration Role

a. USAID/ADO Responsibilities

The Collaborative Assistance Agreement under which the Program and all subprojects were carried out during the first five-year phase of the Core Subproject is being terminated. This requires a realignment of responsibilities which have been the province of the contractor. Under the new arrangements, the USAID will have overall responsibility for maintaining the integrity of a program of integrated assistance to the agriculture sector. The Agricultural Development Officer and his staff will carry out their responsibilities for subproject oversight directly with each contractor, not through an intermediate Chief of Party. USAID will have primary responsibility for program development, sector assessments, project identification and design, as well as contractor selection. The USAID ADO will provide leadership to the collaborative determination of program and subproject objectives by USAID, MAF and contractor. The USAID ADO will work directly with the Committee Chairman (see below), and assign staff members to work directly with other Team Leaders.

The USAID ADO will be responsible for working with the YARG and the subproject contractors to assure that the various activities are integrated and coordinated. The principal means used in accomplishing the program coordination will be the Core Subproject, its Team Leader, and the Program Coordinating Committee (see below). Within the Program Coordinating Committee, the role of the USAID ADO shall be one of communications and facilitation. The ADO shall bring to the Program Coordinating Committee the full capabilities of the Mission to facilitate the activities of the Subproject both within the Mission and within the YARG. As this will be a Collaborative Assistance contract, the Mission staff will make collaborative inputs to the execution of the contract and perform a monitoring and assisting role rather than a supervisory one. Nothing in this relationship, however, precludes USAID from performing the coordination, approval or oversight functions normally required in their role as the accountable US Government agency for administration of development assistance funds.

b. Core Subproject Team Leader

The Core Subproject, through its administrative/logistic support to all subprojects and its provision of a broad range of advisory services relevant to all subprojects, serves as a principal means of program coordination. To provide leadership for Program integration and carry out advisory responsibilities to the MAF, the head of the Core contract team will carry two titles -- Team Leader and Program Coordinating Committee Chairman. The responsibilities of the Committee Chairman are to chair the Program Coordinating Committee, provide program policy leadership, coordinate intra-program services and collaborate with the USAID and the Ministry. Collaborative relationships would be among the Committee Chairman, the USAID ADO, and the Chairman's counterpart in the Ministry. With collaboration at this level, the Committee Chairman will be able to assure that Program activities are consistent with USAID and MAF policy and strategies, programs, and operational requirements.

c. Program Coordinating Committee

The major instrument for assuring cooperation among and integration of program activities will be the Program Committee. Official members will be the team leaders of the various subprojects, the Chairman, and the Core Senior Agriculture Advisor. Ex officio members will be the Core Controller and Chief, Administrative Services, plus the USAID ADO and representatives from the MAF and MOE. The primary task of the Program Committee is to assure Program plans and operations are consistent with objectives set collaboratively by the Program, MAF and USAID under the leadership of the USAID ADO. The Chairman and the official members of the Program Committee will work directly with the USAID ADO and his staff to maximize collaboration on Program matters.

d. Administrative/Logistical

Services needed to maintain and enhance integration of the Program such as technical, financial, administrative and management are currently planned to be provided by the Core Subproject advisors and administrative staff. Administrative/management functions will be provided by the Core university. Audits and management evaluations which will be conducted on a periodic basis will include a review of the feasibility of subcontracting all or part of the administrative/ management tasks.

To avoid problems encountered during the first phase because of divided responsibility and authority between the field and headquarters, campus representatives will no longer be titled Project Directors. Rather, Team Leaders will work within normal campus structures under the supervision of a

university official such as a Director, International Agriculture. Decision making authority would be delegated to the Team Leader by his immediate supervisor. The on-campus project officials would carry a designation such as Program Coordinator or Campus Coordinator, who would provide support to the field team.

e. Advisory Service/Staff Relations

For the purpose of providing advisory services to the MAF, operations and daily supervision will be the responsibility of the Senior Agriculture Advisor. The Team Leader will provide policy direction, supervise the Senior Agriculture Advisor and the Chief, Administrative Services, and provide policy and operational advice to his counterpart and others in the MAF. All other Core staff will report to intermediate supervisors, if any, or to the Senior Agriculture Advisor or Chief, Administrative Services. The Senior Agriculture Advisor will have as counterpart a senior MAF official and collaborate directly with the USAID project manager.

The size of Core Subproject advisory staff is not expected to grow during the second phase of the Subproject except for the addition of adjoint advisors assigned to work with advisors whose effectiveness is limited by ineffective communications between advisor and advisee(s). The adjoint advisors would be Arabic/English speakers with a degree in agriculture.

The subproject will, during preparation of Workplans, examine the feasibility of providing advisors with a small budget for "mini" subprojects or "structural activities". Funds to be used to achieve specific outputs could be used for training, staff or commodities.

Greater use of short term advisors will be an implementation tool available to the Core Subproject for providing flexibility in solving particular MAF problems. Criteria will be established by the three collaborating parties for the use of short term consultants. These consultants will be recruited by the collaborating university from a wide variety of sources in the US. As a general rule, these advisory consultancies should range between one to six months. The USAID will continue to explore possibilities of funding expatriate substitutes for senior MAF staff sent abroad for training.

The Core Subproject will also be the financing vehicle for establishing a fund for the MAF to use in contracting for expatriate personnel to replace staff in training. The availability of a fund for this purpose may make it possible for the Ministry to relieve senior staff for training.

f. Workplans

Finally, in accordance with Collaborative Assistance procedures, a detailed scope of work for the Contractor will be provided in work plans not in this subproject paper amendment. As noted elsewhere in this paper, during the first phase of the Subproject, annual workplans were prepared and approved. However, experience over the past five years has demonstrated that the annual workplan is operationally defective. The preparation and approval process has proved to be too long and cumbersome to serve as a timely guide for carrying out subproject activities. For example, the work started on the FY 85 workplan in February 1984, and was completed in July 1984. Final approval of all parties was not obtained until March 1985, six months after the start of the operational year. Second, the annual workplan does not allow sufficient lead time to properly plan and sequence commodity procurement, training activities, and short term consultant requirements. For these reasons, during the second phase of the Subproject, a rolling three-year work plan will be used. The workplan will be the principal document for setting forth Subproject plans, scheduling activities, and allocating resources. The workplan will be more detailed, particularly with respect to budget, during the first year and will be updated annually. Workplans will be prepared by the Core university or project in collaboration with USAID and the MAF. The major purpose of the workplan is to examine the substance of assistance being proposed, and review the implementation plan. The workplan will also provide planned budgetary expenditures. All three parties will approve the Workplans and participate in review of progress in meeting Workplan targets.

VIII. CONDITIONS AND COVENANTS

Listed below are the restructured Conditions Precedent and Covenants necessitated by changed implementation procedures, contractual relations and advisor responsibilities.

A. Conditions Precedent

Section 4.5 Conditions Precedent to Disbursement for Core Subproject.

Prior to any disbursements for the amended Core Subproject, the YAR shall, except as AID shall otherwise agree in writing, furnish in form and substance satisfactory to AID:

1. a statement of the names and titles with specimen signatures of a person or persons who will act as representatives of the YAR in the Ministry of Agriculture;
2. evidence of the appointment of a senior representative of the Ministry of Agriculture and Fisheries who will serve as counterpart to the Core Senior Agriculture Advisor;
3. evidence of appointment of the representatives of the Ministry of Agriculture and Fisheries who will, as a part of their normal responsibilities, serve as counterparts and deputy counterparts to the Core advisors.
4. evidence of appointment by the Ministry of Education of a representative to the Core advisory team.

B. Special Covenants

Article 5, Special Covenants: Section 5.3 is amended to read as follows:

"Section 5.3, Special Covenants for the Core Subproject"

The YAR signators on behalf of their respective ministries and on behalf of the YAR Government covenant as follows:

1. That the YAR Government, and particularly the Ministry of Agriculture and Fisheries, and the Ministry of Education are prepared to enter into and foster the development of a long-term relationship with the Core Subproject University Contractor for the purpose of developing and sustaining an agriculture sector which effectively and efficiently uses Yemen's natural resources, is integrated into the economy, and is supportive of broad-based and equitable social and economic development.

2. That the YAR Government and the Ministry of Agriculture and Fisheries will make the necessary arrangements to insure that Ministry personnel are made available and assigned to participate in the training courses, workshops, seminars and other training activities provided under this project.

No other subsections of Section 5.3 are required.

Changes in the Conditions Precedent and Covenants are limited to those necessary because of termination of the contract with the Consortium for International Development, to reflect the more limited relationship of Core with the Ministry of Education as the amended Ibb Secondary Agriculture Institute Subproject and the new Faculty of Agriculture Subproject come into effect. In addition, some changes in wording and the addition of one clause in the Conditions Precedent are necessary to bring requirements for naming counterparts into line with the changes in the structure of the Core team and responsibilities of the Team Leader and the Senior Agriculture Advisor.

IX. EVALUATION PLAN

There is an extensive monitoring and reporting procedure already in place with the Mission's quarterly subproject review and reporting format. There is, consequently, no need to conduct annual or frequent formal evaluations, particularly to monitor progress toward outputs and other EOPS indicators; but several critical items will need to be evaluated during scheduled mid-term and end-of-subproject evaluations.

The Core Subproject evaluations will likely focus on major issues such as development of the MAF as an institution, the extent and appropriateness of training provided, and staffing of the MAF and the ways in which the Core Subproject complements MAF staff, and impacts on MAF policy-making processes. Since this is an ongoing subproject, the first mid-term evaluation could be scheduled in year 2 or 3. It is anticipated that other programmatic Mission evaluations (e.g., participant training in general) will address many of the Core and ADSP concerns. Data for scheduled evaluations will be available from Core advisor reports, MAF records and appropriate reports, Mission quarterly status reports, appropriate subproject correspondence, etc.

ANNEX A

Draft Amendment
to Project Authorization

Name of Country: Yemen Arab Republic Name of Project: Agriculture Development Support (Core Subproject II)

Number of Project: 279-0052

Note: This draft amendment assumes the FOA Subproject Amendment and the ISAI Subproject Amendment 1 (of Dols \$2,500,000) will be in place, raising the total authorized, prior to this Core II authorization, to an overall project level of \$84,818,000.

I. Pursuant to Part I, Section 103 (Agricultural, Rural Development and Nutrition) of the Foreign Assistance Act of 1961, as amended, the Agriculture Development Support Project for the Yemen Arab Republic (YAR) was authorized on May 30, 1979, and amended on September 24, 1979; May 27, 1980; July 11, 1980; August 10, 1982; August 20, 1982; and December 17, 1982. That authorization as previously amended is hereby further amended as follows:

A. In addition to the amounts previously authorized, not to exceed thirty-eight million four hundred four thousand (US) dollars (Dols 38,404,000) in grant funds for a new total life-of-project amount of one hundred twenty-three million, two hundred twenty-two thousand (US) dollars (Dols 123,222,000) for the Agriculture Development Support Program shall be made available for the Core Subproject described herein. These additional funds are to be made available over a five-year period from the date hereof, subject to the availability of funds in accordance with the AID OYB/ allotment process, to finance the foreign exchange and local currency costs of goods and services for the subproject.

B. The overall project definition is contained in the existing Project Agreement, as amended. The Core Subproject definition also is contained in the existing Project agreement, as amended.

AID financing will be provided for technical assistance, limited commodities and necessary administrative support for the technical advisors and other subprojects within the overall Agricultural Development Support Project, 279-0052.

C. The Core Subproject will assist the YARG to improve its capacity to plan and implement a national agricultural development program. Subproject elements will include the following:

1. Provision of professional training to the Directorate of Planning and other organizational units of the Ministry of Agriculture.
2. Provision of language training to personnel of the Ministry of Agriculture and other agricultural institutions.
3. Provision of technical advisory services to staff and organizational units of cooperating ministries and other government agencies.
4. Provision of assistance for agricultural sector assessments in order to outline policy on important issues.
5. Continuing development of a Documentation and Learning Resource Center in the Ministry of Agriculture to make available library materials, reports and training materials for planning and evaluation, public information and reference purposes.
6. Provision of administrative assistance to approved subprojects.
7. Development of close relationships with other donors and AID projects.
8. Development of long-term linkages between the grantee and its representatives and collaborating institutions.
9. Assistance in the development of subprojects and related activities for implementation under the Project.

II. I hereby authorize the initiation of negotiation and execution of an amendment to the Project Agreement as amended, by the officer to whom such authority has been delegated in accordance with AID regulations and delegations of authority subject to the following essential covenants and major conditions, together with such other terms and conditions as AID may deem appropriate:

A. Conditions Precedent to Initial Disbursement for Core Subproject

1. Prior to any disbursement for Phase II of the Core Subproject, the YAR shall, except as AID shall otherwise agree in writing, furnish in form and substance satisfactory to AID:

a. A statement of the names and titles with specimen signatures of a person or persons who will act as representatives of the YAR in the Ministry of Agriculture;

b. Evidence of the appointment of the representative of the Ministry of Agriculture to the Core Subproject who will serve as the counterpart to the Senior Agriculture Advisor;

c. Evidence of the appointment of the representatives of the Ministry of Agriculture who will, in addition to their normal responsibilities, serve as the counterparts and deputy counterparts to the Core Subproject advisors; and

d. Evidence of the appointment by the Ministry of Education of a representative to the Core advisory team.

B. Special Covenants for the Core Subproject

The YAR signators on behalf of their respective Ministries and on behalf of the YAR Government covenant as follows:

1. That the YAR Government, and particularly the Ministries of Agriculture and Education, are prepared to enter into and foster the development of a long-term relationship with the US university responsible for staffing the Core Subproject for the purposes of developing and sustaining an agricultural sector which effectively and efficiently uses Yemen's natural resources, is integrated into the economy, and is supportive of broad-based and equitable social and economic development.

2. That the YAR Government will make every reasonable effort to provide the level of resources required for implementation of this cooperative program in Agricultural Development Support through timely and adequate increases in the budgets and authorized personnel levels of the Ministries of Agriculture and Education.

3. That the YAR Government will make every reasonable effort required to attract and retain high caliber human resources required for implementation of the Agricultural

Development Support Program and the ongoing development activities initiated as a result of program implementation.

4. That YAR Government personnel will be released for in-country and out-of-country training as required for program implementation.

5. That the YAR Government will ensure full and adequate coordination between the activities of this program and other related development activities in Yemen undertaken by the YAR Government on its own or with the support of other international organizations.

C. Waivers:

Based on the justification contained in Annex ___ of the Project Paper, I hereby authorize the purchase of _____ vehicles (valued at \$ _____) of Code 935 origin through single source/proprietary procurement.

Further based on the justification described in Annex ___ of the Project Paper, I hereby authorize off-the-shelf procurement in Yemen of up to \$ _____ of commodities of Code 935 origin, without regard to their per unit price.

Further, based on the justification described in Annex ___ of the Project Paper, I hereby authorize transportation on Code 899 flag vessels from the United States to Yemen Arab Republic of up to \$ _____ in goods.

In all other respects, the subproject Project Authorization, as previously amended, remains in full force and effect in accordance with its terms.

ANNEX B

LOGICAL FRAMEWORK
Agricultural Development Support Program (279-0052)--Core Subproject

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>GOAL: Increased income and improved quality of life for rural inhabitants in the context of broad-based and equitable social and economic development.</p>	<p>GOAL: 1. Increased farm production. 2. Increased farm income. 3. Increased farm services.</p>	<p>GOAL: 1. YAR Government statistics. 2. Subproject statistical and socio-economic analysis.</p>	<p>GOAL: 1. Income generating opportunities within agriculture will be competitive with "outside" activities. 2. Services provided by the MAF will be perceived as worthy of use or adoption by farmers.</p>
<p>SUBGOAL: Improved capability of the MAF and Yemeni agriculture producers to develop and sustain an agriculture sector which effectively and efficiently uses Yemen's natural resources, is integrated into the economy, and is supportive of a broad-based and equitable social and economic development.</p>	<p>SUBGOAL: 1. Improved performance of MAF in planning and implementing an agriculture program. 2. Improved capacity of the MAF to gather and process information and use it to analyze agriculture development needs. 3. Improved capacity of the MAF to provide technical services to farmers. 4. Increased agricultural yields.</p>	<p>SUBGOAL: 1. YAR Government statistics including MAF sample surveys. 2. Subproject statistical and socio-economic analyses. 3. Review of the functioning of agriculture service units. 4. Review of Ministry planning documents and project implementation progress.</p>	<p>SUBGOAL: 1. No new sets of values will emerge which would be counter to economic development. 2. Agricultural development will continue as a high priority. 3. Remittances will continue to provide adequate resources for capital formation. 4. Market forces will continue to be the central force behind farmers' decision making.</p>
<p>PROJECT PURPOSE: 1. To improve the capacity of the MAF to plan and implement a national agriculture development program supportive of private sector production and marketing.</p>	<p>PURPOSE (END OF PROJECT STATUS) 1. Improved capacity of selected MAF Directorates and Divisions to undertake such activities as planning, analysis, project identification and preparation, evaluation and implementation. 2. A Documentation and Learning Resource Center established and operating without external assistance in the MAF making available library materials, reports and training materials to Government and the public. 3. MAF staff and financial resources largely allocated to servicing the private interest.</p>	<p>PURPOSE: 1. Government records and reports. 2. Program reviews and evaluations. 3. Core records. 4. Surveys of the agriculturally related private sector.</p>	<p>PURPOSE: 1. Government policy permits the MAF to continue to function as a planning and monitoring organization rather than engaging in production schemes. 2. Government policy will continue favorable to private sector development.</p>

LOGICAL FRAMEWORK (Continued)
 Agricultural Development Support Program (279-0052)--Core Subproject

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS: 1. A training unit established in the MAF capable of, and actually, carrying out in-service training, recruiting and processing participants for overseas training. a. Technical/administrative in-service training. b. Undergraduate and graduate university educations in agricultural sciences. c. English language training. d. Short term overseas training. 2. Agricultural Documentation and Learning Center completed and fully operated by Yemeni. 3. Studies, assessments and analyses of the agricultural sector and the component parts completed. 4. A firmly established system for assuring the continuing operation of an integrated program of assistance to the MAF. 5. Ongoing technical and administrative/logistic/financial support to the program and all subprojects.	MAGNITUDE OF OUTPUTS: 1. Numbers of in-service training courses given and staff processed for overseas training. a. In-service training provided to 60 MAF staff members. b. BS--46 completed, 45 in progress. MS--24 completed, 12 in progress. c. 200 students. d. 75 trained. 2.1 3. As collaboratively agreed by MAF, USAID and the contractor. 4. The Program (Project 279-0052) continuing to provide integrated assistance to the MAF. 5. As required.	OUTPUTS: 1. Subproject records. 2. Subproject evaluations. 3. Evaluation of Ministry operations. 4. MAF records.	OUTPUTS: 1. No outside forces will emerge which prevent release of MAF staff for training. 2. An adequate supply of Yemeni who desire degree training in the US will be willing to contract for future MAF employment. 3. Training requirements of other donors will not unduly interfere with Core training requirements.
INPUTS: USAID: 1. Long term advisors. 2. Long term support staff. 3. Short term consultation. 4. JS Support. 5. Participant training. 6. Project commodities.	MAGNITUDE OF INPUTS/ANNUM: USAID: 1. 9 US, 4 third country nationals. 2. 5 US, 51 local hire. 3. 800 days. 4. 6 1/2 FTE 5. Average 52 years study. 6. Average \$350,000.	INPUTS: 1. AID records. 2. YARG records. 3. Core records. 4. Project evaluations.	INPUTS: 1. AID will receive funding sufficiently large to continue the Yemen program. 2. Core Subproject. 3. Student candidates will be able to meet established language requirements. 4. Host country budgetary allocations to the MAF will be increased sufficiently to meet project costs.
YARG: 1. Counterparts. 2. Participant travel 3. Facilities.	YARG: 1. 10 2. 178 3. Office space, materials and equipment.		

1/ PhD candidates currently funded under Core will be shifted to Faculty of Agriculture funding when project initiated.

ANNEX C
COUNTRY CHECKLIST

Agriculture Development Support Program
(Project 279-0052)
Core Subproject

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

- | | |
|---|---|
| 1. <u>FAA Sec. 481.</u> Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotic drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? | A.1. No. |
| 2. <u>FAA Sec. 620(c).</u> If assistance is to a government, is the government liable as a debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? | A.2. Yemen is not known to be in violation of this section. |
| 3. <u>FAA Sec. 620(e)(1).</u> If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? | A.3. Yemen is not known to be in violation of this section. |

4. FAA Sec. 620(a), 620(f), 620D; FY 1985 Resolution Act Secs. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver? A.4. No.
5. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property? A.5. Not since 1967.
6. FAA Sec. 620(l). Has the country failed to enter into an agreement with OPIC? A.6. Never have had OPIC agreement.
7. FAA Sec. 620(o); Fishermen's Protective act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters? (b) If so, has an deduction required by the Fishermen's Protective Act been made? A.7. No.
8. FAA Sec. 620 (q); FY 1985 Continuing Resolution Sec. 518. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any AID loan to the country? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill appropriates funds? A.8. (a) No; (b) No.
9. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? (Reference A.9. Consideration as required under Sec. 620(s) has been given to Yemen's military

may be made to the annual "Taking into Consideration" memo: "Yes, taken into account by the Administrator at the time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

expenditures and they have not been found excessive

10. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?
- A.10. Diplomatic relations were broken in 1967 but restored in 1973. A new bilateral agreement was signed in 1974.
11. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? (Reference may be made to the Taking into Consideration memo.)
- A.11. Not in arrears.
12. FAA Sec. 620A; FY 1985 Continuing Resolution Sec. 520. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed an act of international terrorism? Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime?
- A.12. No.
13. FAA Sec. 666. Does the country object, on the basis of race,
- A.13. AID has knowledge

religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

any such objection

14. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.) A.14. No.
15. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 18, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.) A.15. See AID/W.
16. FY 1985 Continuing Resolution. If assistance is from the population functional account, does the country (or organization) include as part of its population planning programs involuntary abortion? A.16. N/A
17. FY 1985 Continuing Resolution Sec. 530. Has the recipient country been determined by the President to have engaged in a consistent pattern of opposition to the foreign policy of the United States? A.17. No.

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country
Criteria

a. FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

B.1.A. No.

2. Economic Support Fund Country
Criteria

a. FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human rights record that furnishing such assistance is in the national interest?

B.2.a. No.

PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT

- | | |
|--|---|
| 1. <u>FY 1985 Continuing Resolution Section 525; FAA Sec. 634A; Sec. 653(b).</u> (a) Describe how authorizing and appropriations committees of Senate and House has been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)? | A.1.b. Notifi-
cation
is con-
tained
in the
Congres-
sional
Presen-
tation. |
| 2. <u>FAA Sec. 611(a)(1).</u> Prior to obligation in excess of \$100,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? | A.1.b. Yes.

A.2.(a) Yes.

A.2.(b) Yes. |
| 3. <u>FAA Sec. 611(a)(2).</u> If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance? | A.3. No further
host
country
legisla-
tive
actions
required. |
| 4. <u>FAA Sec. 611(b); FY 1985 Continuing Resolution Sec. 501.</u> If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.) | A.4. N/A |
| 5. <u>FAA Sec. 611(e).</u> If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant | A.5. N/A |

Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
9. FAA Sec. 612(b), 636(h); FY 1985 Continuing Resolution Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is
- A.6. No.
- A.7. The Core Sub-project is designed to provide prerequisite inputs for upgrading Yemen government agricultural development efforts (1) generally related (a), (b) and (c), and (2) directly and significantly related to the improvement of the "technical efficiency of agriculture".
- A.8. See A.7 above.
- A.9. The Host Country is contributing MAF office space and MAF

contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

counterpart time and salaries. Salaries and stipends for all Government trainees and part of their travel costs will be met by the Host Govt.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? A.10. No.
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? A.11. Yes.
12. FY 1985 Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? A.12. No.
13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests? A.13. Yes; N/A.
14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and

expenditure of project funds
(dollars or local currency
generated therefrom)?

15. FY 1985 Continuing Resolution
Sec. 536. Is disbursement of
the assistance conditioned
solely on the basis of the
policies of any multilateral
institution?

A.15. No.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

B.1.a. The overall Title XII Program (Project 279-0052), will include activities or subprojects designed to directly help develop cooperatives support self-help efforts and promote the participation of women. No activities are contemplated in support of item (e). The Core Subproject provides inputs essential to the design and implementation of subsequent program activities and is expected to provide advice in agriculture relevant to items (a) - (d).

B.1.b. Yes.

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor?

B.1.c. Appropriate agricultural technologies will be emphasized in Core Subproject design and implementation of all Program (Project 279-0052) activities and sub-projects.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing being waived for a "relatively least developed" country)?

B.1.d. Yes. It will contribute more than 25% of the costs of the Agriculture Development Support Program (Project 279-0052) which includes the Core Subproject.

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character.

B.1.e.

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

B.1.f. Yes

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development, and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

B.1.g. See B.1.a. above.

BEST AVAILABLE DOCUMENT

ANNEX D

Agricultural Development Support Program (Project 279-0052)
Core Subproject - YAR Government Request Letter

Yemen Arab Republic
PRIME MINISTER'S OFFICE
CENTRAL PLANNING ORGANISATION

P. O. Box : 175 - SANA'A
Teleg. : GENPLAN
Phone : 2992-3

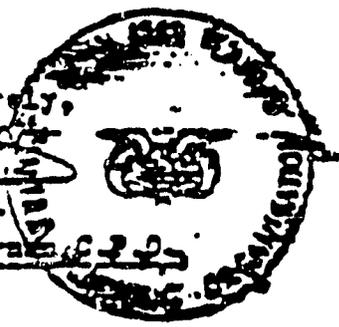
المكتب المركزي للتخطيط
رئاسة مجلس الوزراء
صندوق بريد ١٧٥ - صنعاء
تلفونياً - صنعاء
تلفون : ٢٩٩٢-٣

Dept : _____
Our Ref : 2005
Date : 25th July 1979
Subject : Agriculture Development Support Project

Dr. Mary C. Neville,
Acting Director,
USAID
Sana'a.

Dear Dr. Neville,

The Government of the Yemen Arab Republic is pleased to request USAID to assist agricultural development in Yemen through the Proposed Agriculture Development Support Project. Details of the project will be determined by representatives of the Yemen Arab Government and your staff.

Yours sincerely,
Ali Al-Zahar
for Ali Al-Zahar
Deputy Chairman


ANNEX E/1
TECHNICAL ANALYSIS

1. Summary of Project Impact on MAF Capabilities

The ability of the MAF to develop and implement agricultural development programs at this time is problematic to say the least. There is a chronic shortage of personnel and several of the key directorates are badly understaffed, while some MAF sections have no assigned personnel at all. Budget resources for operations and planning are in short supply. The design team was told by two of the key MAF directors that they had informed the minister that they would be unable to assemble required data needed to update the Five Year Development Plan scheduled to become operative in 1987, due to the limited research funds available.

Other factors which impact upon MAF capabilities are the fluctuating and shifting priorities of the Ministry. At the time of the design team visit, almost the entire resources of the Ministry were concentrated in the Horticulture division, because of the imperative need to distribute a large quantity of tree stock purchased by the Ministry. Further handicaps reside in the absence of central direction for the national agriculture sector and the decentralization of responsibility with no clear lines of operational or administrative linkages between the various MAF directorates and the four Rural Development Authorities, which are semi-autonomous, and/or the Provincial Agriculture Offices which operate in the governorates.

It is difficult to quantify or measure with precision the effects of ADSP program intervention on the MAF as an institution after the first four years of activity. However, as indicated in detail elsewhere in this report, a number of empirical as well as project specific improvements can be noted. For example, through the advisor/counterpart system which is now in place, MAF has access to, and is using to an increasingly large degree, a variety of expert knowledge, experience and technology for the first time. It is clear that some of this knowledge and experience is being transferred to the Yemeni counterparts as they apply them in the course of their day to day, month to month activities.

The construction and equipment of the DLRC as well as the increased analysis by advisors of proposed sector interventions is evidence of improved MAF operational capabilities. Similarly, while only a small number of training participants have returned and are in place at ISAI, they are a result of the ADSP program strategy of training the trainers first. A substantial number of MAF personnel are currently in academic

training at both the BS and advanced degree levels. Their impact upon MAF capabilities will begin to be felt when these participants start to return, beginning in 1986. The fairly large number of MAF personnel who have been exposed to English language training contributes to increasing the base of possible candidates for future participant training. Improvement in the YALI and MAF English language training programs and procedures will further contribute to an increase in English language capability within the MAF. The Core and other subproject academic and short technical course program for in-country and third country training, as well as the communications program for extension agents, also contribute to building Ministry capabilities.

The technical sector subprojects are visible evidence of improved MAF abilities. For the first time, ISAI is in place to provide a stream of basically qualified agriculturalists cum extension agents. The horticulture and poultry projects provide the MAF with hands on expertise as well as training in these areas for the first time. The same will be true in the fields of irrigation practices and university level agriculture training when those two subprojects come on line.

2. Institution Development/Descriptive Analysis

Principal interventions under the Core Subproject have been the provision of technical assistance to the MAF in the form of: (a) advisory consultant services through the appointment of counterpart-advisors to key units of the Ministry; (b) conduct of a Ministry-wide training program; and (c) the design and implementation of agriculture sector subprojects.

Each of these interventions is discussed below in an overview, terms of tasks accomplished and problems/constraints encountered. The proposed new subproject interventions for the proposed removal of constraints are summarized in (4) of the following section under b. New Project Assistance.

A. Ongoing Project Assistance

(1) Advisory Consultant/Counterpart Services

a. Overview

The Core Subproject has to date provided seven long term advisors, including the project Chief of Party (COP) to MAF in the following directorates/areas: (i) policy development/planning (COP); (ii) agricultural services; (iii) agricultural planning; (iv) training; (v) irrigation; (vi) planning and statistics (Documentation Center); and (vii) extension communications.

In addition, the team leaders and technicians in the other ADSP subprojects (Horticulture Improvement and Training [HITS], Poultry Extension and Training [PETS] and the Ibb Secondary Agricultural Institute [ISAI]) also provide advisory services. Each of the advisors is assigned a Yemeni counterpart(s) by the MAF. Advisor/counterpart functions are assigned and conditioned by the MAF as well as the individual job descriptions developed by Core Subproject management. It is implicit in the advisor/counterpart relationship and usually explicitly stated in the advisor's job description that development of institutional capabilities is the expected goal of the technology/information transfer resulting from the interplay of the counterpart/advisor relationship.

There has been a great deal of discussion on the part of USAID/Y and within the project as to the limitations to be placed on advisor input. Should the advisor's role be confined to providing advice and counsel in avoidance of any actual operational or hands-on activities? Stated another way, the question is whether the advisor is a "trainer" only, or both a trainer and a "doer". The MAF Deputy Minister wants hands-on implementation, and emphatically stated his view that the advisors should "go to the fields and show the farmers" through practical demonstration projects which interest them, rather than through intellectual, theoretical, ideas and programs.

In the view of the design team, the advisor must be a bit of both a trainer and a doer. It is neither practical nor desirable for the advisor to "direct" or "guide" his counterpart from some Olympian distance. Counterpart/technology transfer is accomplished basically in showing how things might be -- should be -- properly done. An advisor inevitably becomes involved in noting -- at the very least -- the execution of specific operations and activities if he is effective.

Advisor involvement in MAF activities must, in all events, be selective, discreet, and tactful. This must be taken into consideration in developing the job descriptions and selecting advisor personnel. The same applies in the selection and assignment of Yemeni counterparts. However, in addition to general guidelines, the advisor must be allowed a certain leeway in developing and carrying out counterpart functions.

b. Accomplishments - Global Advisory Counterpart Services

It is difficult in most instances to quantify the results of advisor/counterpart activities, with the possible exception of the training component. However, the steadily increasing demand for and involvement of advisor/counterpart input in MAF activities is an indicator of positive

response. The advisor to the Director of Agricultural Services, for example, is called on increasingly for assistance with MAF planning and operational activities and even advice on MAF external linkages to other donors. In fact, the MAF Deputy Minister explicitly requested ongoing advisor training and help in general as well as advisor support in preparing the new Five Year Development Plan.

Construction of the Documentation Learning Resource Center (DLRC) has been completed and it is about 70% operational (internally) under the supervision of the DLRC Advisor and a Core Librarian. A Yemeni assistant librarian has just been recruited. In the absence of greater input from the Ministry in the form of personnel, the Documentation Center Advisor is its de facto manager. Two candidates for academic training in Library Science are being actively sought, as is procurement of appropriate computer equipment (HP 3000) which is keenly awaited by the Directorate of Statistics and Planning, where the DLRC is located administratively.

Some other advisors, including those for training and extension communications, are also the prime movers for their activities in the Ministry. In addition to their support and assistance activities, several advisors have initiated independent research/survey efforts which inevitably will enhance MAF capabilities. Prominent among such ongoing activities are the following:

(i) Training: (a) Manpower inventory (by means of questionnaire/interviews) regarding MAF staffing, personnel assignments, education/training, length of service, etc.; and (b) MAF wide (including Provincial Agriculture Offices [PAO]) survey of potential candidates/nominees for third country short term training (Jordan).

(ii) Administrative Linkages: Survey (questionnaire) of Rural Development Authorities (RDA) and PAO's as to (a) activities; (b) personnel; (c) administrative supervision; and (d) reporting relationships/other linkages.

(iii) Extension Communications: Survey (questionnaire) of extension agents regarding (a) location; (b) target audiences; (c) current means of communication; and (d) communications needs.

c. Constraints

(i) The problems encountered in providing advisory/counterpart services, with one or two notable exceptions, described below, have been relatively minor in nature and are gradually being overcome. These have arisen principally in the area of communications between the counterparts. Language poses some problems because of the

severe limitation of advisor Arabic language skills. The Yemeni counterparts often speak some English, but rarely with great fluency. In addition, the ready coordination and team approach needed for smooth counterpart interfacing is not a Yemeni tradition, and it has taken time to develop the confidence and conditioning for some counterparts to relate frankly and directly to their advisor/counterparts.

(ii) The present somewhat generalized approach to advisor responsibilities and duties related to institutional development is a handicap. Aside from satisfying training needs, advisors do not have precise systematic work plans for institutionalizing enhanced MAF capabilities.

(iii) Another major constraint has been the selection of Yemeni counterparts. In some instances, the individuals named by the Ministry have been inappropriate for one or more of the following reasons: (a) inadequate authority/ standing within MAF; (b) too busy with assigned duties to work with advisor; (c) lack of interest in developing counterpart relationship; and (d) incorrect pairing of skills and capabilities.

(2) Training

a. Overview

In assisting the MAF to increase its ability to be responsive to agricultural sector needs and developments, the ADSP places great emphasis on the training of Yemeni personnel, both within and without the MAF. The training portfolio is the direct responsibility of the Core Subproject. It encompasses: (i) on-the-job, or hands on training from the Ministry to the farm level; (ii) in-country technical training programs; (iii) short and mid-term third country training; and (iv) mid and long term academic training ranging from the BS to the MS and PhD levels.

In-country training programs are designed to meet spot perceived needs of the agriculture sector both in the MAF and throughout the country and are a principal activity of the technical subprojects. A large variety of short technical courses are available in the US and, partially in response to the English language qualifications required of prospective participants, a number of courses have been identified and utilized in Arabic speaking Jordan; Egypt is the site for a number of BS participants. Short term technical as well as long term academic training is based on MAF/Ministry of Education (MOE) nominations, including those of the advisor/counterparts, and is undertaken with the concurrence of USAID/Y and the YARG Central Planning Organization (CPO). In principle, policies regarding the areas and types of study reflect the perceived manpower needs of the MAF in particular and the agriculture

sector in general, although as often as not -- pending completion of the manpower survey and training plan -- participant selection is ad hoc and strongly based on such expedients as availability and language ability.

English language training is another area of major emphasis of the ADSP and Core Subproject training program. English instruction is offered at several levels for varying purposes through two parallel and complementary systems. The Yemen-American Language Institute (YALI) offers an intensive program of full-time classes. The MAF offers part-time courses which are available to all Ministry personnel. These training modes respond to a gamut of interests ranging from preparation for basic or advanced academic studies to fundamental familiarization with English.

The training program was conceived at the outset of the ADSP, and its configuration and policies have grown and developed in response to prevailing conditions over the life of the project.

Participant training under the three other ADSP Subprojects (HITS, PETS, ISAI) is also advised, coordinated and monitored by the Core Training Advisor/Counterpart.

b. Accomplishments

(1) Language Training

The English language training program, although beset by some fundamental and ongoing problems, as described under constraints below, has been successful in several aspects. First, it should be noted that an estimated 225 participants in the past three years have received instruction under the program.

Currently some 45 participants attend one of four to five classes given at the Ministry each day. These include participants who must attend on their own time before or after work, as well as a few who attend under official work release arrangements. The language courses range from beginning to elementary English from intermediate to advanced, and also include special tutorial work and a senior staff study group. Participants include clerical, secretarial, technical and other support staff as well as senior managers.

(2) Long Term Training

Only five participants (from ISAI) have returned to date from long-term training (with MS in Agricultural Education), due mainly to the fact that the training program only became operational in 1982. However, the

four subprojects currently have a combined total of 43 participants in long-term training (Core - 19; PETS - 4; HITS - 1; and ISAI - 19). These participants are expected to complete their training and return to the MAF or the MOE and the subprojects in 1986 through 1989. Their areas of agricultural study range from general agriculture through soils, economics, statistics, animal sciences, education, horticulture, poultry sciences and irrigation. Degree goals are BS (29), MS (9), PhD (5).

(3) Short Term Training

There have been an estimated 22 participants in short term training. They have been principally drawn from the Directorates of Planning and Statistics (six) and Agricultural Affairs (seven), while there have been two from Irrigation and one each from SURDP, CACB, Marketing, Fisheries, Animal Resources, Finance/Administration, and Rural Development.

(4) Training Planning

Consultations with MAF Directorates to determine long term manpower needs are ongoing. This information, in combination with a manpower survey currently underway, will result in the development of rational training plans and policy for MAF Directorates both for academic and technical programs.

In partial response to the English language conundrum, a program of available short term technical training courses in Arabic was organized in Jordan.

c. Constraints

(i) The problems encountered in developing the ADSP training program stem in large part from the limited development of the Yemen education sector. With few persons in possession of secondary or even primary school experience, the overall pool of potential candidates for college training (BS level) is equally limited. To this basic handicap it must be added that a premium is placed on those with any training at all by the needs of the workplace.

(ii) The dearth of potential participants with adequate educational background is apparent in the MAF as throughout the YAR; this is further compounded by the fact that those with the resources to benefit from further training for advanced degrees and/or skills upgrading cannot be spared from their job assignments. This further reduces the pool of available candidates for training.

(iii) Another major constraint to participant study in the US is English language capability, and the means

of acquiring sufficient skills to profitably study in that language. In anticipation of this problem, the original PP proposed English language training for MAF and agriculture sector personnel. As indicated above, two very active programs are underway at YALI and the MAF. The ability of these two programs to resolve the problem, however, is again conditioned by: (a) the availability of qualified candidates; and (b) language requirements for acceptance of foreign participants into US university training programs.

(3) Project Design/Mobilization/Coordination

a. Overview

Further technical assistance has been provided to MAF by the Core Subproject in the form of support in the identification, design (redesign) and organization of a series of subprojects addressing specific and discrete agriculture sector development needs. It was intended that the Core subproject from its vantage point as principal advisor to MAF and coordinator of technical assistance inputs was best positioned for this T/A design and coordination role. It was anticipated that the subprojects mentioned below, among others, would receive Core support and that others would be added as needed, depending upon MAF/YARG priorities and the availability of funds. These design activities have not always proceeded smoothly as indicated under c. Constraints below. Design team recommendations for modifications are given in the following section.

The ongoing subprojects which were designed (redesigned, in the case of ISAI), mobilized and coordinated with Core support are: (i) Ibb Secondary Agricultural Institute (ISAI); (ii) Poultry Extension and Training (PETS); and (iii) Horticulture Improvement and Training (HITS).

Implementation of two additional projects is imminent: (i) Faculty of Agriculture (FOA); and (ii) Irrigated Farm Practices (IFP).

By definition each of these subprojects contributes to agriculture sector institution development needs. Accomplishments and constraints are discussed below.

b. Accomplishments

(i) ISAI

The ISAI Subproject was redesigned by the Core Subproject and is well on the way to accomplishing its goals. This project has added five US trained teachers (MS degree level) to its staff. (Another three are currently in training, and nine more will begin in 1985.) The project's

first graduating class of 48, with two exceptions, is currently employed in agriculture in Yemen or pursuing further studies in agriculture. 1/

ISAI teaching staff skills are being upgraded through short courses and on-the-job training. Improved curriculum, text books, and farm buildings and equipment are in place and being used.

(ii) HITS

Establishment of the two training stations called for by the Horticulture Improvement and Training Subproject (in Al Irra and Jarouba) is about 90 percent completed, and 100 percent completion is expected by the end of FY 1985. Some 97 extension agents have been trained (PP target: 200-250). Five demonstration plots have been set up, three extension pamphlets produced, 82 new fruit tree varieties introduced, and the capability to produce 200,000 budded trees and 100,000 seedlings developed.

(iii) PETS

The Poultry Extension and Training Subproject has trained some 27 poultry extension agents in egg production to date (PP target: 33) and plans 15 new starts ASAP. Three poultry technicians are in undergraduate training, and five more are in English language training in the US (PP target: 3). One woman-managed egg marketing cooperative has been established (target: 4) and a pullet rearing distribution center is operating at Bir Al-Qusain with a planned pullet production of 100,000 annually (target: 70,000).

(iv) FOA

The design for the Faculty of Agriculture Subproject is completed and financing for infrastructure has been pledged by the Islamic Development Bank. Eight prospective faculty members are currently in training.

(v) IFP

The Irrigated Farm Practices Subproject is still in the planning stage. The PP design team is scheduled to arrive in August 1985 and the project will be funded in FY 1986. The Core resident Irrigation advisor/counterpart and the Core technician will provide support for the project pre-implementation phase.

1/ YAR Ministry of Education - Agriculture Education. ISAI - Summary Progress Report 1979-1983, p. 8.

c. Constraints

(i) The problems encountered in institution building in the area of Core design, mobilization and coordination of subprojects are almost generic in nature. Shortages of qualified personnel have invariably delayed the appointment of qualified counterparts. Similar reasons, plus laggardly management practices including establishment of a proper chain of command among counterparts, have delayed training programs, the approval of expatriate counterparts, and generally hampered subproject implementation.

(ii) A major problem with Core Subproject design support has been the lack of experience of design personnel with the complex requirements of USAID design standards and procedures. The technical requirements for AID design documents (PID's, Project Papers, etc.) are quite precise and without a deal of experience, development assistance experts often encounter great difficulty in meeting AID standards and strictures. This was the case in nearly each Core design experience.

B. New Project Assistance

Under Phase II of the Core Subproject, it is proposed that new project assistance comprise the following:

(1) Advisory Consultant/Counterpart Services

a. T/A Personnel

The present T/A long term positions as shown below would be maintained in principle.

Planned Duration	Title	Position Occupied Currently (X)
1. 85-90	Team Leader	X
2. 85-90	Agriculture Planner <u>1/</u>	0
3. 85-90	Agriculture Advisor	X
4. 85-90	Training Advisor	X
5. 85-88	DLRC Advisor	X
6. 85-87	DLRC Reference Librarian	X
7. 86-90	Extension Advisor <u>2/</u>	X
8. 85-90	Stats./Data Mgmt. Advisor <u>1/</u>	0
9. 85-90	Irrigation Advisor	X

1/ Candidate currently under review

2/ Present Extension Communications Advisor tour to terminate October 1986

107

b. Flexibility

The total number of advisors as indicated above would be maintained in Phase II of the Core Subproject in principle; however, it is to be anticipated that priority needs and emphases will shift over time. For example, the Extension Communications Advisor will be replaced by another Advisor. Similarly, the current Agriculture Advisor is due to be named counterpart to the Directorate of Planning and Statistics. There is some indication that he should be replaced in his present position and the T/A position should be filled by shifting it from the unoccupied position on the basic roster given above, or if all slots are filled, a decision as to priorities must be made and agreed to by all concerned parties. This approach allows flexibility for the program and enhance its prospects for achieving project purpose and goals.

c. Approval of Counterparts

In view of the critical nature and importance of the Advisor/Counterpart role in achieving project purpose, the appropriateness of counterpart appointments must be maintained. A series of criteria should be established as to required counterpart characteristics including technical qualifications and background, comparable management role and responsibilities in the MAF, language abilities and other factors which would allow for the maximum effectiveness of the counterpart/advisor relationship in transferring technology in the form of experience and knowledge in a fashion which contributes to increasing and strengthening MAF capabilities. The MAF Deputy Minister has agreed that deputy and/or alternate counterparts be named so that activities will not be delayed unduly if the principal counterpart is not available.

Assignment of counterparts under this program will be with the agreement and concurrence of all parties (i.e. MAF, Core, USAID and Subproject managers). It is recommended that this be made a condition precedent in Core Subproject Phase II.

(2) Training

The following target training goals will be met in Phase II of the Core Subproject in keeping with MAF priorities and program recommendations by PACD:

- a. In-service Training - 60 MAF personnel;
- b. English Language Training - 215 participants (MAF and YALI) will have completed at least one term;

c. Academic Training

(i) Completed by PACD - 113 participants (48 BS, 14 MS, 1 PhD, 50 non-degree technical)

(ii) In Progress by PACD - 62 (45 BS, 12 MS, 5 PhD)

d. Short Term Courses

(i) Completed by PACD - 125 participants (USA, third country)

(ii) In Progress - 0

e. A system for tracking returned participants and measuring/monitoring the effectiveness of the program will be developed and implemented.

(3) Subproject Design/Mobilization/Coordination

a. Project Design

Project assistance in this area will consist of completion of mobilization for the subprojects presently underway (FOA and Irrigated Farm Practices). Support for new subproject design and mobilization will be provided as heretofore, except that Core contractor design activities will concentrate primarily on project concept and similar studies including feasibility assessments. Project Identification Documents (PID's) and other AID project documents such as project papers and evaluations will be prepared under the direction of AID with contract assistance required for necessary study and documentation financed under the Core Subproject.

(4) Removal of Constraints Summary

The design team believes that elimination of many of the implementation problems encountered under Core Subproject Phase I and outlined above (sections 1.c, 2.c, 3.c) can be achieved to a large degree by modifying the counterpart assignment and policy as described above and by adopting the following administrative and project implementation changes. These proposals are presented in detail in the Administrative Analysis and other appropriate sections.

(a) Group advisor personnel into interest affinity clusters;

(b) Appoint bilingual adjoint advisors for each principal advisor/counterpart team or cluster of advisors as appropriate;

(c) Provide discrete working budgets for key advisors or clusters of advisors;

(d) Appoint appropriate counterparts as well as deputy and/or alternate counterparts with the concurrence of all parties (USAID, MAF, Core).

(e) Increase use of TDY personnel to supplement resident advisor personnel.

(f) Utilize AID staff or other personnel trained in the application of Handbook III design and evaluation procedures in Core Subproject design efforts;

(g) Improve/modify to the degree possible training/testing methods which will contribute to increased YALI and MAF output of qualified English language participants;

(h) Institute a level of ESL training tailored for short term technical and non-academic training courses in-country and abroad;

(i) Employ, to the degree possible, Arabic speaking third country or Yemeni professionals as replacements for MAF training participants;

(j) Conduct an organization development (O/D) study of the MAF to provide precise guidelines on modifications and changes needed to develop and institutionalize requisite MAF capabilities;

(k) Provide subject specific training to counterparts and advisors on the concepts, parameters, goals, means and techniques of institutional development;

(l) Conduct a series of multi-tiered management development and training workshops for a) Core advisors, b) MAF staff (central and regional), and c) Core advisors and counterparts jointly. (Consideration should be given to the advantage of having American and Yemeni staff from other subprojects participate in the workshops);

(m) Making the USAID responsible for project design with participation by the Core contractor as appropriate; and

(n) To the extent possible, finance expatriate substitutes for Ministry staff in training.

ANNEX E/2
ECONOMIC CONSIDERATIONS

This annex will address economic factors relevant to the Core Subproject and agricultural potentials on which the subproject will indirectly impact through its various activities. In particular, the annex will describe the characteristics of the agricultural sector and its contribution to gross domestic product, recent performance of the sector, agricultural potentials, some estimates regarding benefits and costs of investing in the Core Subproject and the policy environment in which the Subproject operates. The purpose of this section is to demonstrate the economic rationale for investing in the sector through the Core Subproject.

1. Major Characteristics of the Agricultural Sector

Only very general data are available on the characteristics of the agricultural sector, but they are sufficient to clearly show that the sector is made up of numerous very small farm households, most of which are farmed as owner-operated units. Table 1 below provides the basic quantitative information about the sector. The table also shows the predominance of field crops, in terms of land area, and a fairly wide range of crops in production.

TABLE 1
Land Use Data - 1983 - (000's Hectares)

<u>Major Field Crops</u>		<u>Industrial Crops</u>	
Sorghum and Millet	689	Qat <u>1/</u>	50
Wheat	61	Coffee	8
Barley	50	Cotton	7
Maize	36	Tobacco	6
Various Pulses	701	Subtotal	<u>71</u>
Sesame	10		
Alfalfa	4	<u>Vegetables</u>	
Subtotal	<u>920</u>	Potatoes	12
<u>Fruit</u>		Tomatoes <u>2/</u>	9
Grapes	14	Various Vegetables	25
Dates <u>2/</u>	10	Subtotal	<u>46</u>
Other Fruits (5-21 <u>3/</u>)	12		
Subtotal	<u>36</u>		
 TOTAL	 <u>1,073</u>		

1/ Central Planning Office Statistics

2/ 1981 MAF area estimates

3/ Estimates on fruit vary greatly due to size of operations which range from a few trees per household to commercial plantings.

TABLE 2
Farm and Non-Farm Rural Households - 1983
Number of Households

	<u>Number</u>	<u>Percent</u>
Farm	600,308	81
Non-Farm	<u>143,433</u>	19
Total Rural	743,741	
<u>Farm Size Distribution (ha)</u>		
0 - 1	348,179	58
1 - 5	186,095	31
5 - 10	46,224	7.7
Above 10	19,810	3.3
<u>Tenure Class</u>		
Full Owner Operators	390,200	65
Full Tenant	66,034	11
Part Owner	144,074	24

Source: MAF Statistics

It should be noted that estimates of land in production vary widely - from the million hectares shown in Table 2 for the 1983 area harvested, to some 1.6 million hectares of annually cultivated crops cited in a recent FAO report (UNDP. Report on Drought Relief Requirements, FAO, Rome, undated). This report also mentioned the total cultivated land area as about 3.5 million hectares, with annual changes in sown areas varying according to actual and anticipated rainfall.

Farm households make up about 60% of the total Yemeni families. This includes some which have no land but are classified as agricultural households due to their livestock enterprises. In addition, there are about 140,000 rural non-farm households which, as the rural service sector, constitute the "clientele" of the agricultural and rural education development network.

In addition to large numbers of small farms which have on the average merely five separate parcels of land, the sector is increasingly characterized by reduced adult male labor available for farm work. Even with very small farms, the absence of suitable labor-substituting equipment will result in reduced production. A further consequence of labor migration is the increasing costs within the agriculture service sector.

From the demand perspective, the rising wage rates and generally equitable income distribution (arising primarily from

off-farm income) have resulted in a marked increase in demand for livestock products -- particularly poultry meat and eggs, as well as lamb, goat, beef and milk products. In addition, vegetables are now a relatively common consumption item in the uplands, whereas a decade ago this was not so.

In summary, the major economic forces changing the characteristics of the sector are relative scarcity of labor and widespread economic growth generally. This has resulted in significant changes in consumption patterns for a rapidly growing population. As a consequence, farmers use whatever resources are available for the higher profit potential crops such as qat, vegetables, and fruit at the expense of efforts on field crops.

2. Agricultural Contribution to Gross Domestic Product

Given the number of farm households as a percent of all families and percent of total employment, (about 70%), it is not surprising that the sector is the leading single sector within Yemen. What is of concern to development planners (and farmers) is the low share the sector contributes to total GDP, given the level of human and capital resources committed in the sector. The latest information estimates that at 1983 market prices, the agricultural sector contributed about 27% of GDP in 1981, and this proportion fell to 21% in 1983 due to a very poor grain crop. In 1983, the next major sectors were government services, also at 21%, and wholesale and retail trade at 14% of GDP. Clearly, agriculture is the dominant directly productive sector. If data on qat were included in GDP, the value of agriculture's contribution would increase by about double.

In value terms, the sector's output was estimated at \$469 million for 1981 (@ 4.5 Yemen Rials = \$1 in 1975 constant prices). In current 1981 prices, the sector output would be valued at \$810 million, not counting qat. Due to poor grain crops, the 1983 values were about the same as 1981, the cereal shortfall being made up by horticultural crops.

As normally expected in a developing economy, plans are for agriculture to assume a relatively less dominant role in the economy as the various other sectors grow at a faster rate than agriculture. This is particularly true for a country which does not have extensive agricultural endowments. In absolute terms, the 1982-86 Second Five-Year Plan projected the sector to grow at a 4.2% rate increasing agriculture GDP from about \$820 million to a little over a billion dollars. The sources of this growth would be to utilize land and water resources more efficiently on all types of crops and livestock enterprises. As will be seen from the composition of the sector, the economic objectives are difficult to achieve, but opportunities do, nevertheless, exist.

Tables 3 and 4 below show the makeup of agricultural production, its targets under the Second Five Year Plan, and in the case of 1983 -- a mid-plan year -- the difficulty of meeting production targets. Column 4, Table 3, shows the severe drop in production from the prior year and the influence of a drought year on the agricultural economy, notwithstanding a significant move to more secure production of irrigated fruits and vegetables.

In value terms, crops account for about 72% of GDP, and livestock and livestock products about 22%. The balance is made up of fisheries and forestry products. In a normal year cereals and legumes, with their straw value included, make up over half the value of the crops sector, although fruits and vegetables are clearly gaining as a proportion of crops income.

TABLE 3
Volume of Major Agricultural Crops and the
Second Five Year Plan Goals (000's metric tons)

Crop	<u>1</u> 1977- 1978	<u>2</u> 1981	<u>3</u> 1983	<u>4</u> 1983 as % of 1981	<u>5</u> 1986	<u>6</u> % Increase 1986/ 1978
Sorghum & Millet	712	812	363	45%	732	3%
Wheat	45	70	34	49%	91	200%
Maize	43	53	30	54%	63	46%
Barley	39	54	30	56%	47	20%
Legumes	77	80	40	50%	81	5%
Potatoes	107	138	163	118%	180	68%
Vegetables	226	291	326	112%	322	42%
Fruit and Grapes targeted	122	144	156	108%	Not	

TABLE 4
Second Five Year Plans for Livestock Products

Type of Production	Unit	Production 1981	Production 1986	Rate of Increase (%)
Slaughter				
Animals	Tons	20,432	25,250	23.6
Dairy Animals	Tons	95,000	129,708	36.5
Poultry Meat	Tons	7,171	15,730	119.4
Eggs	Million	123	192	56.1
Chicks	1,000	3,680	5,800	57.6
(60% hatch)	Chicks			
Wool	Tons	722.2	911.1	26.2
Hair	Tons	1,600	2,000	25
Land Tilling	1,000 ha	80	130	37.5
Natural Fertilizers	1,000 Tons	490	560	14.3
Honey	Tons	500	525	5

In summary, agriculture's recent contribution to GDP is clearly limited, in a large part, to recent efforts at increasing qat production. Qat income is very large by any of the numerous efforts at measuring its value, and it has, therefore, enhanced rural income. This income has its multiplier effects throughout rural Yemen, resulting in increasing the demand for all types of consumer goods and some industrial items. The negative effects are that rural labor, capital, land and management are drawn away from cereal, horticultural and livestock enterprises creating a serious balance of payments situation. Food items are increasingly being met through direct imports or indirectly met through importation of intermediate items; baby chicks and poultry feed being a prime example. Specifics on sector performance are cited below.

3. Agricultural Sector Performance

By a number of measures, the growth of the agricultural sector, not including qat, and its contribution to national income and farm family income has recently been disappointing. Due to lack of growth and foreign exchange requirements to meet food needs, the sector's performance has been somewhat of a brake, rather than a source of growth. While the above puts the situation in its bleakest terms, there are, nevertheless, some bright spots, as will be shown below. Aggregate growth has been slow, but certain subsectors have grown very rapidly -- indicating that farmers can manage their resources in a variety of ways consistent with profitable opportunities. In referring to the sector growth, the available data is on traditional

110

crops and livestock. By all accounts gat, which is only beginning to show up in official statistics, has grown at an exceedingly rapid rate. It may now equal all other agricultural production in value terms.

During the First Five Year Plan agricultural production, in value terms, was projected to increase by an annual growth rate of 5.5%. This was an overly ambitious target which has seldom been achieved anywhere over an extended period. The available data show an increase of about 1% during the plan period, 1977-1981.

In volume terms, there were increases in all major commodities with the exception of the cereals group and cotton, which actually fell by 13% and 63% respectively. The major commodities which significantly exceeded targets were vegetables and poultry meat. Fruit and grapes also increased substantially. Unfortunately, the dominance of cereals in total value terms and the narrow value added in poultry -- due to imported feed and chicks -- resulted in very slow growth during the period 1976-1981.

In recent years the picture is dominated by the drought years of 1983 and 1984, with negative results on the growth of agricultural gross domestic product. The Second Plan projected a growth rate of 4.2% for the plan period (1982-1985) and the 1982-83 data indicate the growth in GDP for agriculture is a -3.7%. While sharp year to year increases or decreases in agricultural production are the result of weather patterns, the seven year trend in total cereal production is not encouraging. There was a modest 14% increase from 1978 through 1981, but since then cereal production has declined.

With a rapidly growing population and at current levels of income, which are increasing rapidly, there is a very sharp increase in demand for meat, milk, eggs, fruit and vegetables. The result of falling cereal production and increased demand for cereals, animal feed, tobacco, fruit and vegetables, and animal products has resulted in a substantial food import bill. In 1982, food and related imports stood at about \$482 million, some 30% of all imports. This was actually down from \$667 million in 1981, reflecting, in part, the good crop year in 1981. This range of imports are roughly 70% of the agricultural GDP.

What appears to be happening is: (1) a lack of appropriate technologies, of a wide variety, to substitute for growing labor shortages; and (2) a relative shift of attention from cereal crops to more profitable enterprises.

It is perfectly rational for farmers to concentrate their scarce labor, water and capital on the more profitable and stable yield potentials of gat, vegetables, fruit, and poultry

enterprises. Their efforts will continue along these lines. The ADSP should continue to assist in making these enterprises as efficient as possible. However, increases in field crop production are also necessary as they can contribute significantly to economic growth through cutting imports and thus freeing foreign exchange for investments, and by providing a much needed base for the fed livestock industry. The challenge is, of course, to demonstrate the profitability of field crops as well as other opportunities, either those within the agricultural sector or outside the sector. The following section will illustrate the potential profitability of several enterprises important to improving agriculture's contribution to GDP and farm family welfare.

4. Agricultural Potentials

A. Horticulture Crops

As indicated from imports of food products, there is considerable market potential for farmers to expand production to meet consumption patterns already established. The question of whether Yemeni farmers can be competitive with imported products is, of course, a critical question, as is the issue of whether any irrigated crop can compete with qat. The most promising options for irrigated land appear to be for fruit and vegetables. Forages also exist in the irrigated rotation, as they are critical for livestock in a desert setting.

The import bill for fruits and vegetables -- not counting a reported significant amount of non-recorded imports -- has been running at about \$100 million annually, so the scope for local production is fairly substantial. The question of profitability has been studied in some detail for the preparation of the Horticultural Subproject and the conclusion was that there are considerable profits to be realized in both lowland and upland irrigated fruit enterprises. Depending upon which estimates are taken for the returns to qat, which range widely, only a few crops would be competitive. Qat is not a lowland crop, and hence the competition issue is relevant only to the uplands. The Arab Organization for Agricultural Development has studied qat and found the net returns to be about \$20,000 per hectare at full production. At the prices prevailing at the time of their study, grapes and oranges would exceed qat profits, while coffee and the other fruits fell considerably below qat returns. According to the Horticulture SPP, oranges also exceed qat returns, and apricots and grapes provided good returns but not as good as qat. In any event, there are limits to the market for qat as well as for horticulture products, but these limits do not appear to be in sight. (In February 1985, a few "gray market" oranges and apples were for sale at three and a half to four dollars per kilogram, and at more reasonable prices the demand would be strong.)

Generally, the farm enterprise budget presented by the Horticulture SPP indicated substantial improvements in farm income from horticulture crops and the returns were very good for nearly all the crops which were studied, even when adjusted for either a 50% yield reduction or a 50% reduction in commodity prices. With well irrigation, the farmers' internal rate of return ranged from 22% to 95% for seven different fruits. With good surface irrigation, the IRR's ranged from 43% to 244%. Per hectare net income (returns to land, labor and management at full production) were estimated at \$20,000 for oranges, \$12,000 for apricots, \$14,600 for grapes, \$5,000 for limes, \$1,756 for bananas, and \$3,700 for papayas. In the normal course of events, in a free market society such as exists in Yemen with adequate land for many crops, the profitability of crops tends to even out, and this will happen in Yemen's horticultural subsector in due course. Fortunately for those having irrigation, there appear to be significant horticultural opportunities in the fruit subsector.

There are no readily available farm budgets for vegetables, but since they compete -- apparently successfully -- with fruit enterprises, it is reasonable to assume returns per hectare are in the same order of magnitude as for fruit. Of course, the relative ease with which a patch of vegetables can be established makes the enterprise vulnerable to periodic gluts with distasteful results on profits. Vegetables represent an opportunity which may be appropriate for smallholders without other significant alternative enterprises or for families who prefer to produce for their own consumption.

B. Field Crops

Economic and financial analysis done in connection with preparation of the Irrigated Farming Practices concepts paper illustrates the profitability of applying modest improvements in irrigation techniques and fertilizers to sorghum. While sorghum is not nearly as potentially profitable as the higher value horticultural crops, it has its place in the national cropping pattern as it serves as a roughage source for livestock. The livestock (particularly goats) are kept to utilize what little range vegetation exists and to some extent other crop or food residuals which may exist in the villages. In this manner, the total off-take of the land is "maximized" through a crop/livestock system.

For the sorghum crop, the increased net farm income from improved technology varies greatly by the assurance of a reliable water supply. For the Irrigated Farming Practices concepts paper, incremental net returns under tubewell irrigation were about \$1,000 per hectare, for springfed irrigation \$392 per hectare, and for spate irrigation \$140 per hectare. For reasons mentioned above, sorghum and other cereal and feed crops will remain in the cropping pattern. For those families

with surplus labor and one which is relatively non-mobile, there may be incentives to use improved cereal, feed grain, forage and legume production technology. Surely the knowledge of such technology should be made available.

Table 5 below illustrates the yield potentials of several field crops. Yield increases are not directly proportional to profit gains. However, the general situation is that, since basic fixed and variable costs are embodied in obtaining current yield, additional yields tend to generate good profits for incremental inputs. Certainly, there are good reasons to investigate the agronomic/economic potentials of field crops.

C. Livestock Production

Information on costs and returns to various livestock enterprises is even more lacking than for major crop enterprises, but some work has been done. The calculations on the profitability of very small household level egg production provides some insight into the economics of livestock enterprises. In the case of household flocks, it has been found that the enterprise has some advantages over commercial production. In the case of chickens, part of the ration can be made up of table scraps, the marginal economic costs of labor are probably near zero, and there are no marketing costs or spoilage as the eggs are taken and eaten directly by the extended family. For this type of enterprise one could speculate that there is a nutritional benefit which exceeds the strictly economic calculations used in the household poultry budgets.

While it is not possible to draw inferences from poultry about the costs and returns to other livestock enterprises -- such as the commonly observed sheep and goat herds, or the few cattle -- some of the same cost of production principles apply: for instance, the availability of cheap to no cost labor in a certain percentage of households, and the use of crop residue and range land which has little or no utility other than to feed animals. In Yemen as elsewhere in the world, there is a dearth of readily available improved farm technology for this scale of enterprise, but hopefully some will be developed for the poorest of households.

TABLE 5
Yield Potention of Major Field Crops (m.t./ha)

Crop	RAINFED		IRRIGATED	
	Demonstration or Research	Farm Averages	Demonstration or Research	Farm Averages
Sorghum (D)	4.0*	3.0	2.9	2.3
Sorghum (T)				
Residual			2.9	0.6
Fodder			27.0	10
Sorghum (S)	4.1	2.9		
Maize (D)	6.4*	4.0	10.7	2.7
Maize (T)-				
Various Varieties		12.0	5	
			5.0	1
			6.0	2
Maize (S)	3.3	2.8	3.8	2.4
Wheat (D)			6.3	2.7
Wheat (S)	1.8	1.0	2.1	1.3
Barley (D)			5.7	2.8
Potatoes			28.0	16.0
Tomatoes			22.0	16.0
Beans			2.3	1.5
Maize/Beans (intercropped)			4.7 + 1.8	3.4 + 1.1

Sources: * - Agriculture Research Authority
D - Dhamar Agriculture & Forestry Project
S - Southern Uplands Regional Project - Monitoring
and Evaluation Unit
T - Tihama Regional Project

In due course, it might evolve that the villages will be primarily producers of young stock to be fed out on commercial feeds. Currently, animals are slaughtered at light weights and consumption patterns favor meat from such animals. It is, however, "uneconomic" to slaughter animals when they reach a stage where rapid growth could take place, assuming feed were available to add weight and value. Demand projections indicate that all options for livestock production should be investigated, as well as those for crop production.

D. Conclusion

With the current population and income growth rates, very large increases in livestock and crop production are needed and are projected to meet consumer demand for the present and future decades (Ministry of Agriculture, Food Policy: Historical Requirements and Future Trends of Food Requirements, Sana'a, undated). The sources of such growth have not been clearly identified, let alone adequately demonstrated at the farm level. Failing to undertake the applied research, demonstration, and the insurance of the private sector's role in provision of requisite inputs to farmers will result in continued shortfalls in food production. The Core Subproject can play a significant role in creating the administrative infrastructure to assist the process of agricultural development. Core's technical and logistic support to other subprojects within the program are more directly supportive of production endeavors than the general advisory services. However, the human resource development activities are also of economic significance and a requirement for continued growth of the agriculture sector.

5. Benefit/Cost Relationships

As this subproject does not contribute directly to any particular production activity, it is not possible to carry out traditional benefit/cost or internal rate of return analyses as there are no direct benefits which can be quantified for the Core Subproject. In this respect, it is similar to investments in creating a general agricultural research capability wherein specific future benefits cannot reasonably be measured since the results of research are clearly uncertain.

However, for agricultural research, there is a fairly large body of literature which clearly demonstrates the economic value of investing in research. In addition to relying on historical evidence to justify research, an objective/subjective technique sometimes used to provide insights into the benefit/cost relationships is to calculate what level of benefits would be needed to yield a respectable rate of return, given that one knows the costs involved in the effort. The calculation of the level of benefits needed is simply a mathematical calculation. The next step is considerably more subjective -- that is, judging

whether the benefit stream is likely to be forthcoming. A similar procedure can be used for advisory and support services.

If the Core Subproject has a total of \$12 million (US and YARG) incremental costs for each of the next five years, it would need to generate an incremental income stream of benefits of \$6.88 per year over the next fifteen years to yield an internal rate of return of 15% (a benefit/cost ratio of 1 at a 15% discount rate).

Listed below are some of the possible sources from which economic benefits might flow as a result of Core Subproject activities.

A. Overall GDP for agriculture -- not including gat -- would need to be raised by eight-tenths of one percent as a result of the advisors' ideas, management changes induced in the farm service sector, or improved communications between research, extension services and farmers.

B. The fixed capital investment program in agriculture was projected to be about \$850 million for the Second Five Year Plan. Any increase in efficiency in the use of these funds -- such as those stemming from advice given to the Foreign Donor Follow Up Section of the Ministry -- would be an economic gain. A 4% gain in efficiency is needed annually to save \$6.88 million.

C. Efficiency of use, or reduction in use, of purchased inputs (non-fixed investment) would be an economic gain. Major imports of these items (animal feed, fertilizer and live animals) currently run about \$115 million per year. A 6% annual gain in efficiency would return a 15% IRR to the project.

D. Technical support to the other subprojects might increase the internal rate of return to these productive activities.

E. Combinations of the above source of benefits would be the likely way in which economic gains are actually achieved.

Clearly there is scope for the Core Subproject to have a marginal effect on one or more of several agriculturally important variables. All that is needed to "justify" the project, in economic terms, is marginal effect. Additional benefits might also lie in improvement of social, political or nutritional well-being not otherwise calculated, but nonetheless real.

6. The Policy Environment

With relatively minor exceptions the policy environment for agricultural development follows an open market approach

supported by normal government investments to promote agricultural growth.^{1/} The latter consists of relatively large foreign supported investments in a decentralized research system and regional agricultural/rural development authorities. Recently underway is the complete redevelopment of the ancient Marib irrigation system of some 4,000 hectares.

With regard to both food and farm policies, Yemen is found refreshingly free of the administered, and distorted, prices found in many parts of the world. Prices of all locally produced items are high in comparison to imported items but this is due to a uniquely Yemeni characteristic of placing a high premium on local products in preference to imported ones. The high prices on local products derive from that characteristic rather than overt protectionism. Foreign exchange has been relatively free both through official and open market channels. Imports of processed food, wheat and flour, livestock products and intermediate producer goods such as baby chicks and feed have been available to the private sector. The result is lively and open competition in the food sector at market prices. Food items appear high to US citizens and costs of living allowances have been the norm. This is because food in the US is inexpensive. Yemeni food prices are similar to those found throughout the Gulf States, Europe and parts of the Far East.

The notable exception to the lack of protectionism is the partially effective ban on imports of apples, citrus and bananas in order to protect the infant horticulture industry. The result has been to put upward pressure on grape prices and any other available fruit.

On the input side agricultural credit may be receiving about a 25% discount through the Agricultural Credit Bank's interest rates and the Bank is reportedly not covering all its costs for input distribution due to low marketing margins. As most agricultural enterprises are self-financed, and borrowing is from private sources, and very little fertilizer is used, the above price subsidies do not account for much distortion in the total agriculture economy.

Generally speaking, the government does not engage in state farming or other major public sector direct involvement in the food and agriculture industries. A current exception is a relatively minor involvement in the poultry industry. Due to a reported default on a government backed loan the MAF now has a controlling interest in a large egg production facility. Additionally, they have a small broiler operation and the AID

^{1/} This section draws heavily from a policy review prepared by Core Subproject advisors and staff of the Directorate of Planning and Statistics, MAF, YARG.

backed teaching and demonstration pullet production and distribution facility. These operations are but a small fraction of the total poultry industry.

There are some significantly needed policies in water resource development and water use regulation and in plant protection; but these cannot be implemented until the MAF has established its technological credibility and the central government its nationwide authority. Presently the central government, and perhaps even more so the official local government units, are unable to prevent the introduction of diseased fruit trees or to destroy existing stands of infected citrus. Lack of knowledge on water resources and rampant sinking of tubewells, with no limits on amounts pumped, give rise to serious concerns about water resource use. These issues are examples of Government's inability to enforce policy rather than a lack of good intent.

On balance, the policy environment is favorable for agricultural growth; it is reasonably free of price distortions. The developmental concerns swing more on ability to carry out policies where enforcement actions are required rather than establishing the "right" policies in the first instance.

ANNEX E/3

SOCIAL SOUNDNESS ANALYSIS

A. Scope of Social Soundness Analysis.

The objective of this section is the examination of the Core Subproject in the light of socio-cultural factors. This section is not concerned with the subprojects (PETS, HITS, ISAI, IFP, FOA) except where they are implicated in the implementation of the major goals of Core, particularly training within the MAF, the development of linkages between the MAF and producers in the agricultural sector, and the ability of the MAF effectively to extend new technologies and management practices in the context of broadly-based and equitable social and economic development.

B. Geography and Social Structure

The YAR is located in the southwestern corner of the Arabian Peninsula, and encompasses within its borders a remarkable degree of environmental diversity. It can be divided into a number of ecological zones, depending on one's criteria or interests; for our purposes, one may divide the country into four. Beginning from the Red Sea, which is Yemen's western boundary, and proceeding east, there are the coastal plain (Tihama), the western highlands, the central highland plains, and the eastern slopes. The highlands of Yemen are the southernmost, and highest, section of a mountain system, the sarat, that runs through Arabia from Syria to Yemen.

The Tihama varies from 30 to 60 km in width. It is predominantly flat and, except for the sections adjacent to the seven major wadis that cut through it, where spate irrigation is practiced, is relatively barren. Major crops are the tropical grains (millet and sorghum), cotton, sesame and tobacco. The area now produces a wide range of vegetables, aided by tube well irrigation. It also produces livestock, mainly sheep and goats.

The western highland zone is a very rugged and mountainous region, dissected by deep wadis. It is this zone that receives the most rainfall -- especially in the region referred to in this Project Paper as the Southern Uplands. Agriculture in the mountainous areas of Yemen has traditionally demanded an extraordinarily intensive investment of labor, being dependent largely on terraced fields hewn in the mountainsides and arduously maintained. Agriculture in the zone has been based for the most part on rainfall, with springs allowing irrigation in certain favored areas. Given the diversity in elevation, exposure, and water availability in this zone, a wide range of

crops are grown; in addition to varieties of the sorghum and millet grown in the lowlands, barley, wheat, maize (recently introduced), legumes, some fruits, and such tree crops as coffee and gat are grown.

The next zone, the high central plain, is slightly lower than the western highland zone. As in the western mountains, agriculture here has depended primarily on rainfall. The grain crops of the western highlands are also grown here; because there is less need to build terraces, fields are larger than in the mountains. In recent years, with the proliferation of tube wells, more of such cash crops as gat, vegetables, and some fruits have come to be grown. These two highland zones are home to the majority of Yemen's population.

The eastern slopes dip to the northeast, and merge gradually into the Empty Quarter of Arabia. The area supports a lower population than the two highland zones to its west; it produces some livestock, some grain, and a number of highly prized agricultural products, notably grapes.

There are a number of cultural, social and historical distinctions that may be drawn between northern and southern highlands, and highlands and coastal plain. The population of the northern and central highlands, as far south as Yarim, adhere predominantly to the Zaydi school of Islam; they are, moreover, for the most part organized in tribal units of varying size and inclusiveness. Tribal leaders in this area often have considerable political influence, and at times play a role in local government. The southern highlanders adhere to the Shafi'i school of Islam. Tribal connections such as those in the north are of little significance; social and political dominance is exercised by the major landholders, and some have described the traditional pattern of social stratification as "feudal". The coastal plain is, like the southern highlands, primarily Shafi'i. However, tribal units have been of considerable significance in parts of it -- in the far north, near the border with Saudi Arabia, and in the center and south, in the area of Bajil, Bayt al-Faqih and Zabid.

There also are differences in the degree and form of social status differentiation between the northern, "tribal", and southern, "non-tribal" regions. In the north, there are generally three strata, in which membership is defined by birth, and within which marriage is usually, but not always, endogamous. The group occupying highest rank is the sayyid class (Arabic plural: sadah), descendents of the union of the Prophet Muhammad's daughter Fātimah and his cousin Ali, followed in status by the tribesmen (qaba'il) who constitute the majority of the population, and finally by the somewhat variable and internally differentiated category of those who practice "service" occupations. This ranking system is now generally viewed as being of "tribal" origin, and as un-Islamic, and one

can safely say that it has lost whatever social legitimacy it possessed, and that the trend of recent and ongoing economic development is rendering it ever less relevant. One should note, however, that persons of all social statuses traditionally engaged in subsistence agriculture. Certain men of sayyid and tribal status (the latter called qadis, Arabic plural qadah, in this context) filled roles in the religious elite, and the head of the Zaydi state, the imam, was a sayyid. Sayyids and tribesmen both also filled military roles, though the majority of northern military forces have always been tribal; men of the lower status category were traditionally excluded from military participation.

To some extent a three-level social status hierarchy exists in the southern highlands as well. It appears, however, that apart from membership in the sayyid category -- which is present, though its members have a less pronounced political role there than in the north -- ascribed status, conveyed by birth into a particular social group, may be of less significance as a determinant of social position than such social facts as the possession of wealth and political power. (cf. also Varisco et al.: A Social and Institutional Profile of the Yemen Arab Republic, pp. 48 ff. and Table 3-6.) The southern shaykhs are not "tribal" shaykhs, but rather the landholding elite. Many of the occupations regarded as markers of low status in northern tribal ideology appear not to bear such stigma among the majority of southern highlanders.

The general trends in contemporary economic development -- steady economic expansion within Yemen, fueled largely by remittances sent from abroad by Yemeni labor migrants who have been of "low", as well as of "high" status, as well as the breakdown of the traditional agricultural subsistence economy in which the old status differences were embedded, and the official policy of the YAR government -- are all tending to lead to the decay and dissolution of these status distinctions.

The role of women in traditional Yemeni society varied with social status, region, and settlement size (town or government center vs. villate). In hamlets and villages, women have always had, and continue to have, an important role in agriculture, where they participate in the sowing, tending and harvesting of crops. The extent to which women also participate in economic activities outside the household and village varies from area to area. The view is expressed, by northern Yemeni tribesmen, that highland/mountain women do not attend markets while Tihama women do. While there may indeed be more market attendance by women in the coastal lowlands, one does nonetheless see women in the weekly markets of some parts of the northern highlands, selling items they themselves produced, such eggs and clarified butter, and sometimes even locally-grown fruit.

Veiling (that is, the wearing of the sharshaf, which covers the woman almost totally), would interfere with an active role in agricultural production and was not widely practiced by rural women. It was once restricted to the towns and was a marker of higher status; veiled townswomen were more restricted in their movements and economic activities than unveiled rural women. Veiling may be a relatively recent practice in Yemen; a number of Yemenis contend that it was introduced by the Ottomans. It is clear that it has spread in recent years into rural areas where, according to the inhabitants, the practice was not previously observed. It is also apparent that veiling is seen by many women as a sign of modernization, urbanization, and respectability. ("Veiling" is not necessarily an all-or-nothing question. In a relatively out of the way weekly market in the far north, west of the northern provincial capital of Sa'dah, unveiled tribal women veil themselves as they approach the marketplace, and unveil upon leaving the immediate area of the market.)

Yemen has been predominantly agricultural for all of its recorded history. Until recently, the great majority of the population was involved directly in subsistence agriculture. There has been a dramatic transformation in Yemen, in the last two decades, from an agricultural subsistence economy into a monetized market economy; agriculture has become a part-time or adjunct occupation for an increasing proportion of the population, and a large part of the major foodstuffs (grain, flour, meat, processed foods) are imported.

There are a number of factors behind this development. Among them are the disruptions caused by the Yemeni civil war, which began with the Revolution of 1962 and continued until 1970, the major drought which lasted for about seven years in the late 1960's and early 1970's, and the increasing demand during the same period for foreign labor in oil-rich Saudi Arabia and the Gulf states. The remittances sent back to Yemen by workers living abroad have financed the high, and increasing, level of imports, and have provided most of the funds invested in local development. The pressure on men to migrate to earn money has resulted in labor shortages within Yemen, and has contributed to the decline in agricultural production.

Nonetheless, the population of the YAR remains predominantly rural. According to the 1975 census, less than 8% of the population live in cities/towns of 10,000 or more inhabitants. By contrast, nearly 87% live in settlements of 1,000 or fewer residents. Land ownership has a high cultural valuation, as does agricultural activity. Most of those who move to cities in Yemen for work maintain their home village connection, and continue to consider it home. Family holdings are not ordinarily alienated except in cases of extreme need.

C. Socio-Political Background

Yemen has a long recorded history, but the Yemen Arab Republic is a relatively young state. It was founded in 1962, in the revolution that overthrew the old regime, the Mutawakkilite Kingdom of Yemen. The Mutawakkilite Kingdom came into existence at the end of World War I, after the defeat of the Ottoman empire -- of which Yemen had been nominally, though briefly, a part -- when the Zaydi Imana Yahya Hamid al-Din declared Yemen an independent kingdom, and received international recognition as sovereign over the Yemeni territory that had previously been recognized as being under the Ottomans. The imams of this family, the Hamid al-Din dynasty, were the last imams in a series of Zaydi imams that goes back over 1,000 years in Yemen.

The Imam Yahya Hamid al-Din and his son and successor, Ahmad, practiced a policy of isolation, endeavoring to keep Yemen free of foreign influence and interference; they did, however, establish a limited number of bilateral relationships with European powers, and also eventually entered such international organizations as the Arab League and the United Nations.

A consideration of certain fundamental differences between the old regime (the Hamid al-Din monarchy) and the modern Yemen Arab Republic, concerning conceptions of the objectives and purposes of government and nature of rule should -- since the concern here is with the government's role in development -- prove instructive. The YARG has made a commitment to the development of Yemen and to improving the standard of living and welfare of its people. Whatever scepticism one may have about the relationship between official government ideologies and the objective circumstances of their rule, there is indeed a stark contrast here between the old regime and the Republic.

There is little evidence that the last imams showed any real interest in improving the lot of the people, and, indeed, such an emphasis would have been foreign to their conceptions of the role of government. An anecdote is told of Imam Ahmad, the last imam to rule Yemen. Though it may be apocryphal, it illustrates the common view of the attitude of the old regime. Some foreign advisors informed the Imam that an outbreak of cholera was imminent, and warned that only an immediate program of mass vaccinations could prevent the death of many thousands of people. According to the story, the Imam, instead of ordering vaccinations, requisitioned a plot of land to bury the dead.

According to the doctrine of the Zaydi sect (technically madhhab, "school" or "rite") the legitimate ruler of the Islamic community was to be an "imam" who was a descendant of the Prophet Muhammad (through his daughter Fatimah, and son-in-law and cousin, Ali). The imam's duties were conceived and

understood in terms of "commanding the good and forbidding the reprehensible", as defined in Islamic law (the shari'ah). As a practical matter, of course, most Zaydi imams, like most other rulers, placed the maintenance and expansion of their own power as their first priority. Yet even the frequent campaigns they led to suppress rebellions were clothed in legalistic terms, by portraying the rebels as sowers of discord and enemies of the divinely ordained order.

The Zaydi imams were, in a sense, accepted as "legitimate" rulers only over the Zaydi parts of Yemen -- that is, roughly, the highland from somewhat beyond the modern Yemeni-Saudi border in the north, to Yarim in the south, and to a point between Rada' and al-Beida' in the southeast. Within the current boundaries of the YAR, Zaydis are slightly outnumbered by Shafi'is, who are the numerically predominant confessional group of the southern uplands and the coastal plain.

It was rare for an imam to rule over a centralized state that controlled even the whole Zaydi area, much less all of Yemen. Through much of Yemen's history, the Zaydi imams were on the defensive against more powerful regimes that were centered in the southern highlands and coastal plain. These rival states were generally wealthier than the Zaydi state, in part because of their control over Aden and the Red Sea ports. Moreover, the Zaydi realm was often disunited, with rival imams competing from, and holding forth in, different power bases in the north. Imams ruled by manipulating coalitions. They seldom controlled either a substantial central government apparatus or a substantial standing army. They governed with the cooperation of a dispersed class of jurists, and called upon the tribes for military levies for their campaigns.

The seventeenth century was a turning point in the history of the Zaydi state. The Ottomans, who had invaded and occupied Yemen in the century before, were expelled by the Yemenis under the leadership of the Zaydi imams. From the mid-seventeenth century, the Zaydis controlled the whole of Yemen -- including the Shafi'i south and coast -- for the first time. The rule of the Zaydi officials appointed by the imams to govern the Shafi'i areas was often heavy-handed and exploitative.

Northern Zaydi warlords led free-lance expeditions to the south with the object of extracting spoils; the imams, even when inclined to prevent this, were often powerless to do so, and the southern populations, being relatively "detrribalized", lacked the organizational capacities that northern tribes had to summon and mobilize assistance.

The position of the Shafi'is in the Zaydi state remained a subordinate one in this century, under the Hamid al-Din imams. The Shafi'i parts of Yemen, historically always more open to outside trends because of their geographical position, received

influences from Aden, then under British control, where many Yemenis from adjacent areas sought wage labor and political dissidents from North Yemen (including some members of the Imam's family) found political asylum; the Shafi'i intelligentsia were more open to the modernist and reformist trends within Islam that emanated from Cairo; and major Yemeni merchants, who were predominantly Shafi'i, resented the Imam's policies, and gave financial support to the dissidents.

It should be understood, however, that the Hamid al-Din imams provoked considerable opposition among Zaydis as well as Shafi'is. The major oppositional movements to the monarchy, including the successful revolution of 1962, were supported not only by Shafi'is, but by many Zaydis as well.

D. YARG and Institutions

The government of the modern Yemen Arab Republic has a much wider base of support than the old regime did -- a broadly-based support which makes claims on the loyalty of the majority of the population, and not merely certain segments of the old elite. However, elements of distrust -- or, at best, ambivalence -- toward central authority remain. A long history of relative decentralization and a weak central state is not overcome immediately. Some centrifugal tendencies persist. Indeed, a number of the regional power blocs came out of the civil war of 1962-70 stronger than they had been during the old regime. Moreover, the Republican government does not have recourse to certain draconian sanctions used to ensure loyalty under the old regime, like imprisoning the sons of tribal shaykhs and other local notables as hostages. Although continued economic growth and national economic integration may lead to the decay of such relatively autonomous regional power blocs, it will not happen all at once.

The above discussion leads directly to the consideration of the ability of the YARG, and specifically the Ministry of Agriculture and Fisheries, to promote development, and of constraints that might impede such intervention in the agricultural sector.

The Ministry of Agriculture was founded as long ago as 1953, but its existence as a modern ministry dates back only to 1970, after the end of the post-revolutionary civil war; consequently the MAF, like the YARG, is relatively young.

The consideration of the position of the MAF might be broken down into three interrelated issues: its position in the government in relation to the other ministries; its own internal structure; and its linkages with the agricultural sector. Although the three issues are related, the last of them is the main concern of this section.

Snodgrass ^{1/} has discussed the process of institution-building with special reference to the MAF, and makes a number of useful points. He notes that "the organizational chart of the MAF is in a continuous state of change and interpretation ..., as ... is to be expected in a relatively young institution." As is also clear from his discussion, the formal or official institutional structure does not necessarily coincide with what one might call the "true" or "functional" structure as expressed by the actual flow of information and power within the Ministry and between it and other agencies of government. This may be due in part to the inadequacy of two-dimensional models to capture a changeable reality. It is not surprising, considering the socio-cultural matrix within which the Ministry is located, that some individuals -- owing to interpersonal linkages mediated through other social institutions (including kinship) that are not readily perceived by the outsider -- should have more power, or less, than their official title may indicate. Put in another way, the authority actually residing in a particular office may not be independent of the individual occupying it.

E. Role of MAF in Development

The MAF has played more a reactive role, than a directive or originating role, in agricultural development. One of the most pronounced and significant trends in Yemeni agriculture, the decline in grain production, began over two decades ago -- with the disruption of the civil war, which began in the early 1960's; then the severe seven-year drought which began in 1967; and finally, escalating demand for wage labor in Saudi Arabia that drew men away from the land in the 1970s and led to severe labor shortages (cf. Hogan et. al. Yemen Arab Republic, Agricultural Sector Assessment, USAID, 1982, pp. 5 ff.). The decline in grain production has been most pronounced in sorghum and millet, which were used in the porridges and breads that once were the staff of the rural diet. The shortfall has been made up by imports of wheat (grain and white flour), rice, and other grains. The imports of grain and of a wide range of other foods and products were paid for out of remittance income. However, since imported grains were priced more cheaply than the locally produced ones, imports put further downward pressure on domestic grain production.

This trend has been accompanied by a shift toward horticultural production -- vegetables and tree crops. The most remarkable increase, and the greatest in market value, has been the cultivation of gat. This crop has increased at the expense of both grains and coffee, and is the Yemeni cash crop par excellence. A considerably greater variety of vegetables are now grown than formerly, adding to the diversity of the Yemeni diet.

^{1/} Snodgrass 1985, op. cit., pp. 9 ff.

The YARG places a high value on agriculture, and has set goals for its development in line with national objectives. Rather than directly involving itself in investment and production, YARG policy has been to encourage the private sector. The growth of the domestic broiler industry, from point zero to a point approaching self-sufficiency in the period between 1978 and the present, has been almost entirely the accomplishment of private entrepreneurs, building large-scale operations. There has been more direct government involvement in the program, initiated in the highest levels of the YARG, to achieve self-sufficiency in fruit, for the MAF has imported fruit trees and has engaged in some nursery production; the goal, however, is to sell the trees to private farmers, and to encourage private sector domestic fruit production. The central government, and the MAF, have neither the funds nor personnel to finance and direct actual production. Certain functions of the central ministry, including the Provincial Agricultural Offices which are directly under the Deputy Minister of the MAF, and the Extension program, which is a branch of the MAF Directorate of General Services, are being attached to the Regional Development Authorities, which are financed by foreign donors. The immediate effect of this is on the area included in the Tihama Development Authority (TDA) which covers the Governorate of Hodeidah and the coastal areas within the Taiz Governorate, and will be expanding to cover the coastal areas included in the Governorate of Hajjah; on the Governorates of Ibb and Taiz, which are included in the Southern Uplands Rural Development Project (SURDP); and on the governorates of Sana'a and Dhamar, which are in the Central Highlands Development Authority. This covers the greatest number, if not all, of the existing extension offices in the YAR; more are in the planning stage.

The extension functions of the Ministry -- giving technical advice and assistance to farmers -- promise to be a popular, and potentially effective, linkage between the MAF and the agricultural community. Many farmers already see the Ministry as a source of technical advice; a significant proportion of the visitors to the MAF during the hours of business are farmers requesting information. Sources within the Ministry indicate that there is a nation-wide demand for technical assistance; requests for advice are even initiated at high levels of the government -- the offices of the President and Prime Minister -- and referred to the MAF for action. With the assistance of a Core advisor, the Extension department of the MAF is planning even more direct linkages with the agricultural community through development of television programming.

The Ministry has a limited ability to intervene and enforce compliance with its directives. Its ability to intervene may be most effective at the country's borders; the YARG has embargoed the import of foreign frozen chickens and fruit to aid the Yemeni producers. The embargo appears to have been

most effective on chicken, a relatively perishable item; while foreign oranges, apples and other fresh fruits are no longer openly sold in Sana'a, they are, according to reports, sometimes available there under the counter, and are openly sold in certain other parts of the country, whence they have been brought, "unofficially", from Saudi Arabia. However, even if the embargo is fully effective only in a few major centers of population, it does have an effect on the Yemeni producers and their ability to market their crops.

One of the problems the MAF has had with enforcement is of ultimately vital import for thw YARG's current top priority in agriculture: the achievement of self-sufficiency in fruit production. A shaykh in the southern Tihama owns about 4,000 citrus trees which he purchased from the Ministry about six years ago. Inspections determined that the trees were infected with canker, and the MAF ordered the burning of the trees. However, the shaykh refused to allow the destruction of his property, and was able to find support elsewhere in the government. To date, the trees have not been destroyed.

The episode illustrates something about the Ministry's ability to gain compliance, and the limited nature of the sanctions it has at hand; also, about its relations with departments within the government and, perhaps, about its credibility. However, there are other issues, for which we may refer back to the earlier dis- cussion of the history and political culture of Yemen. Under the old regime, when the central government mobilized an attack against a rebellious tribe or village, one of the sanctions applied was the destruction of the rebels' trees -- in the coastal region, often palms; in the eastern regions, grapevines. Any such action taken by the Republican government must appear to be justified. The destruction of diseased trees is sound from the point of view of horticultural practice -- and the ability to do so will be necessary if the stated YARG goal of self-sufficiency in fruit is to be attained. However, a person whose trees are diseased must be convinced that the action is in no wise directed against him, but rather that it is necessary for the good of the country and, ultimately, of the farmer himnself. In addition, a tree owner should be given replacement stock for the trees destroyed, and some form of compensation for the value added in the period he cared for them. To succeed in this, it will be necessary to continue the government's educational efforts, and to devise some kind of procedure for (and appropriate funds for) compensation.

F. Need

In the past generation, Yemen has undergone a rapid and radical transformation from an agricultural subsistence economy, directed largely toward autoconsumption at a relatively low level, to a highly monetized market economy. Although a

diminishing proportion of the population relies solely on agriculture, it remains one of the most important sectors of the economy, and 70-80% of Yemeni households (cf. Annex E/2) continue to be directly involved in agriculture to some extent -- whether for the market, domestic consumption, or both. Consequently, it is in the interest, and to the benefit, of the great majority of Yemenis to strengthen the MAF, enabling it to give technical support and advice to the agricultural community, and to ensure the sound and balanced use of Yemen's natural resources.

G. Socio-Cultural Feasibility - Intercultural Considerations

The placement of technical advisors in the MAF who are assigned MAF counterparts has been a key element of the Core Subproject design. The problem of the appropriateness of match between advisor and counterpart has come to the attention of the design team and has been noted on the Yemeni side, by officials in the Ministry, as well. Yemeni and American perceptions coincide on some points, and diverge on others. However, this "gap" in perceptions, if addressed explicitly, ought not to be insoluble.

From the American point of view, it has been noted that there is a shortage of trained personnel in the MAF from whom qualified counterparts may be chosen. When the American side has wished to send a counterpart or other Ministry functionary abroad for specialized training, it has sometimes been difficult to gain the approval of the Ministry for his release from his responsibilities. When a counterpart has been released and sent for training, it has sometimes been difficult to find a suitable replacement. The Core goal of raising the level of training of MAF personnel may, at times, have the temporary effect of depriving the Ministry of some of its best personnel -- a consequence that may, in the short term, be unavoidable.

It has been noted on the Yemeni side that American advisors are often quite specialized in their competence, and that the Ministry has not always been informed, in sufficient detail, what an advisor's qualifications are. In elaboration of the first point, the MAF official who made it thought that advisors were not sufficiently informed beforehand of Yemeni conditions, and hence were not prepared to adapt to them. He suggested that they were not aware of the low level of technical expertise in Yemen compared to the United States, and sometimes gave their Yemeni counterparts information that was not yet applicable at Yemen's stage of technical development. What Yemen needs is solid, fundamental expertise in basic matters. It was recommended, also, that it might help if advisors had prior experience in developing countries.

These points should bring us to a consideration of the manner in which an advisor is selected according to the

collaborative assistance mode. When it is agreed by the MAF, CID/Core and USAID that an advisor with particular competencies will be hired, the job is posted by the participating universities. The best two candidates' credentials are submitted for consideration by the three bodies, with the final choice being in the hands of the MAF. It is a perception on the American side that the Yemeni side would not accept a candidate who lacked credentials which, given the nature of American technical training, are in fact the result of considerable specialization.

The problem arises, in part, from differences in perception. The American side might make it clear to the Yemeni side that specialization is not only the general rule among technical advisors (as is already known), but that it is a professional necessity, and that no one without it would be regarded as competent in his field.

One step toward solving these problems might be to specify, in the job posting, that the advisor will be expected to instruct and to work at a level more basic and general than his level of specialized competence -- if only to assure that this is understood in advance. It is also apparent that advisors must be given a more thorough orientation regarding the available resources and technical capabilities in Yemen than has been the rule so far. The posted job description should also specify (as was done in previous CID job postings) that previous experience in a developing country is desirable.

The need to deal with this technological gap allows us to suggest another function for the Arabic-speaking "adjoint advisors" proposed elsewhere in this subproject paper. The adjoint advisor, conceived as being a native Arabic speaker with agricultural training at the BS or MS level, if chosen -- insofar as is feasible -- with the above considerations in mind, would ideally be able to deal at the general, practical, basic level required, while his superior, the advisor, would also have more specialized, higher-level competence, along with the requisite educational credentials and experience. Both advisors and adjoint advisors should, when hired, be aware that they will be expected to exert themselves to work with and build rapport with their local counterparts.

The question of TCP's (third country professionals) or TCN's (third country nationals) is a separate issue. The possibility is that TCP's -- who would be qualified professionals from other Arab nations -- might be brought in as temporary replacements for Yemeni MAF officials who have been released for training abroad. TCP's were used in the MAF in an earlier project that was sponsored by the World Bank. A Yemeni MAF official who discussed the topic was strongly opposed to the assignment of TCP's to positions of responsibility and authority, and felt that it would be unacceptable for a foreigner to be in a position to give orders to Yemeni subordinates in the Ministry. MAF

officials present at a meeting of the members of this design team, the Core advisors and MAF counterparts also responded negatively to the idea of using TCP's. It is clear that the issue is sensitive, and that the use of a TCP in such a capacity may only be possible if, after careful negotiations, the Yemeni side agrees that it is necessary, desirable, and acceptable.

The issue of the Arabic linguistic competence of the American Core advisors has also arisen. Ministry officials expressed a preference for Arabic-speaking advisors. The desirability of Arabic language competence has been recognized in the Core project, as well, for it was listed as such in the job postings for the advisory positions. Officials in the West German technical assistance program (GTZ) and in the FAO have also emphasized the importance of Arabic competence. However, the difficulty, and in fact unlikelihood, of finding qualified technical advisors who also have Arabic fluency is such that it cannot be a prerequisite in this project. The office of adjoint advisor was proposed precisely to bridge this linguistic gap. Yet, it is incontestable that learning some Arabic would add significantly to an advisor's rapport with, and ability to communicate with, both personnel in the MAF and Yemenis in general; it may be no accident that the Core advisor who speaks the most Arabic (though he would not himself claim fluency) is also the one who is regarded as having the best rapport in the Ministry. One advisor felt that the Arabic training now provided in the United States might more effectively be given in Yemen, where the lessons learned in the classroom could be applied immediately, and suggested that it might be possible to arrange in-country training through the US Peace Corps. This option would probably be more cost-effective than training in the United States; the Peace Corps program, which is already in place, was designed with Yemeni conditions and the needs of foreigners in Yemen in mind, and could not easily be duplicated in a university in the United States. It should be arranged, as far as possible, so that following this option will not significantly decrease the time the advisors have to engage in their assigned role in Yemen.

H. Social Consequences and Benefits

The purpose of the Core Subproject, and of the substantive subprojects for which it serves as an administrative umbrella, is to assist the MAF and Yemeni farmers in agricultural sector development in ways that support and are consistent with broadly-based and equitable social development. It is contended that Yemeni agricultural producers and consumers will benefit from the existence of a Ministry of Agriculture that is able to give support, technical assistance and direction in the agricultural sector.

1. Beneficiaries

The most direct beneficiaries of the Core Subproject within the MAF are, perhaps, the MAF officials who receive training. Enabling them to function more effectively, thereby "institutionalizing" the MAF, will allow the Ministry to fulfill the role of assisting agricultural sector development. The role of the Core advisor in the Extension Services division of the Ministry is to assist the director of the division in the provision of technical advice and information to farmers throughout the country. The Core training advisor in the Ministry is in charge of training for the PETS, HITS and ISAI subprojects. The other subprojects, PETS (poultry), HITS (horticulture), ISAI (Ibb Secondary Agricultural Institute), FOA (Faculty of Agriculture, Sana'a University), and IFP (Irrigated Farming Practices), have been designed primarily to benefit current and future agricultural producers.

Some of the social benefits of Core and the other ADSP subprojects may be, in effect in mitigating or alleviating some of the effects of recent economic trends in the YAR. For example, the past half decade has seen a remarkable development of a domestic broiler and egg industry. The major development has been in the commercial sector, without significant government assistance (except for the recent import embargo on frozen chickens); some of the private, large-scale poultry operations employ their own foreign technical staff. While this may be to the benefit of the Yemeni populace in general, it may to an extent have been to the detriment of small household producers (especially women, who have traditionally raised poultry) who cannot produce chickens for market with the economies of scale of the large producers. The role of the MAF, through its extension agents and with technical assistance and training provided by the PETS program, is to assist the small-scale household poultry operation; such operations can be viable as a supplement to domestic income and diet, because labor costs are not given a market value as in commercial operations, and chickens can be fed, in part, on kitchen scraps. In addition, Yemeni consumers still place a premium on the domestic, "baladi," product (whether chicken or eggs), and are often willing to pay more for it.

2. Women

The MAF in Sana'a does not appear to employ any Yemeni women in professional positions, although there are a number of women who work as secretaries. The DLRC, a project within the MAF under the leadership of a Core advisor, has made some efforts in this direction. The Extension Division of the Ministry has a number of women extension agents in the Rada' Integrated Rural Development Project area, in the Southern Uplands Rural development Project area, and in the Tihama Development Authority area. Extension outreach programs

through the mass media, particularly through television and video, present opportunities for the talents of educated Yemeni women.

Among the ADSP subprojects, the PETS Subproject has, as mentioned above, particular pertinence for women. The Faculty of Agriculture Subproject was designed with the intention of recruiting female secondary students and of responding to the needs and interests of female university students. There is no reason that the Core Subproject, or other ADSP subprojects, should not hire qualified American women advisors. This step would demonstrate to officials in the MAF, and others, that the ADSP is serious in its commitment to improving women's status.

Women have had an important role in traditional subsistence agriculture; in some respects, economic development has had as a concomitant a restriction of women's economic activity and of the sphere of their social contacts; "rural" people, in Yemen as elsewhere, often adopt "urban" standards when their economic condition enables them to do so. The resolution of the tension between the tendency toward further restriction of women's scope, on the one hand, and the expanded participation of women to whom new opportunities have been made available, on the other, cannot be predicted with any certainty. YARG policy will influence the outcome, as may ideological influences originating outside of Yemen; in the absence of such programs as the Core program which are concerned with women's status, there might be little institutional pressure toward mitigating the more restrictive tendencies.

ANNEX E/4

ADMINISTRATIVE ANALYSIS

The administrative arrangements for the Core Subproject will need to be tailored for the dual responsibilities of the subproject. These are providing technical assistance to the MAF and carrying out the lead responsibility among the contracting universities for maintenance of the integrity of the Agricultural Development Support Program in collaboration with the USAID and the Yemeni government.

A. The Coordination and Integration Role

1. Background:

The Agricultural Development Support Project (the Program) was initiated as a Title XII Collaborative Assistance type activity with the Consortium for International Development selected as the contractor. The CID was given full responsibility, but not final authority, for conceptualizing, formulating and administering the program and its subprojects. This included selection of subcontractors to identify, design and carry out projects. Final approval authority was retained in AID by virtue of its control over the allocation of financing.

In accordance with agreed procedures, CID concluded a subcontract with a university to implement the Core Subproject; the university was charged with the responsibility of providing advisors to the Ministry of Agriculture and performing all of those tasks associated with developing an integrated program of assistance to the agriculture sector. The head of the Core Subproject was designated as Chief of Party for Core and for the overall project.

While this arrangement might have worked under different conditions, there were two major defects which ultimately led AID to decide to cancel the Collaborative Agreement with CID. First, although on paper there was a hierarchical structure within the Consortium, in fact the Consortium structure did not permit the Core executive management to make definitive and enforceable decisions with respect to subcontractor selection and performance, nor was it possible to fix responsibility for actions taken or not taken. Second, while the Core Chief of Party had broad responsibilities in the field, most of the authority was retained at CID and university headquarters. Given these administrative arrangements, AID concluded that CID could not satisfactorily carry out its responsibilities with respect to monitoring project activities and that the administrative arrangements of CID precluded the Chief of Party from carrying out his responsibilities for coordinating the various

elements of the program or assuring that contractual responsibilities were developed and carried out in a satisfactory manner.

2. USAID/ADO Responsibilities

Under the new system being installed for providing assistance to the agriculture sector, the USAID will assume overall responsibility for the maintenance of an integrated program of assistance to the agriculture sector. The USAID Agricultural Development Officer will be responsible for working with the YARG and the subproject contractors to assure that the various activities are interrelated and coordinated in a manner consistent with program purpose and goal. With the substitution of direct contacts between AID and the Universities for the contractual arrangement with CID, the Agricultural Development Officer and his staff will carry out their responsibilities with respect to contract implementation directly with each contractor, rather than through an inter-mediary Program Chief of Party. In addition, the USAID will retain responsibility for program development, sector assessments, project identification and design, as well as contractor selection.

The change in the structure of the Agricultural Development Support Program with the elimination of CID as the umbrella contractor means that a modified system must be put in place to assure continuance of an integrated program operational in the collaborative mode. While the Core Subproject will continue as one of its responsibilities within the Program to provide leadership and support to the integrated program, administrative arrangements need to be rearranged to more directly involve other contractors in the formulation and implementation of program policy and strategy. The administrative structure also needs to establish a systematic means of facilitating full collaboration of the program and individual subprojects with the USAID Agricultural Development Officer and his staff, as well as with the Ministry of Agriculture and Fisheries and the Ministry of Education and other relevant entities. It is also necessary that the manner in which the Core Subproject is structured for purposes of contractor cooperation within the program be compatible with the structure necessary for its function as advisor to the MAF.

3. Core Team Leader Responsibilities

The Core Subproject through its administrative/logistic support to all subprojects and its provision of a broad range of advisory services relevant to all subprojects serves as a principal means of program coordination. For program integration purposes, the head of the Core Subproject contract team will carry two designations: Team Leader and Program Coordinating Committee Chairman. He is Committee Chairman because of his position as Team Leader of the subproject with

primary responsibility for program integration in the collaborative mode. It is expected that the overwhelming bulk of his time would be devoted to the Committee Chairman role, with his Team Leader function limited to Core Subproject policy, advisory services and limited supervisory functions (see below).

As Committee Chairman, the Team Leader would be responsible for program collaboration with the USAID and the Ministry, for chairing the Program Committee, and for setting policy and coordinating provision of technical, financial, logistic and other services as required to all subprojects and the Program. In carrying out his responsibilities for collaboration, the Committee Chairman would have primary responsibility to work with the USAID Agricultural Development Officer on all aspects -- policy, strategy, program, operational -- of the Program. The Committee chairman would also have as a counterpart in the MAF a senior civil servant with responsibility for overall administration within the Ministry, hopefully at the Deputy Minister level. In this relationship with the senior USAID Agricultural Officer, the Committee Chairman will have the opportunity to assure that the Program is being carried out in a way which is consistent with USAID policy and strategy. The relationship with the USAID Agricultural Development Officer will also make it possible for the Committee chairman to assure that the Core will be able effectively to plan for and carry out sector and other studies, analyses, project identification and design and evaluation in accordance with USAID responsibilities for agriculture sector policies, strategies, programs and the financing and monitoring of operations. The relationship with a senior Ministry official will make it possible for the Committee Chairman to make certain that the Program is being carried out in a manner that is consistent with Ministry policies and strategies, that it is responsive to program and operational requirements of the Ministry, and that he can, as appropriate, offer advice and guidance on these matters. Notwithstanding the general functional responsibilities outlined above, USAID and MAF will retain whatever program funds they deem necessary to carry out special studies or technical assistance not readily available through the various program contractors.

4. Program Coordinating Committee

A Program Committee will be established with responsibility for the development of Program policy and strategy and for monitoring consistency of operations with policy and strategy. The Committee will consist of the Core Team Leader as Committee Chairman, the Team Leaders of subproject contract teams, and the Senior Agriculture Advisor of the Core Subproject as voting members. The Committee will include as ex officio members the Core Controller, the Core Chief, Administrative Services, the USAID Agriculture Development Officer, and representatives of the Ministry of Agriculture and Fisheries and Ministry of Education.

The major function of the Program Coordinating Committee is to maintain and enhance the Program as a set of integrated subprojects directed toward achieving a clearly articulated set of program goals. The program goals are determined collaboratively by the Program, the MAF and the USAID under the leadership of the USAID Agriculture Development Officer. The Committee will also develop Program policies and strategies consistent with overall USAID assistance strategy for the agriculture sector and Ministry development plans and coordinate operational work plans in order to maximize mutual support among the subprojects. Members of the Coordinating Committee will work directly with the staff of the USAID Agricultural Development Office to exchange views, cooperate in problem solving and provide mutual support. The Committee Chairman will work directly with the USAID Agriculture Development Officer who will be responsible for assigning members of his staff or himself to work directly with subproject Team Leaders and the Core Subproject Senior Agriculture Advisor. The Core Controller and the Chief, Administrative Services, as ex officio members of the Coordinating Committee will work collaboratively with the USAID Controller and Executive Officer to address matters of mutual concern.

In addition to supplying the Committee Chairman, the Core Subproject Contractor will be responsible for providing other services needed to maintain and enhance the operation of a coordinated Program. These services are technical, financial, and administration/management.

5. USAID Program Coordination/Facilitation

The USAID has overall responsibility for the maintenance of an integrated program of assistance to the agriculture sector. The USAID Agricultural Development Officer (ADO) will be responsible for working with the YARG and the subproject contractors to assure that the various activities are integrated and coordinated. The principal means used in accomplishing the program coordination will be the Core Subproject, its Team Leader, and the Program Coordinating Committee. Within the Program Coordinating Committee the role of the USAID ADO shall be one of communication and facilitation. The ADO shall bring to the Program Coordinating Committee the full capabilities of the Mission to facilitate the activities of the subproject both within the Mission and within the Yemen Government. As this will be a Collaborative Assistance Contract, the Mission staff will make collaborative inputs to the execution of the contract and perform a monitoring and assisting role rather than a supervisory one. Nothing in this relationship, however, precludes the USAID from performing the coordination, approval or oversight functions normally required in their role as the accountable US Government Agency for administration of development assistance funds.

6. Home Campus/Field Relationships

One of the several problems encountered in the implementation of Phase One has been the lack of clear authority in the field for the Team Leaders to carry out their responsibilities. The principal home campus officer was titled Program Director, or Subproject Director, in the case of subprojects. While the home campus function was usually that of support and back-stopping, occasionally the Program/Subproject Directors took their titles at face value, even though worldwide experience, and that in Yemen, indicate most authority for operations should be lodged in the field. As the Team Leader works within the hierarchical organizational structure of the university, authority would be limited to that delegated by his supervisor on the home campus. These delegations of authority will be consistent with the Team Leader's responsibility. The concept under which the subproject should operate is that the principal campus contact for the subproject is the campus coordinator, with the general level of supervision being provided by a dean, department head or officer of similar rank as part of their overall responsibilities. Under the above arrangement, USAID would look to the Team Leaders to assure that the contractual responsibilities are met.

7. Core Advisors' Responsibilities/Relationships

Part of the responsibilities of Core Subproject advisors will be to provide professional advice and services to the other subprojects. These services will be provided in two ways. In their roles as advisors to Directorates and Divisions in the MAF, the advisors can assist team members of other subprojects in bringing problems to the attention of the proper officials in the Ministry, can help in getting the Ministry to take action in matters important to subproject success, and can provide direct assistance to subprojects when the services of Ministry specialists are required. The Core advisors will also work directly with the technicians in other subprojects in applying their professional expertise to resolving particular problems important to the successful carrying out of the subprojects. Procedures will need to be developed for requesting and fulfilling needed assistance so that undertaking such tasks is consistent with Core Subproject responsibilities to the Ministry. A process for doing this can be worked out under the general direction of the Program Committee.

The Core Subproject will also be responsible for providing financial and logistic services to the program and its constituent parts. The Core Subproject organization will include a section responsible for providing this support, headed up by the Chief, Administrative Services, and will include a Controller and an Engineering Assistant. This section will be responsible for providing logistic, financial, engineering and operational support, including arranging for necessary studies

and analyses as necessary, to all subprojects including personnel, program and communications requirements. All or part of the logistical services may be provided directly by the Core contractor, or some or all of the logistic support services may be subcontracted to a private firm. The Chief, Administrative Services will have the Team Leader/Committee Chairman as his supervisor.

The Chief, Administrative Services will supervise the Controller and the Engineering Assistant. The Controller will provide financial management services to all subprojects within the Program. The Engineering Assistant will assist Core advisors and the other subprojects in expediting implementation problems in construction, assembly, maintenance, repair, etc.

B. Technical Assistance to the Ministry

For purposes of providing advisory services to the Ministry, the Core Subproject will be organized and staffed in the following manner. As noted above, the major responsibilities of the Core contract team leader will be to serve as the Program Committee Chairman for the Agricultural Development Support Program, setting policy for the Core Subproject, and assuring the provision of support services to all subprojects. The Team Leader's responsibilities for the Core Subproject will be largely limited to advising his Ministry counterpart and others, supervising the Senior Agriculture Advisor and the Chief, Administrative Services and furnishing policy direction for the Core Subproject. Administration and supervision of Core Subproject advisors will be the responsibility of the Senior Agriculture Advisor, who will be the second in command to the Team Leader and report directly to him. All Core advisory staff will report to their intermediate supervisor, if any, or to the Senior Agriculture Advisor. The Senior Agriculture Advisor will have as counterpart a senior official in the MAF and will collaborate directly with the USAID Agriculture Development Officer or his designee.

Other than changes in positions as some elements in the subproject are completed and phased out and new positions are added in accordance with subproject priorities, the only changes in staffing from the first phase, in addition to those set forth above, will be those related to the language problem. Americans supplied as Core advisors during the first phase have had a low proficiency in Arabic. Similarly, Yemeni Ministry staff generally have a low proficiency in English. While both groups devote time to learning the other language, it is unlikely that substantial improvements in the ability of each group to communicate with the other will improve enough to resolve the communication problem over phase two of the subproject.

9. Adjoint Advisors

In order to ease the communications problem between advisors and advisees, the size of the Core staff will be increased by the addition of adjoint advisors on a selected basis. The adjoint advisors will be native Arabic speakers from third countries or Yemen, with a BS or MS in agriculture. Together with an American advisor or a cluster of American advisors, they will form an advisory team. The American member of the team will provide the technical knowledge and the Arabic speaker with some knowledge of the subject matter will significantly facilitate the exchange of knowledge and information between advisors and advisees.

Not all American advisors will require an adjoint advisor. Some Americans may have counterparts in the Ministry with a sufficient fluency in English so that communications are not a problem. Also, if at all possible, American agriculturalists with capability in Arabic should be sought. In some instances, the problem may be eased by a United Nations project which will supply operating type personnel to the Ministry. The UN project agreement specifies that the UN personnel will work closely with the American advisor. The UN supplied agriculturalists are to be Arabic speaking. If they also speak English and are assigned to the same Directorate or Division as an American advisor, this may mitigate the language problem and use of an adjoint advisor may be unnecessary. Finally, one adjoint advisor may work with a cluster of American advisors rather than a single advisor. A case in point is the DLRC where one adjoint advisor would work with the two American advisors, the Library Advisor and the Reference Librarian.

10. Assignment and Grouping of Advisors

The number of adjoint advisors required will be determined by all of the factors cited above. Including the current Chief of Party and proposed Team Leader and Committee Chairman, there are ten full-time positions approved for the Core Subproject, including the Librarian. Of these, seven positions are filled. It is proposed to continue the number of advisory positions at ten during the second phase of the subproject. However, one position currently approved for Core would be shifted to the Poultry Extension and Training Subproject, that of the Extension Poultry Advisor. It is also proposed to group some of the advisors together who are performing related activities. The advisory team members would work together and encourage coordination of similar activities in the Ministry. For the current staffing pattern the clusters would be: the DLRC advisors, and the economic planner and the statistician. In addition, the English as a Second Language Coordinator would be grouped with the Training Advisor. Only one adjoint advisor may be required for each of the three clusters rather than for individuals. It is also likely that

two to three of the advisors will either have counterparts with sufficient command of English or there will be operating personnel who can bridge the gap for these two to three advisors. Thus there will probably be a requirement to include between five and seven adjoint advisors within the Core staff.

11. Advisor Resources

The subproject will, in developing workplans, give consideration to, and in collaboration with the other two parties decide, whether the Core advisors, singly or in clusters, should develop their own budgets for staff, commodities and training. It is believed that such a proposition would help develop a better sense of direction to the advisors' efforts than existed in phase one. In effect the efforts might become "mini" subprojects or "structured activities". The mini budgets would be approved in the sixth or subsequent workplans.

During the second phase the flexibility of the Subproject in providing advisory services to the Ministry will be increased by the opportunity to make greater use of short term advisors. During normal operations specific problems will surface in the Ministry which will be brought to the attention of the Core advisors or to team members of other subprojects. When these issues meet criteria established collaboratively by the Core Subproject, USAID and the MAF and included in the workplan, short term consultant/advisors, generally ranging from one to six months, will be financed from the project to provide advisory services to the Ministry. In some instances the nature of the issue to be addressed may be such that it will require multiple trips to Yemen and/or analytical work on the issue in the United States. In recruiting short term advisors the Core contractor should have the flexibility to secure the services of advisors from a variety of sources in the United States. In addition, short term advisors can be obtained outside the contract, if the contract university is unable to come up with suitable candidates.

12. Work Plans

In accordance with Collaborative Assistance procedures, this subproject paper does not provide a fully detailed scope of work or schedule of inputs. This task is the responsibility of the Core university in collaboration with the MAF and the USAID. The subproject will have two types of plans: an Operational Plan in the Contract which sets broad objectives; and a three-year rolling workplan. The first will spell out the overall strategy and methodology to be used in achieving subproject objectives and provide up-to-date estimates of the magnitude and costs of subproject resources. The second will serve as the AID approval mechanism for specific implementation activities and levels of effort. The Operational Plan in the Contract will serve as a general AID approval mechanism that

will allow the Core university to make resource commitments required for Subproject implementation.

In preparing workplans under the Core Subproject, the Core university will be guided by this Subproject Paper. However, this document should be revised as needed to cope with implementation problems and opportunities. It will be the responsibility of the Core university to seek innovative ways in which to approach Subproject implementation and achievement of Subproject activities. Further, it will be the Core university's responsibility to work collaboratively with the USAID and the MAF in preparing necessary revisions to the subproject paper for approval by AID.

In addition, there already exists a Program Strategy which, as updated, will serve as the principal document for planning and managing the resources required for achievement of Core Subproject objectives. It will reflect the latest thinking on the strategy for achieving Subproject objectives and overall estimates of the amount and cost of Subproject resources.

The various planning documents will also detail the participating institution's organizational/administrative strategy for providing administrative and logistical support for other subprojects; the mechanism through which the Core Subproject will set priorities for development and initial implementation of other subprojects; and how collaboration among the Subproject, USAID and the MAF would be carried out.

The Rolling Workplan, to be reviewed and approved during Annual Program Reviews, will include a detailed plan of work covering the year of Subproject implementation following an Annual Review. The Workplan will include a detailed budget which, when approved by AID, MAF and the contractor, will provide the Core university with a specific level of effort during the year following an Annual Review. The Rolling Workplan will also include a detailed implementation plan which will schedule the types and amounts of inputs to be provided and quantify the degree of output achievement to be accomplished during the year.

ANNEX E/5
INSTITUTIONAL ANALYSIS

A. General

This descriptive analysis of the organizational structure and capabilities of the Ministry of Agriculture and Fisheries (MAF) of the Yemen Arab Republic is made in the context of the USAID/Yemen Agriculture Development Support Program (ADSP), Project no. 279-0052, Phase II. The purpose of this analysis is to provide the explicit basis for the rationale underlying the programmatic interventions deployed by the project.

Since the fundamental purpose of the project is to contribute to the enhancement of MAF capabilities in agriculture sector program development, it is essential that the contextual makeup of the Ministry and its various ramifications be clearly delineated and understood in designing, implementing and evaluating the effectiveness of actual and proposed ADSP Project interventions.

Research and compilation of data for this analysis included a review of pertinent literature, interviews with USAID/Y, YARG and other donor staff in Sana'a and the governates, and ADSP/CID subprojects' personnel in Sana'a and in the provinces. Field visits were made as follows:

<u>Institution</u>	<u>Location</u>
Provincial Agriculture Office (PAO)	Dhamar
PAO	Ibb
Ibb Secondary Agricultural Institute	Ibb
Southern Uplands Rural Development Project	Taiz
PAO	Taiz
Agriculture Research Development Authority	Taiz
PAO	Hodeidah
Tihama Development Authority	Hodeidah
Central Highlands Development Authority	Sana'a

Due to time constraints as well as the restricted availability of some YARG officials, this research phase was not exhaustive, since it did not include visits to the Cooperative and Agriculture Credit Bank or the burgeoning new Faculty of Agriculture at the University of Sana'a. However, it did include visits and in-depth interviews at the principal regional development authorities and key Provincial Agricultural Offices. In addition, use was made of secondary sources, particularly the timely and solidly developed study/analysis specifically prepared for the use of the design team, in the institutional development area, by Dr. Milton M. Snodgrass, of New Mexico State University and formerly agricultural planning advisor in the ADSP: "Strengthening the Ministry of Agriculture and Fisheries...as an Institution...", January, 1985. Reader's

are referred to this source for additional information and details regarding the high points covered in this descriptive analysis of MAF organizational structure, policies and capabilities.

B. Ministry Mandate/Strategy

1. Goals

The specific responsibilities assigned to the Ministry of Agriculture and Fisheries (MAF) for the development of the National Agricultural Sector are principally to be found in the Five Year Development Plans (current FYDP 1982-1986). The strategy proposed by the FYDP is general in nature and targets; such broad objectives as improved farmer income, conservation of resources (particularly water), increased agricultural production and food self-sufficiency.

Steps being undertaken to achieve these goals include explicit support of an open-market, private sector development policy; development of a widespread agriculture extension service; accelerated development of agricultural education institutions at the under-graduate and graduate levels; maintenance of demonstration farms and stations for poultry; horticulture, etc.; improvement of seeds, pest protection and other production improvement technologies.

2. Priorities

It is difficult to define government priorities in these areas, since policy decisions appear to be made on an ad hoc basis. Perhaps the best indicator is the allocation of funds by subsector under the first FYDP. The allocations shown below are for some 55 projects and represent 14% of all FYDP public sector expenditures.

Subsector	Total Amount		% of total
	YR millions/US	\$ millions	
Irrigation	710	155	50
(Tihama)	(480)	(110)	34
Livestock	260	60	18
Crops research/training	200	45	14
Rural development	160	35	11
Fisheries	90	20	6
Forestry	20	5	1
TOTALS	1,440	320	100

3. Ag Development Strategy

The YARG's apparent preferred strategy, for agricultural sector development, if not necessarily that of the MAF, is the broadest possible decentralization. Practically all provincial development activities -- far and away the largest in the country -- are semiautonomous, integrated rural development projects operating on their own, with only the most tenuous institutional ties to the MAF in the sense that they all report directly to the Minister. These Rural Development Authorities (RDA) and their activities are funded by several international donors. The two largest RDA's -- the Tihama Development Authority (TDA) and the Southern Uplands Rural Development Project (SURDP) have been in operation for several years and have been very successful. The implications of this strategy/policy for the development of the agriculture sector in Yemen for the long term are clearly ominous, as discussed below.

C. Organizational Structure

1. Central Ministry

The Ministry of Agriculture was first established in 1970. Barely a decade and a half old, it is in a continuing state of flux, growth and change being the norm. Currently (March, 1985), under the Minister and Deputy Minister, it comprises eight general divisions or directorates which are further subdivided into twenty-eight branches or departments, three of which are not yet operational (in the marketing directorate) and two of which may be transformed into separate directorates (i.e. the Extension and Forestry Departments in the General Services Directorate). See Figure 1 on the following page for the current (March, 1985) MAF organizational chart.

Each directorate is controlled by a Director General, although some recently formed directorates have not yet been organized into functional departments or branches, and the assignment of scarce Ministry personnel is highly tenuous with some directorates having virtually no staff.

2. Provincial PAO's and RDA's

The Ministry's mission is further served by several additional components: the Rural Development Authorities mentioned earlier, a series of functioning and planned Provincial Agricultural Offices (PAO's), the Agricultural Research Development Authority (ARDA), and the Cooperative and Agricultural Credit Bank (CACB).

There are 11 PAO's -- one in each of the country's governorates -- and each is intended to be a MAF in microcosm replicating its functions and services in extension, horticulture, animal husbandry, and so on. Of the 11 designated

PAO's, only eight are operational. They are in various stages of development and are staffed and equipped in a very uneven manner. Some PAO's only have one or two staff members while others may have 100 or more. Similarly, some PAO's have no vehicles or transportation available, and thus their extension agents are dependent upon the farmers who come in for help, for transport to their farm/work sites. Other offices have both vehicles and farm equipment for field operations and demonstrations.

3. Chain of Command/Linkages

The PAO's report directly to the Deputy Minister and in some instances to the Minister. Their only linkages with central MAF directorates and departments are informal and coincidental. This decentralization is further compounded by the fact that some PAO's fall under the control of a rural development authority, placing them further from the MAF. For instance, the directors of the Provincial Agricultural Offices in Ibb and Taiz are deputy directors of the Southern Uplands Rural Development Project (SURDP) and report directly to it. The Hodeidah PAO was, until recently, in the same posture vis a vis the Tihama Development Authority. The major PAO at Dhamar previously reported directly to the MAF. However, a new RDA, the Central Highlands Integrated Rural Development Authority (CHIRDA), has recently been set up and the Dhamar as well as the Sana'a PAO has been placed under its control.

4. Operational Control

The three RDA's mentioned earlier, TDA, SURDP, and CHIRDA, are all semiautonomous entities responsible for integrated rural development activities in their respective areas. They are all principally funded by external donors, primarily the IDA and the IFAD, with minority financial and some personnel support from the MAF. The RDA's are typically managed by a governing committee which is usually chaired by the Minister of Agriculture and Fisheries. All RDA's are self-monitoring, conduct their own evaluations of progress, and report directly to the Minister; linkages with central MAF entities are coincidental. It should be noted that the RDA's are well funded, well structured, generally well staffed and function with a high degree of efficiency and effectiveness.

Similarly, the Agricultural Research Development Authority, which is responsible for conducting and/or coordinating all national agricultural research, as well as the Cooperative and Agriculture Credit Bank, is funded by external donors, managed by a governing committee and reports directly to the Minister with only coincidental linkages to MAF directorates.

D. Management and Personnel

1. MAF Operations

The operation of the Ministry follows a variegated pattern. Set up on nominally hierarchial lines -- Minister, Deputy Minister, director generals of divisions and department heads -- the chain of command and authority is by no means consistent. Some department heads report to more than one director general while others have direct access to the Minister and by-pass both their nominal chief, the director general and the Deputy Minister. Similarly, one director general may make operational decisions and give direction in other directorates than his own.

There appear to be no central coordinating mechanisms. General staff meetings at the directorate or departmental level are virtually unknown and when limited staff meetings do occur they are generally unstructured and ad hoc. Reporting procedures within the Ministry are obscure and unstructured. Conversely, the RDA's and PAO's have a consistent and structured monthly and quarterly reporting system which culminates each year within an annual report.

Ongoing Ministry operations seem to be bereft of planning. Activities appear to be reactive to immediate on-the-spot needs, rather than a part of a deliberate and planned program. Decision making is ad hoc and often arbitrary. A notable example during the design team's visit was the decision of the Minister to import a large quantity of tree stock after the President issued a decree proclaiming "the year of horticulture." Reportedly one million dollars worth of young trees were ordered without specific and adequate plans for their handling and distribution having been made. When they began to arrive, the entire Ministry was put to work to dispose of them. There are numerous other examples of the ad hoc nature of MAF decision making.

2. Personnel

The exact number of personnel employed by the MAF is unknown. A manpower survey being conducted by the Core Subproject has encountered a number of delays and reporting difficulties and is still in process. However, the approximate number of job positions is put at 586. Of these, some 369 are assigned to the field (approximately 209 in extension) in the various RDA's and PAO's and another 70 or so are absent in long-term training, meaning that some 147 personnel actually staff the Ministry. As has already been noted, the MAF staff assigned to the RDA's and PAO's are outside the effective control and jurisdiction of the Ministry. An exact tabulation of RDA and PAO personnel has not been undertaken, but it should be noted that the Hodeidah PAO has a staff of 96, Dhamar 23, Ibb 62, and Taiz 83. The Southern Uplands Rural Development Project has more than twice the number of effective MAF personnel with a staff of approximately 402.

3. Personnel Skills

Staff qualifications are similarly disparate. The Agricultural Research Authority in Taiz has 9 PhD's and 23 MS candidates in training, more than double the number in the central ministry. The formal education level of MAF personnel is generally low, reflecting the situation of the community at large. This obviously has very critical implications. For example, in the Key Planning and Statistics Directorate which has a total staff of 22, there are 2 MS holders, 7 with BS degrees, 5 with some university experience, and 8 with only secondary or intermediate school diplomas. Similarly striking

is the education level in the Directorate of Finance and Administration. With a total staff of 39, there is not a single holder of a BS or higher degree. One staff member has a diploma in practical horticulture, while the rest have only completed secondary or intermediate school.

Staff qualifications in the RDA's are of a considerably higher general level. This is due in large part to the fact that these donor-funded projects invariably pay higher salaries than the MAF. Similarly, MAF staff seconded to an RDA or an RDA-managed PAO has his salary "topped off" by the project. Thus, the best qualified and educated ministry staff are drawn away by the agricultural development projects in the governorates.

4. Staff Development/Advisors/Counterparts

The shortage of central Ministry staff has had a negative impact on attempts to improve its managerial and operational capabilities. For instance, senior and midlevel personnel have been assigned as counterparts to expatriate expert advisors. In some instances they are either under-qualified to work in the advisor's area of specialization or too busy to be able to devote the time required to working with the advisor. Similarly, many Yemeni counterparts are so busy with their assigned duties that they cannot participate in short- or long-term training programs which would improve their skills. This situation is further compounded by the tendency of Yemeni counterparts to see the advisors as additional staff to be employed in operational rather than advisory roles. This may derive, in part, from the fact that for several years the World Bank supplied a number of Arabic-speaking advisors who were actually responsible for the conduct of a number of Ministry functions and operations. This lack of understanding of the role and function of counterparts by the Ministry in general, and the individuals assigned to this function in particular, is a serious handicap to the advisory consultant services effort. More appropriate advisor/counterpart pairings must be made with all parties aware of and sensitive to the role to be fulfilled by each.

E. MAF Development Capabilities

1. General

The ability of the MAF to develop and implement large-scale agricultural development programs is highly problematical. The Ministry lacks both adequate funds and personnel to maintain efficiently the level of service which it is presently mandated to provide. A senior international civil servant in an RDA with long experience of the Yemen agricultural sector described it as having a strong body (the RDA's and PAO's) and a weak head (the MAF). The design team found this description rather apt.

The Ministry is striving to improve its operations and increase its capabilities. A number of MAF personnel are currently in long-term training and their return, beginning in 1986, will certainly improve the Ministry's manpower resources. However, it is questionable as to whether this will be sufficient in terms of timeliness and numbers to significantly impact upon MAF performance capabilities.

2. Policy Constraints to MAF Development

The structure of the Ministry, as well as the communications and management anomalies mentioned above, are severe constraints to increasing/developing MAF capabilities. The design team was informed that the statistics and planning units of the Ministry do not have sufficient funds to conduct the research required for the preparation of the next Five-Year Development Plan which is due to begin in 1987. There is no indication that these funds will be forthcoming.

The YARG/MAF penchant or policy of decentralized development activities does little to enhance central Ministry capabilities. On the contrary, it is the RDA's who are enhancing and institutionalizing their agricultural development capabilities. This "laissez faire" policy on the part of the government seems to be functioning well at the moment. However, it is worrisome to consider what will happen when donor support for the RDA's and PAO's expires. Under its present structure and with the resources presently available to it, the MAF would be sorely pressed to absorb the trained staff working in the governorates or to continue the successful integrated rural development projects currently under way there.

3. Operational Orientation

The agricultural policy of the government and the MAF is production rather than development-oriented. The government appears to be primarily interested in the bottom line. Its concern is with production and quantities, with the "what" and "how much" considerations of agricultural sector interventions rather than the "how to do it" and "where does it fit" in an overall development plan. This is the case for the USAID-supported poultry and horticulture projects, as well as numerous projects of other donors. The YARG seems to be interested primarily in production operations rather than institution building.

4. MAF/Agriculture Sector Linkages

The basic linkage between the MAF and the agricultural sector, residing as it does in the person of the Minister, is inadequate. The Ministry has little direct or indirect control over the RDA'S except through the liaison/coordinating function of the Minister. MAF linkages to the PAO's are more direct and stronger with the exception of those under the control and

management of the RDA's. There is no indication that there will be any stronger linkages with the nascent Faculty of Agriculture presently being developed with USAID support at Sana'a University. It is planned that the new faculty will be supported by an interministerial advisory committee (under the Minister of Education), which will have MAF representation.

F. Increasing MAF Capabilities

1. Basic Operational Changes

A number of things will have to occur before MAF capabilities can be substantially increased and before it can be judged able to effectively develop and manage national agricultural development programs. Some of these changes will be more easily accomplished than others. Inasmuch as a number of these are systemic, they will more than likely have to occur over an extended period of time.

First, there will have to be a shift in MAF/YARG focus as regards developing its own institutional capabilities, rather than simply delegating operational responsibilities to the RDA's and other donor-identified, -designed, -funded, and -implemented projects. In other words, MAF staff must learn to do these things themselves. Primordial to this process is the desire and conscious decision to undertake it.

Secondly, better structuring of the MAF must be accomplished to allow it to function more efficiently. The number of projects it undertakes must be aligned with its ability to administer and implement them. Similarly, the number of directorates and departments must be in function of the Ministry's ability to staff and operate them efficiently. Better management and communication practices must be undertaken with a consistent chain of command for the application of authority and fulfillment of responsibilities.

2. Upgrading Staff Capabilities

Staff skills must be improved and upgraded. A combination of short- and long-term training is already being undertaken in response to this situation. Continued and improved cooperation by the Ministry in releasing officials for training is necessary for this effort to succeed.

Present efforts to improve Ministry management and operational capabilities, through the technological transfers inherent in the advisor/counterpart program, do indeed contribute to the success of this process. Improved advisor/counterpart effectiveness through better definition and fulfillment of their roles, is needed. It is feasible and desirable that many areas of MAF capability can be enhanced in the second phase of the ADSP and Core Subproject through the application of the proposed new project assistance.

ANNEX F
Draft Partial Work Plan
October 1, 1985 - September 30, 1986

A. Introduction

Over the past five years the Core Subproject has become established and achieved a degree of institutional maturity. With the establishment of that reputation come certain responsibilities and expectations. Thus during year six of the ADSP Program, the Core Subproject will be involved in the following major activities: (1) provide administrative, logistic and technical support for the overall ADSP Program; (2) provide highly qualified technical management advisors to the MAF; (3) provide subproject initiation/pre-implementation services for the Faculty of Agriculture and the Irrigated Farm Practices Subprojects; (4) provide degree and non-degree training to MAF and other program related personnel; (5) provide professional insights to the MAF and USAID in project identification, design and pre-implementation; (6) provide monitoring and update studies to continually refine the agricultural sector analysis; (7) in cooperation with USAID, participate in providing leadership to overall coordination of the ADSP; and (8) provide appropriate technical assistance to the MAF and agriculture sector to facilitate overall agricultural development.

Section B of the work plan identifies the outputs to be achieved during the sixth year of the Core Subproject. Section C contains a description of the tasks to be accomplished during the year. Section D lists the inputs required during the period, and Section E contains a job description for key personnel. The final section details the Core Subproject budget for the period October 1, 1985 to September 30, 1986.

B. Outputs

During the sixth year of the Core Subproject, the contractor is scheduled to make the following progress toward achieving the output goals of the ADSP Program.

1. Administrative, logistical and technical support to the overall ADSP Program.

The Program includes subprojects in support of poultry production, horticultural production, secondary education, and a Faculty of Agriculture in addition to a group of advisors serving within the MAF. In order for these activities to proceed in an orderly fashion, the Core Subproject provides secretarial services, transport, procurement, warehousing, expediting, local hire and accounting services. Procedures for providing these services have been developed and will be further refined during the subproject year.

2. Technical-Management Advisors

The Subproject provides ten agricultural advisors to serve within the MAF. These advisors have established direct working relationships with their counterparts in the process of institution building and professional development. Both training and operational assistance is provided. In addition, the advisors shall participate in a positive manner in the individual subprojects as their technical expertise has direct application. This latter function is particularly prominent in the roles of the training advisor and the extension communication advisor.

In order to improve advisor effectiveness, the following activities will be initiated this year:

a. An organizational study (O/D) of the MAF will be carried out by a TDY team consisting of an institutional development analyst and a management specialist to identify key target capabilities which must be developed and institutionalized within the Ministry. This O/D study will be used to develop step by step individual work plans and milestones for each advisor.

b. A series of bi-annual, multi-tiered workshops on the principles, parameters, goals and means of institution building will be conducted by TDY personnel for: (1) Core advisor/ADSP personnel; (2) MAF personnel (central and regional); and (3) advisors/counterparts jointly.

c. Similarly, a series of management development workshops will be conducted bi-annually to deal with basic management skills and techniques by teams of TDY experts which will include Arabic speaking trainers and utilize audio/visual materials to the maximum degree possible to minimize the language problems. Each workshop will recapitulate the work covered in the preceding one and gradually increase the level of complexity of the materials and concepts presented. These workshops will be presented as follows: (1) Core advisor/ADSP personnel; (2) MAF personnel (central and regional); and (3) Core advisors/counterparts jointly.

The focus of this training is the development in general of MAF management skills, and the ability in particular to identify, prepare, implement, monitor and evaluate agriculture sector development projects.

3. Subproject Initiation and Preimplementation

Two new subprojects are in the development process. The Faculty of Agriculture Subproject has been designed and approved. As a subproject, it has extensive pre-implementation requirements in terms of participant training, facility design

and construction, and organizational development. The Irrigated Farming Practices Subproject is less well along in the evolutionary process and requires additional project design input before pre-implementation can be started. In the event there are to be substantial pre-implementation activities, new budget allocations would need to be provided, although support staff is already in place.

4. Training of Yemeni Personnel

An inadequate supply of technically trained personnel is regarded as an ongoing restraint to agricultural development in the YAR. During this sixth subproject year the training goal for Core shall be as follows:

	<u>In Training</u>
In-Country Technical/Administrative Training	12
US Short Term Training	10
US Degree (Long Term) Training	36
Third Country (Short Term) Training	10
Third Country Degree (Long Term) Training	22
English Language Training	60

The above figures do not include MAF personnel (central and provincial) and counterparts who will participate in bi-annual management development and institution building workshops as described under 2. above.

5. Subproject Identification, Design and Preimplementation

The overall role of Core as an advisor to MAF places it in an optimal position to identify appropriate new and expanded opportunities to encourage agricultural development in YAR. This is an ongoing and strategic function of the Core advisory team. Position papers and concept documents are the logical output of this function.

6. Agricultural Sector Analysis Updates

The Core Subproject shall provide a monitoring function as well as a facilitating function relative to the agricultural sector within Yemen. This activity will provide an updating of agricultural activity and a measure of changes as they occur within the sector. The output will be an annual analysis of agricultural activity, productivity trends, and ministry functions which can assist in identifying needs and opportunities in a timely fashion.

7. Overall Coordination of the ADSP Program

A key and crucial role of the Core Subproject is participating in providing leadership to integration and coordination of the overall ADSP program. The mechanism for

this coordination is inherent to the Core structure in which the Core Team Leader serves as Program Coordinating Committee Chairman. Other Committee members include the other subproject Team Leaders and the Core Senior Agriculture Advisor, with the Core Chief, Administrative Services and Controller, the USAID ADO, and MAF and MOE representatives as ex officio members. Among the roles of this Committee shall be review of the individual subproject workplans, integration of the workplans, and coordination of the integrated workplans with USAID prior to submission to the YAR government.

8. Technical Assistance to MAF and Agricultural Sector

In addition to those assistance functions outlined above, Core shall have the capability to provide other forms of direct assistance to the MAF, the agricultural sector or other subprojects within ADSP. Examples of these assistance capabilities are: (a) the Core Engineering Assistant skilled in technical or engineering matters; (b) the beekeeping activity leader who has a specialized skill and clientele; (c) the English language teaching specialist who supplements the services of YALI in providing English language training to MAF personnel; and (d) the DLRC advisor and reference librarian who facilitate the functioning of the DLRC during its initial years.

C. Scope of Work

The Core Subproject contractor shall undertake, but not be limited to, performance of the following tasks during the period October 1, 1985 to September 30, 1986.

Task 1 Prepare a three year rolling work plan for the overall ADSP Program which integrates the various subprojects and provides a longer term planning instrument. This document shall be updated annually as part of the preparation of the next year's annual work plan.

A program of this magnitude and complexity can only succeed based upon careful planning and appropriate communication of those plans. This plan should be sensitive to changes which occur in the agricultural sector and within the MAF as trainees return, as well as changes which occur in response to the various subproject activities. The preparation of this planning document shall be the responsibility of the Team Leader.

Task 2 Provide administrative and logistic support to the overall ADSP including each of the subprojects.

In order for expatriate staff to operate effectively in Yemen, a highly effective support structure is critical. The organization to provide these services must be astutely managed, well trained, and highly professional. The services shall be administered by the Core Chief, Administrative

Services, who shall have three sections under his direction. The office services/administrative section shall be responsible for staff recruitment, staff training, the mail pouch, telex and secretarial services. The fiscal management section shall be responsible for overall financial control, local currency accounting, cashier services, bookkeeping, warehousing, inventory, and expediting. The support services section shall be responsible for travel, vehicle maintenance, motor pool, housing, janitorial services, guards, and the maintenance of personnel records.

Task 3 Provide agricultural advisory assistance to the MAF, to the agricultural sector, and to the other subprojects of ADSP.

A team of ten agricultural advisors shall work directly with MAF counterparts, the agricultural sector, and other subproject personnel. The advisory team shall include an Agricultural Planner, a General Agriculture Advisor, a Training Advisor, an Extension Communications Advisor, a Water Use/Management Advisor, a Statistics/Data Management Advisor, and a DLRC Advisor and a librarian. One of these advisors shall be the Senior Agriculture Advisor who shall serve as a member of the ADSP Program Committee. This Senior Agriculture Advisor shall also serve as the Team Leader in his absence.

Task 4 Provide subproject initiation and pre-implementation activities between the time project papers are approved and a subproject team is in place.

The Core Subproject team has the opportunity to initiate new subproject activities prior to a contractor being in place. To do this within the existing staff time constraints will entail the recruitment of appropriate short- to medium-term professional personnel. In the case of the Faculty of Agriculture Subproject, pre-implementation will involve some senior faculty level advisory functions as well as some engineering and architecture functions. The use of short-term personnel is an appropriate response to these preimplementation activities. There will still remain a residual Core activity of two types. One is the administrative/logistic; the other is the philosophical/institutional in which Core establishes a basic approach and maintains quality of inputs until the main TA contractor is in place for the new subproject.

Task 5 Provide training to Yemeni personnel as appropriate for their background and to their projected role within the agricultural sector.

Several options exist for training within the Core Subproject. All of the options must be pursued. A major obstacle to providing US degree training has been the traditional English language proficiency requirement. Some

other alternatives are worthy of pursuit. The observation has been made that the English language skill increment between 450 and 500 as measured by TOEFL is often difficult to achieve in Yemen, living in an Arabic environment. It is proposed that an option should be available to the training advisor. The proposed option is that if a candidate appears otherwise qualified for US degree training, the candidate be sent to the US to receive the final increment of English language training in a formal course where he/she is to matriculate at the same time he/she is being provided basic orientation to US agriculture and the educational system. The Training Advisor should assume responsibility for developing the details of this scheme so it contains a "fail safe" option, in which, if the student does not meet the language requirement for degree training in a timely fashion, non-degree training can be substituted.

Task 6 Agricultural sector monitoring and analysis.

A crucial task of the advisors and the Team Leader is in the area of program analysis, planning and direction. In order for this to be done in a meaningful fashion, a strategy is required which includes extensive data collection over a sufficiently long time to identify trends and inferences. The design of the data base shall be a key responsibility of the Statistical Advisor. Data collection will fall to all of the advisors and to the subproject team leaders. This task, although not sufficient, is necessary to the outputs of future subproject identification, agricultural sector analysis updates, and overall coordination.

D. Resource Requirements

Long term personnel for the Core Subproject team located in Sanaa include the following:

- Core Team Leader, Program Coordinating Committee Chairman
- Senior Agriculture Advisor
- Eight agricultural advisors (presently includes 2 DLRC people)
- Three adjoint advisors
- Chief, Administrative Services
- Controller - Financial Analyst
- Executive Secretary
- Core Engineering Assistant
- English language training specialist
- Two secretaries
- Beekeeping advisor

The Core Chief, Administrative Services supervises a group of local hire employees which includes the following associated with the Core office:

Administrative assistant
Accounting clerk
Cashier
Personnel assistant
Customs expeditor
Secretary/typists (5 FTE)
General clerk/telex operator
Translators (3 FTE)
Janitors (2 FTE)
Guards (2 FTE)
Gardener
Accounting technician
Arabic typists (2 FTE)
Clerk typist

The Chief, Administrative Services also has responsibility for a group of local hire employees associated with the motor pool and warehouse which include:

Motor pool/warehouse assistant
Inventory stock clerk
Auto parts clerk
Warehouseman
Senior mechanic
Mechanics (4 FTE)
Maintenance foreman
Property maintenance man
Dispatcher (2 FTE)
Drivers (20 FTE)
Janitor (4 FTE)
Guards (4 FTE)
Casual labor (3 FTE)

The Core Subproject identifies short term consultants to serve a variety of needs including new subproject design, program enhancement, program review and short term replacement of key individuals while on home leave. It is estimated that 800 person days of TDY effort will be utilized during the 1985-86 work plan year.

On-campus personnel associated with the subproject provide program coordination, relationship with AID/Washington, relationship with other participating universities, technical backstopping, personnel recruiting and support services related to orientation, language training, communication, payroll, procurement, shipping, travel and record keeping. This activity requires 2.5 FTE of professional input, 400 days of short term or part-time assistance, plus 5.0 FTE of classified employee effort.

Commodities necessary to conduct the subproject include 6 new or replacement vehicles, furniture, office equipment, personal computers, spare parts and office supplies.

The Core Subproject has a major training component which involves participant training in the US for both degree and non-degree programs. In addition, there is participant training in Arab countries.

E. Job Descriptions

1. Team Leader/Program Coordinating Committee Chairman

The Team Leader/Program Coordinating Committee Chairman is responsible for the overall ADSP program in Yemen. He will reside in Yemen and be responsible for collaborating with USAID and the YARG on program-wide matters. The government should assign to the Team Leader/Committee Chairman a counterpart of approximately Deputy Minister status to facilitate interaction with the MAF at the policy level. Within the ADSP, the Team Leader/Committee Chairman will serve as head of the Program Committee. The other members will be the Team Leaders of the other subprojects, the Senior Agricultural Advisor, with the Core Chief, Administrative Services and Controller, the USAID ADO, and MAF and MOE representatives as ex officio members. The Committee shall meet regularly and be responsible for matters of program coordination and overall policy. With this structure, the Team Leader/Committee Chairman will maintain an awareness of all subprojects as to status, problem areas and key interactions with YARG and other donor agencies. The Team Leader/Committee Chairman will also be in regular contact with the on-campus Program Coordinator to facilitate stateside support. Administratively, he will report to and be evaluated by the Director of International Agriculture at OSU.

2. Senior Agricultural Advisor

The Senior Agricultural Advisor will be responsible for coordination of the other agricultural advisors including their training, evaluation and overall support within the MAF. He shall have a counterpart at the Directorate level. In addition to providing oversight and coordination to the other advisors, he will also be responsible for the DLRC advisor and the beekeeping activity leader. The Senior Agricultural Advisor will be appointed by the Team Leader from among the advisors available at any point in time. The Senior Agricultural Advisor shall serve as the Deputy Team Leader and act as Team Leader during his absence.

3. Agricultural Advisors

In addition to and coordinated by the Senior Agricultural Advisor shall be five other Agricultural Advisors. The six total advisors (one of which will be Senior Agricultural Advisor) shall include one Agricultural Planner, a Training Advisor, an Extension Communications Advisor, a Water Use/Management Advisor, a Statistics/Data Management Advisor,

and a General Agricultural Advisor. All of these advisors have counterparts within the MAF and specific institution building responsibilities. The Training Advisor has particular and program-wide responsibilities for the recruiting, counselling, processing and monitoring of trainees identified by all of the subprojects. The Training Advisor will keep the appropriate records of trainees from their identification, through language training, their travel, and subsequent training. This advisor shall also maintain communication with the USAID Training Officer with respect to trainee qualifications, travel and performance.

4. Chief, Administrative Services

The Chief, Administrative Services shall be responsible for the administrative and logistic support services. Three major types of services are involved: (a) office services; (b) fiscal management; and (c) support services. Each of these service areas shall be directed by a specialist in the appropriate discipline who is administratively responsible to the Chief, Administrative Services. The Office Services section shall be responsible for local staff recruiting, staff training, the mail pouch, the telex, and supervision of the secretarial staff. The Fiscal Management section shall be responsible for local currency accounting, cashier services, bookkeeping, warehousing, inventory, and expediting. The Support Services section shall be responsible for travel, motor pool operation, vehicle maintenance, housing, and personnel services. Each of the sections shall be headed by a person prepared by virtue of training and experience to fulfill that particular responsibility. In addition, the Chief, Administrative Services shall provide oversight and direction to the Core Engineering Assistant.

5. Program Coordinator (Home Campus)

The Program Coordinator shall be located on the home campus of the Core contractor and shall be responsible for providing stateside support to the Core Subproject, including coordination with other universities involved in the program, and AID/Washington. He shall be in frequent contact with the Core staff and handle long-term personnel recruiting, selection of TDY personnel, and training of project personnel.

6. Support Coordinator

The Support Coordinator shall be the on-campus coordinator of the Chief, Administrative Services and be responsible for stateside communications, procurement, travel, shipping, accounting, telex services, and pouch services.

SUMMARY OF CORE SUBPROJECT BUDGET
FY 1986

=====

DOLLAR BUDGET:

=====

Core Program (Management Support, Advisory Program, DLRC, Other)	\$1,928,021
Participant Training	786,950
Program/Management/Support (Home Campus)	<u>1,387,201</u>
TOTAL DOLLAR BUDGET	<u>4,102,172</u>

LOCAL CURRENCY BUDGET: 2,636,103

TOTAL SUBPROJECT BUDGET: \$6,738,275

=====

BUDGET DISTRIBUTION

FY 1986

Item	Core Direct Program	Overall Program Support
Core Program	\$1,208,432	\$ 625,143
Participant Training	786,950	-0-
Program Management/Support	727,734	681,913
Local Currency	<u>843,553</u>	<u>1,792,550</u>
TOTALS	<u>\$3,638,669</u>	<u>\$3,099,606</u>

=====

DOLLAR BUDGET
 Core Subproject - ADVISORY PROGRAM
 October 1, 1985 to September 30, 1986

I. SALARY AND WAGES IN YEMEN

	<u>Amount</u>
1. Team Leader	\$ 59,000
2. Senior Agricultural Advisor	55,000
3. Agricultural Advisors (5 @ \$50,000)	250,000
4. Adjoint Advisors (3 @ \$40,000)	120,000
5. Chief of Administrative Services	42,400
6. Controller-Financial Analyst	36,600
7. Executive Secretary	21,000
8. DLRC Advisor	42,400
9. DLRC Librarian	32,000
10. Core Engineering Assistant	26,000
11. Beekeeping Activity Leader	32,000
12. English Language Training Specialist	33,000
13. Secretaries (2 @ \$20,000)	<u>40,000</u>
TOTAL SALARIES AND WAGES	<u>\$789,400</u>
Anticipated Lapse Rate	20%
Net Salary Budget	\$631,520

II. FRINGE BENEFITS AND ALLOWANCES

A. Allowances (0.30 x Salaries)	189,456
Post Differential 25%	
Sunday Pay 5%	
B. Fringe Benefits	\$243,158
Academic 0.29 - Classified 0.37	
C. Education Allowance (8 @ \$11,800)	94,400
D. Storage Allowance (15 @ \$1,500)	<u>22,500</u>
TOTAL FRINGE BENEFITS AND ALLOWANCES	<u>\$549,514</u>

DOLLAR BUDGET

Core Subproject - ADVISORY PROGRAM (continued)

October 1, 1985 to September 30, 1986

III. INDIRECT COSTS

0.21 x Salaries, Benefits and Allowances \$270,497

IV. TRAVEL, PER DIEM AND TRANSPORTATION

A. Per Diem - Domestic

1. Team Leader and Advisors 45 days @ \$75 \$ 3,375
2. Recruitment 16 people @ \$75 x 3 days 3,600
3. Orientation AID/W 15 people @ \$75 x 14 days 15,750
4. Language Training 15 people @ \$75 x 42 days 47,250
69,975

B. Travel - Domestic

1. Recruitment 14 people @ \$600 8,400
2. Orientation AID/W 16 people @ \$700 11,200
3. Language Training 16 people @ \$700 11,200
40,000

C. Travel - International

1. Advisors 4 @ 2,500 10,000
2. Team Leader 2 @ 2,500 5,000
25,000

D. Transportation

1. New Personnel HHG and Vehicle 6 @ \$11,800 70,800

TOTAL TRAVEL, PER DIEM & TRANSPORTATION \$185,575

V. EXPAT. REPLACEMENTS FOR MAF TRAINEES (3 @ \$35,000) \$105,000

VI. EXPENDABLE EQUIPMENT AND MATERIALS

A. Office Supplies \$10,000
B. Equipment Spare Parts 10,000
C. Vehicle Spare Parts 30,000
D. Tools 10,000

TOTAL EXPENDABLE EQUIPMENT AND MATERIALS \$60,000

116

DOLLAR BUDGET

Core Subproject - ADVISORY PROGRAM (continued)

October 1, 1985 to September 30, 1986

VII. NON-EXPENDABLE EQUIPMENT AND MATERIALS

A. Computer and Software	\$110,000
B. Household Furniture	40,000
C. Office Furniture and Equipment	30,000
D. Shop and Warehouse Equipment	10,000
E. New and Replacement Vehicles (6)	80,000
F. Books and Reference Materials	<u>15,000</u>
Total Non-Expendable Equipment & Materials	<u>\$285,000</u>

TOTAL CORE ADVISORY PROGRAM DOLLAR BUDGET \$2,195,153

DOLLAR BUDGET

Core Subproject - PARTICIPANT TRAINING
October 1, 1985 to September 30, 1986

I. DEGREE TRAINING

A. PhD Programs - US		
6 Participants @ \$22,000		\$132,000
B. MS Programs - US		
8.5 Participants @ \$22,000		157,000
C. BS Programs - US		
7.5 Participants @ \$22,000		150,000
D. BS Programs - Arab Countries		
2.2 Participants @ \$6,000		<u>132,000</u>
TOTAL DEGREE TRAINING		<u>571,000</u>
Anticipated Lapse Rate		30%
Net Degree Training Cost		\$399,700

II. SHORT TERM TRAINING

A. USDA and Similar Courses		
10 Participants - 1.5 mo. @ \$3,800/mo.		\$57,000
B. Arab Country Short Courses		
5 Participants - 1.5 mo. @ \$1,100/mo.		8,250
C. Arab Country Technical Training		
15 Participants - 1 year @ \$6,000/year		<u>90,000</u>
TOTAL SHORT TERM TRAINING		<u>\$155,250</u>

III. IN-COUNTRY TRAINING COURSES AND SEMINARS \$200,000

IV. TRAVEL AND TRANSPORTATION

A. PhD Programs - US, One Way Travel - 1 @ \$1,000		\$ 1,000
B. MS Programs - US, One Way Travel - 5 @ \$1,000		5,000
C. BS Programs - US, One Way Travel - 6 @ \$1,000		6,000
D. BS Programs - Arab Countries		
One Way Travel - 14 @ no cost to project		-0-

DOLLAR BUDGET

Core Subproject - PARTICIPANT TRAINING (continued)

October 1, 1985 to September 30, 1986

E. Short Term Training

Round Trip to US - 10 @ \$2,000 20,000

Round Trip to Arab Countries

10 @ no cost to proj.

-0-

TOTAL TRAVEL AND TRANSPORTATION

\$32,000

TOTAL PARTICIPANT TRAINING

\$786,950

DOLLAR BUDGET - Core Subproject
PROGRAM & MANAGEMENT SUPPORT TO MAF (Home Campus)
October 1, 1985 to September 30, 1986

I. SALARY AND WAGES

A.	Program Coordinator (1.0 FTE)	\$ 56,000
B.	Support Coordinator (1.0 FTE)	56,000
C.	Secretaries (2.0 FTE)	36,000
D.	Support Staff (3.0 FTE)	54,400
	1. Personnel Officer	
	2. Procurement	
	3. Travel Clerk	
	4. Shipping Expeditor	
	5. Accountant	
	6. Pouch	
F.	Backstopping	
	1. DLRC Backstop (0.3 FTE)	16,000
	2. Irrigation Backstop (0.2 FTE)	12,000
	3. Unspecified Technical Backstop (0.5 FTE)	30,000
G.	TDY's (\$200/day) x 800 days	160,000
	1. IFP Design & Preimplementation Team (250)	
	2. Unspecified Consultation/Advisory Service to MAF (550)	
	TOTAL SALARIES AND WAGES	<u>\$420,400</u>
	Academic \$350,000	
	Classified \$90,400	

II. FRINGE BENEFITS

A.	Allowances for TDY's (0.30 x salaries)	48,000
	1. Post Differential 25%	
	2. Sunday Pay 5%	
A.	Academic Fringe Benefits & Allowances (0.29 x \$378,000)	\$109,620
B.	Classified Fringe Benefits (0.37 x \$90,400)	33,450
	TOTAL FRINGE BENEFITS AND ALLOWANCES	<u>\$191,070</u>

10/1

DOLLAR BUDGET - Core Subproject
PROGRAM & MANAGEMENT SUPPORT TO MAF (Home Campus) (cont.)
 October 1, 1985 to September 30, 1986

III. INDIRECT COSTS

0.34 x (\$420,400 + \$191,070) \$207,900

IV. SERVICES

Recruiting Costs, 5% of Off-Campus Academic Salaries

0.05 x (\$860,000 + \$160,000) \$51,000

V. PER DIEM, TRAVEL AND TRANSPORTATION

A. Per Diem - Domestic

1. Coordinators - 60 @ \$75 \$ 4,500

2. Backstoppers - 12 @ \$75 900

B. Per Diem - International

1. Coordinators - 60 @ \$95 5,700

2. TDY - 800 @ \$95 76,000

C. Travel - Domestic

1. Coordinators - 15 @ \$700 10,500

2. Backstoppers - 3 @ \$700 2,100

D. Travel - International

1. Coordinators - 5 @ \$2,500 12,500

2. TDY's - 25 @ \$2,500 62,500

E. Transportation

1. Commodities - 0.55 x \$500,000* 275,000

2. Air Freight - 15 @ \$500 7,500

3. Pouch Service 30,000

TOTAL PER DIEM, TRAVEL & TRANSPORTATION \$487,200

VI. EXPENDABLE EQUIPMENT AND SUPPLIES

A. Office Supplies \$ 5,000

B. Communications 10,000

TOTAL EXPENDABLE EQUIPMENT AND SUPPLIES \$15,000

DOLLAR BUDGET - Core Subproject
PROGRAM & MANAGEMENT SUPPORT TO MAF (Home Campus) (cont.)
October 1, 1985 to September 30, 1986

VII. ADDITIONAL PROGRAM INITIATIVES & REQUIREMENTS

A. Private Sector Technological & Business Organization Consultants	\$100,000
B. Evaluations	<u>-0-</u>
TOTAL ADDITIONAL PROGRAM INITIATIVES	<u>\$100,000</u>

TOTAL PROGRAM/MANAGEMENT/SUPPORT \$1,472,570

*Includes commodities shipped for other subprojects.

LOCAL CURRENCY BUDGET (USD)

I. SALARIES AND WAGES

A. Office

1. Co-Manager	\$ 24,000
2. Administrative Assistant	16,000
3. Accounting Clerk	16,000
4. Cashier	12,000
5. Personnel Assistant	11,000
6. Purchasing	12,000
7. Customs Expeditor	15,000
8. Secretary-Typists (6 FTE incl. DLRC)	67,000
9. General Clerk/Telex Operator	9,000
10. Translators (3 FTE)	57,000
11. Janitors (2 FTE)	8,000
12. Guards (2 FTE)	8,000
13. Gardener	8,000
14. Accounting Technician	16,000
15. Arabic Typist (2 FTE)	20,000
16. Clerk/Typist	<u>10,000</u>
Subtotal	309,000

B. Motor Pool and Warehouse

1. Motor Pool-Warehouse Assistant	16,000
2. Inventory Stock clerk	14,000
3. Auto Parts Clerk	14,000
4. Warehouseman	5,000
5. Senior Mechanic	16,000
6. Mechanic (4 FTE)	35,000
7. Maintenance Foreman	17,000
8. Property Maintenance Man	17,000
9. Dispatcher (2 FTE)	28,000
10. Drivers (16 FTE)	180,000

176

LOCAL CURRENCY BUDGET (USD) (cont.)

11. Janitors (4 FTE)	32,000
12. Guards (4 FTE)	32,000
13. Casual Labor (4 FTE)	<u>20,000</u>
Subtotal	426,000
SUBTOTAL	<u>\$735,000</u>
Anticipated Lapse Rate	20%
Net Salary Subtotal	\$588,000

SUBTOTAL, Base Salary Estimate \$588,000

C. Fringe Benefits	
1. Ramadan Bonus (0.0833 x \$624,750)	48,980
2. Severance Pay (0.0833 x \$624,750)	<u>48,980</u>
TOTAL SALARIES, WAGES & FRINGE BENEFITS	<u>\$685,960</u>

II. OPERATIONS

A. Office	
1. Utilities	\$ 12,000
2. Communications	30,000
3. Rent	85,000
4. Maintenance and Repairs	26,000
5. Printing	<u>15,000</u>
Subtotal	168,000

B. Vehicles	
1. Gasoline and Oil	96,000
2. Insurance and License	36,000
3. Spare Parts and Tires	30,000
4. Outside Services	<u>5,000</u>
Subtotal	167,000

171

LOCAL CURRENCY BUDGET (USD) (cont.)

C. Housing	
1. Rent	0,000
2. Utilities	8,000
3. Maintenance	0,000
4. Retrofitting	<u>8,000</u>
Subtotal	386,000
D. Warehouse	
1. Small Tools and Supplies	10,000
2. Road and Yard Maintenance	6,000
3. Warehouse and Shop Renovation	<u>6,000</u>
Subtotal	<u>22,000</u>
TOTAL OPERATIONS	<u>\$743,000</u>

III. TRAVEL, TRANSPORTATION AND PER DIEM

A. Travel - In-Country	
1. Team Leader - 12 @ \$50	\$ 600
2. Co-Manager - 12 @ \$50	600
3. DLRC Advisor & Librarian - 12 @ \$50	600
4. Advisors & Adjoint Advisors - 7 x 10 x \$50	3,500
5. Other	<u>3,500</u>
Subtotal	8,800
B. Travel - International (US)	
1. Co-Manager - 1 @ \$2,500	2,500
2. End of Tour, 24 Persons	30,000
3. Short Course travel - 5 @ \$2,500	<u>12,500</u>
Subtotal	45,000

LOCAL CURRENCY BUDGET (USD) (cont.)

C.	Per Diem - In-Country @ \$95/Day	
	1. Team Leader - 36 days	3,420
	2. Co-Manager - 36 days	3,420
	3. Beekeeping - 60 days	5,700
	4. Executive Officer - 20 days	1,900
	5. 7 Advisors @ 24 days each	15,960
	6. Core Technician - 30 days	2,850
	7. DLRC Advisor - 40 days	3,800
	8. Unspecified - 80 days	7,600
	9. Drivers -200 days	<u>19,000</u>
	Subtotal	63,650
D.	Per Diem - International	
	1. Co-Manager - 30 @ \$75	2,250
	2. Unspecified - 40 @ \$75	<u>3,000</u>
	Subtotal	5,250
E.	R & R Travel	
	30 Persons @ \$1,500	45,000
F.	Temporary Living Allowance	-0-
G.	Transportation	
	1. HHG & Vehicles (End of Tour)--8 @ \$11,800	\$ 94,400
	2. Project Commodities	<u>46,000</u>
	TOTAL TRAVEL, TRANSPORTATION & PER DIEM	<u>\$308,100</u>
IV.	TRAINING	
	A. English Language Training (YALI)	\$ 55,000
	B. English Language Training (MAF)	20,000
	C. Arabic Language Training	12,000
	D. Inservice - Advisors	<u>7,000</u>
	TOTAL TRAINING	<u>\$ 94,000</u>

LOCAL CURRENCY BUDGET (USD) (cont.)

V. EXPENDABLE EQUIPMENT AND MATERIAL

A. Office	
1. Supplies	\$ 25,000
2. Equipment	20,000
B. Warehouse - Supplies	10,000
C. Training	<u>10,000</u>
TOTAL EXPENDABLE EQUIPMENT AND MATERIALS	\$ <u>65,000</u>

VI. NON-EXPENDABLE EQUIPMENT AND MATERIALS

A. Office Furniture	\$ 20,000
B. Office Equipment	20,000
C. Office Remodeling	15,000
D. Housing/Furniture	50,000
E. Advisor Program/Equipment - 10 @ \$30,000	300,000
F. Short Term Specialists Program/Equipment 10 @ \$10,000	100,000
G. Motor Pool Equipment	<u>10,000</u>
TOTAL NON-EXPENDABLE EQUIPMENT & MATERIALS	\$ <u>515,000</u>

VII. OTHER DIRECT COSTS

A. Pouch Service	\$20,000
B. Printing	4,000
C. Equipment Maintenance	24,000
D. Computer Services	<u>14,000</u>
TOTAL OTHER DIRECT COSTS	\$ <u>62,000</u>

TOTAL LOCAL CURRENCY BUDGET

\$2,473,060

ANNEX G

FINANCIAL ANALYSIS AND BUDGET FOR SUBPROJECT

This annex details the financial inputs necessary to conduct the Core Subproject as described in this Subproject Paper. All Subproject budget calculations are based on the policy that the Contractor will not receive any logistical support from USAID/Yemen or other components of the US Mission, whether in-kind or on a cost-reimbursable basis.

In computing subproject costs, the procedure used has been to calculate full costs of the operation using constant dollars and thus adjusting for inflation, contingencies and lapse rates. In the draft work plan, consistent with other draft work plans the team has reviewed, corrections for inflation and contingencies have not been made. However, lapse rates have been included. The five year budget included in this annex does include adjustments for inflation, contingencies and lapse rates.

Varying inflation rates have been used for different component costs of the project. For all US procurement of goods and services, a six percent inflation rate has been used. This is a conservative estimate which allows for approximately current and near term projected inflation rates for the US. For third country training, a six percent inflation rate has also been used. While inflation rates in the countries most frequently used for third country training of Yemeni agriculturists, Egypt and Jordan, may well be anticipated in both countries, Government policies with respect to moderating education costs increases would appear to make a six percent cost increase projection reasonable.

The inflation rate used for local currency costs in Yemen was computed in the following manner. The evidence appears to indicate, and it is by no means firm, that the current inflation rate is around 25 percent. However, the Yemen Rial has been depreciating against the dollar because of balance of payment problems. Over the past six months, the Rial has depreciated by 12.5 percent. With one exception noted below, there is little reason to expect that the Rial will not continue to depreciate. Therefore, we are using an inflation rate at about one-half of the estimated inflation rate of 25 percent. This rate is 13 percent. The inflation rate applied to local personnel is set at a lower rate than the general inflation rate less the increase in the value of the Dollar to the Rial. This accords with current US Government theory and practice of setting wage and salary cost-of-living adjustments below the rate of inflation. The inflation rate used for personnel costs is 10 percent, 3 percent below the general inflation rate used in this paper for Yemen. The one factor

which might affect the depreciation of the dollar would be oil. If the recent discovery of oil proves to have substantial commercial value on the international market, then the Rial would probably stabilize or might appreciate. This, of course, is all very "iffy" and in the future. If such good fortune comes the Yemenis' way, then the US would probably discontinue financing local costs and the inflation rate would become moot.

Both a lapse rate and a contingency factor have been used in computing project costs. The lapse rate is used for long term field personnel and related costs, and participant training. It is similar in concept to the occupancy rate in a hotel. Experience has shown that over a five year span it can be expected that the vacancy rate for subproject staff positions in the field will average in excess of twenty percent. We have, therefore, applied a 20 percent lapse rate for all long term field personnel, American and local, and associated costs such as overhead. Similarly, for a variety of reasons discussed in other parts of the paper, participant training consistently lags substantially behind plans. As there does not appear to be any good reason to believe this will change substantially in the near future, we have applied a 30 percent lapse rate to participant training.

For the remainder of project costs, we have applied a contingency amount of minus 12 percent. This minus contingency amount is based on subproject implementation performance to date. Examination of the expenditure rate (actual expenditures as a percentage of planned expenditures) shows that over the four and a half year period, FY 81 to mid FY 85, the expenditure rate has averaged nearly 65 percent with an irregular but noticeable upward trend. For FY 85, it appears that actual expenditures will total between 75 and 80 percent of planned expenditures. Based on historical expenditure patterns and trends, the contingency amount has been conservatively estimated for this subproject at 12 percent.

In sum, project costs have been adjusted in the following manner:

<u>Inflation</u>	- US Costs	6 percent
	- Third Country Participants	6 percent
	- Local Costs	13 percent
<u>Lapse Rate</u>	- Field Personnel	20 percent
	- Participant Training	30 percent
<u>Contingency</u>	- All Other Costs	12 percent

US technician cost estimates are based on the experience of the contractor over the past five years and the policy of the contracting institution in terms of fringe benefits and salary adjustments for international involvement. Short-term and

consultant personnel costs are based on current reasonable salary levels, current travel and transportation rates and current rates of per diem.

Housing costs for personnel assigned to Yemen are based on the experience of the Contractor over the past five years in providing rental apartments and houses for US-hired employees.

Miscellaneous costs including shipment of household goods and vehicles, medical evacuations and emergency travel are based on the experience of the contractor and are detailed in the attached tables.

The Participant Training budget is designed to provide the total trained manpower pool to the MAF as outlined elsewhere in this SPP. The design team is aware of the difficulties inherent in recruiting appropriate trainees, meeting the English language requirements, and gaining their release from normal responsibilities. The budget is intended to provide maximum flexibility to the contractor in shifting between training categories in response to the availability of participants and manpower needs within the MAF.

Method of Implementation and Financing

<u>Method of Implementation</u>	<u>Method of Financing</u>	<u>Appropriate Amount (\$000)</u>
Dollar Budget:		
T.A., Participant Training & Commodities	LOC - University Contractor	24,077
Local Currency:		
T.A., Training and Commodities	Direct Reimbursement University Contractor	14,326
<u>Total Project:</u>		38,404

This project will be implemented using the direct reimbursement and letter of credit methods of financing. Both methods of financing were chosen because they offer the Mission the greatest degree of control over project expenditures in addition to being prescribed in the general policies of the Agency for International Development as preferred methods of financing.

1797

TABLE 6-1
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - AID BUDGET SUMMARY

COST ELEMENT	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL	ROUNDED
						COST	TOTALS
							(\$000)
Core Team Payroll - Table 6-2	1,364,859	1,388,877	1,506,467	1,611,843	1,708,711	7,580,957	7,521
TDY Payroll - Table 6-3	257,990	273,567	289,874	307,154	325,652	1,454,237	1,454
TDY Int'l Travel - Table 6-4	129,193	136,993	145,159	153,813	163,075	728,233	728
On-Campus Payroll - Table 6-5	428,919	454,815	481,926	510,656	541,408	2,417,724	2,418
Other On-Campus Costs - Table 6-5	567,103	800,157	637,189	898,396	715,835	3,618,680	3,619
Core Academic Training Costs - Table 6-6	439,700	523,150	642,854	847,718	920,140	3,373,562	3,374
In-Country Training Costs - Table 6-6	200,000	212,000	224,472	238,202	252,495	1,127,169	1,127
Core Short-Term Training Costs - Table 6-6	175,250	151,400	157,954	164,662	134,207	783,473	793
Travel & Commodities - Table 6-7	539,158	583,383	612,917	610,586	647,357	2,993,401	2,993
SUBTOTALS - DOLLAR COSTS	4,102,172	4,524,342	4,698,812	5,343,030	5,409,080	24,077,436	24,077
Local Hire Payroll - Table 6-8	754,557	830,013	913,014	1,004,247	1,105,083	4,606,914	4,607
Other Costs - Table 6-9	1,556,180	1,511,457	1,415,872	1,585,012	1,791,161	7,869,682	7,870
Core Travel, Per Diem & Transportation - Table 6-10	315,366	340,479	367,928	397,128	428,957	1,849,858	1,850
SUBTOTALS - LOCAL CURRENCY COSTS (US \$ EQUIVALENT)	2,636,103	2,681,949	2,696,814	2,986,387	3,325,201	14,326,454	14,326
TOTAL COSTS	6,738,275	7,206,291	7,395,626	8,329,417	8,734,281	38,403,890	38,404
ROUNDED TOTALS (\$000)	6,738	7,206	7,396	8,329	8,734	38,404	38,404

TABLE 6-2
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - US PAYROLL COSTS

CORE TEAM PAYROLL	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL PAYROLL
Team Leader	\$ 59,000	\$ 59,000	\$ 59,000	\$ 59,000	\$ 59,000	
Senior Agricultural Advisor	55,000	55,000	55,000	55,000	55,000	
Agricultural Advisors	250,000	250,000	300,000	350,000	350,000	
Adjoint Advisors	120,000	120,000	120,000	120,000	120,000	
Chief of Administrative Services	42,400	42,400	42,400	42,400	42,400	
Controller/Financial Analyst	36,600	36,600	36,600	36,600	36,600	
Executive Secretary	21,000	21,000	21,000	21,000	21,000	
DLRC Advisor	42,400	42,400	42,400	-0-	-0-	
DLRC Librarian	32,000	32,000	-0-	-0-	-0-	
Core Engineering Assistant	26,000	26,000	26,000	26,000	26,000	
Beekeeping Activity Leader	32,000	-0-	-0-	-0-	-0-	
English Language Specialist	33,000	33,000	33,000	33,000	33,000	
Secretaries @ \$20,000	40,000	40,000	40,000	40,000	40,000	
SUBTOTAL	789,400	757,400	775,400	783,000	783,000	
Academic	728,400	696,400	714,400	722,000	722,000	
Classified	61,000	61,000	61,000	61,000	61,000	
Post Differential 25% - Sunday Premium 5%						
Academic	218,520	208,920	214,320	216,600	216,600	
Classified	18,300	18,300	18,300	18,300	18,300	
SUBTOTAL - Academic	946,920	905,320	928,720	938,600	938,600	
Classified	79,300	79,300	79,300	79,300	79,300	
Fringe Benefits - Academic 29%	274,607	262,543	269,329	272,194	272,194	
Classified 37%	29,341	29,341	29,341	29,341	29,341	
SUBTOTAL	1,330,168	1,276,504	1,306,690	1,319,435	1,319,435	

TABLE 8-2 (Continued)
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - US PAYROLL COSTS

CORE TEAM PAYROLL	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL PAYROLL
Anticipated Lapse Rate	0.20	0.20	0.20	0.20	0.20	
Net Salary & Fringe Benefit Reduction	266,034	255,301	261,338	263,887	263,887	
SUBTOTAL	1,064,134	1,021,203	1,045,352	1,055,548	1,055,548	
Inflation Factor	0.060	0.124	0.191	0.262	0.338	
6% Inflation	63,848	126,629	199,662	276,554	356,775	
SUBTOTAL	1,127,982	1,147,832	1,245,014	1,332,102	1,412,323	
21% Off-Campus Overhead	236,876	241,045	261,453	279,741	296,588	
TOTAL CORE TEAM PAYROLL	1,364,859	1,388,877	1,506,467	1,611,843	1,708,911	7,580,957

TABLE G-2A
 Agricultural Development Support Program (Project 279-0052)
 CORE SUBPROJECT

CORE TEAM PAYROLL COST INPUT UNITS

Core Team - Person Years	FY 86	FY 87	FY 88	FY 89	FY 90
Team Leader	1	1	1	1	1
Senior Agricultural Advisor	1	1	1	1	1
Agriculture Advisors	5	5	6	7	7
Adjoint Advisors	3	3	3	3	3
Chief, Administrative Services	1	1	1	1	1
Controller/Financial Analyst	1	1	1	1	1
Executive Secretary	1	1	1	1	1
DLRC Advisor	1	1	1	0	0
DLRC Librarian	1	1	0	0	0
Core Engineering Assistant	1	1	1	1	1
Core Beekeeping Person	1	0	0	0	0
English Lang. Training Spec.	1	1	1	1	1
Secretary	2	2	2	2	2

Core Team - Salaries	USD/FTE
Team Leader	\$59,000
Senior Agricultural Advisor	55,000
Agricultural Advisor	50,000
Adjoint Advisor	40,000
Chief, Administrative Services	42,400
Controller/Financial Analyst	36,600
Executive Secretary	21,000
DLRC Advisor	42,400
DLRC Librarian	32,000
Core Engineering Assistant	26,000
Core Beekeeping Person	32,000
English Language Training Specialist	33,000
Secretary	20,000

TABLE B-3
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - TDY PAYROLL COSTS

TDY SPECIALISTS	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL PAYROLL
TDY Salaries @ \$200/day	160,000	160,000	160,000	160,000	160,000	
Fringe Benefits @ 29%	46,400	46,400	46,400	46,400	46,400	
SUBTOTAL	206,400	206,400	206,400	206,400	206,400	
Compounded Inflation Rate 6% P.A.	12,384	25,594	39,422	54,077	69,763	
SUBTOTAL	218,784	231,994	245,822	260,477	276,163	
Contingency - Minus 12%	26,254	27,839	29,499	31,257	33,140	
SUBTOTAL	192,530	204,154	216,324	229,220	243,024	
34% On-Campus Overhead	65,460	69,412	73,550	77,935	82,628	
TOTAL TDY PAYROLL	257,990	273,567	289,874	307,154	325,652	\$1,454,237

TABLE B-3A
 TDY PAYROLL COST INPUT UNITS

	FY 86	FY 87	FY 88	FY 89	FY 90
Number of Persons	25	25	25	25	25
Number of Days	800	800	800	800	800
Number of Round Trips	25	25	25	25	25
Number of Days Per Diem	800	800	800	800	800

184

TABLE G-4
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - TDY TRAVEL AND TRANSPORTATION COSTS

TDY's	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
Round Trips @ \$2,500	\$ 62,500	\$ 62,500	\$62,500	\$62,500	\$62,500	
Per Diem @ \$95	76,000	76,000	76,000	76,000	76,000	
SUBTOTAL	138,500	138,500	138,500	138,500	138,500	
Inflation Factor	0.060	0.124	0.191	0.262	0.338	
Inflation	8,310	17,174	26,454	36,297	46,813	
SUBTOTAL	146,810	155,674	164,954	174,787	185,313	
Contingency - Minus 12%	17,617	18,681	19,794	20,974	22,238	
TOTAL TDY TRAVEL AND TRANSPORTATION	\$129,193	\$136,993	\$145,159	\$153,813	\$163,075	\$728,233

1857

TABLE B-5
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - ON-CAMPUS PROGRAM AND TECHNICAL SUPPORT COSTS

I. ON CAMPUS PAYROLL	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
Program Coordinator 1 @ \$56,000	\$ 56,000	\$ 56,000	\$ 56,000	\$ 56,000	\$ 56,000	
Support Coordinator 1 @ \$56,000	56,000	56,000	56,000	56,000	56,000	
Secretaries 2 @ \$18,000	36,000	36,000	36,000	36,000	36,000	
Support Staff 3 @ \$18,133	54,400	54,400	54,400	54,400	54,400	
Backstopping 1 @ \$58,000	58,000	58,000	58,000	58,000	58,000	
SUBTOTAL	260,400	260,400	260,400	260,400	260,400	
Academic	170,000	170,000	170,000	170,000	170,000	
Classified	90,400	90,400	90,400	90,400	90,400	
Fringe Benefits: Academic 29%	49,300	49,300	49,300	49,300	49,300	
Classified 37%	33,448	33,448	33,448	33,448	33,448	
SUBTOTAL	343,148	343,148	343,148	343,148	343,148	
Inflation Factor 6% Compounded P.A.	20,589	42,550	65,541	89,905	115,984	
SUBTOTAL	363,737	385,698	408,689	433,053	459,132	
Contingency - Minus 12%	43,648	46,284	49,043	51,966	55,096	
SUBTOTAL	320,088	339,415	359,647	381,086	404,036	
On-Campus Indirect Cost, 34%	108,830	115,401	122,280	129,569	137,372	
TOTAL ON-CAMPUS PAYROLL	\$428,919	\$454,815	\$481,926	\$510,656	\$541,408	\$2,417,725

186

TABLE B-5 (Continued)
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)

CORE SUBPROJECT - ON-CAMPUS PROGRAM AND TECHNICAL SUPPORT COSTS (Continued)

II. OTHER COSTS ON CAMPUS	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
YAR Travel Round Trips @ \$2,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	
Per Diem @ \$95/Day	5,700	5,700	5,700	5,700	5,700	
Domestic Travel @ \$700	12,600	12,600	12,600	12,600	12,600	
Per Diem @ \$75/Day	5,400	5,400	5,400	5,400	5,400	
Air Freight	7,500	7,500	7,500	7,500	7,500	
Pouch Service	20,000	20,000	20,000	20,000	20,000	
Office Supplies	5,000	5,000	5,000	5,000	5,000	
Communications	10,000	10,000	10,000	10,000	10,000	
Commodity Transport	275,000	275,000	275,000	275,000	275,000	
Private Sector TDY	100,000	100,000	100,000	100,000	100,000	
Evaluations	-0-	150,000	-0-	150,000	-0-	
SUBTOTAL	453,700	603,700	453,700	603,700	453,700	
Inflation Factor 6% Compounded P.A.	27,222	74,859	86,657	158,169	153,351	
SUBTOTAL	480,922	678,559	540,357	761,869	607,051	
Contingency - Minus 12%	57,711	81,427	64,843	91,424	72,846	
SUBTOTAL	423,211	597,132	475,514	670,445	534,205	
34% On-Campus Overhead	143,892	203,025	161,675	227,951	181,630	
TOTAL OTHER ON-CAMPUS COSTS	\$567,103	\$800,157	\$637,189	\$898,396	\$715,835	\$3,618,679

TABLE G-5
 Agricultural Development Support Program (Project 279-0052)
 CORE SUBPROJECT
 ON-CAMPUS SUPPORT COST INPUT UNITS

Personnel/Other Cost Units	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Program Coordinator	1	1	1	1	1
Support coordinator	1	1	1	1	1
Secretaries	2	2	2	2	2
Support Staff	3	3	3	3	3
Backstopping	1	1	1	1	1

No. of Int'l Round Trips	5	5	5	5	5
Per Diem 12 Days/Trip	60	60	60	60	60

Number of Domestic Trips	18	18	18	18	18
Per Diem 4 Days/Trip	72	72	72	72	72

TABLE 6-6
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - TRAINING COSTS

	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
A. ACADEMIC PARTICIPANTS 1/						
PhD Trng in US @ \$22,000 PA in 86	\$132,000	\$ 46,640	\$ 74,157	\$104,809	\$122,757	
MS Trng in US @ \$22,000 PA in 86	187,000	233,260	247,192	262,023	277,745	
BS Trng in US @ \$20,000 PA in 86 2/	150,000	256,520	337,800	524,047	568,114	
BS Training in Arab Countries @ \$6,000 PA in 86 2/	132,000	178,080	229,214	285,860	303,012	
SUBTOTAL	601,000	714,500	886,363	1,176,739	1,271,628	
Anticipated Lapse Rate Savings 30%	180,300	214,350	266,509	353,022	381,488	
SUBTOTAL	420,700	500,150	621,854	823,717	890,140	
Transportation One Way -- US @ \$1,000	12,000	16,000	14,000	14,000	20,000	
Transportation One Way -- Arab Countries @ \$500	7,000	7,000	7,000	10,000	10,000	
TOTAL ACADEMIC TRAINING COST	439,700	523,150	642,854	847,717	920,140	\$3,373,561
B. IN-COUNTRY TRNG COURSES & SEMINARS						
	200,000	212,000	224,472	238,203	252,495	\$1,127,170
C. SHORT-TERM TRAINING 3/						
US Short Term Training @ \$3,800/mo.	\$57,000	\$60,420	\$64,045	\$67,890	\$71,960	
Arab Country Short Courses @ \$1,100/mo. 8,250		8,580	8,923	9,280	9,651	
Arab Country Tech. Trng @ \$500/mo.	90,000	62,400	64,986	67,492	35,096	
Transp. to US @ \$1,500/round trip	15,000	15,000	15,000	15,000	15,000	
Transp. to Arab Countries @ \$500/RT	5,000	5,000	5,000	5,000	2,500	
TOTAL	\$175,250	\$151,400	\$157,954	\$164,662	\$134,207	\$783,473

1/ Inflation calculated at 6% per annum calculated & included in annual figures for number of participants funded each year. No inflation factor included for transport. No contingency included for participants or transport.
 2/ In the academic year that the proposed Faculty of Agriculture opens, new BS participants would drop to zero.
 3/ Inflation rate of 6% applied to US training, 4% to Arab country training. Arab country 4% assumes cost increases will not be large in Arab countries where education is highly subsidized; also assumes US dollar will not depreciate substantially.

TABLE B-6A
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - TRAINING COSTS INPUT UNITS

	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
A. ACADEMIC PARTICIPANTS						
5 Year Program:						
PhD Tuition	6	2	3	4	4.5	
PhD Transportation	1	1	1	1	2	
2 1/2 Year Program:						
MS Tuition (Student Year)	8.5	10	10	10	10	
MS Transportation	5	5	4	8	8	
4 1/2 Year Program (US): 1/						
BS Tuition	7.5	11	15	20	22.5	
BS Transportation	6	7	5	5	10	
Arab Countries: 1/						
BS Tuition	22	28	34	40	40	
BS Transportation	14	14	14	20	20	
B. SHORT TERM TRAINING						
In US:						
Number of Participants	10	10	10	10	10	
Number of Student Months*	15	15	15	15	15	
Arab Country Short Courses:						
Number of Participants	5	5	5	5	5	
Number of Student Months*	7.5	7.5	7.5	7.5	7.5	
Transportation	5,000	5,000	5,000	5,000	5,000	
Arab Country Technical Trainings:						
Number of Participants	15	10	10	10	5	
Transportation	10	15	10	10	10	

*Average of 1.5 month each

1/ In the academic year that the proposed Faculty of Agriculture opens, new BS participants would drop to zero.

TABLE 6-7
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM (Project 279-0052)
 CORE SUBPROJECT - ADVISORY PROGRAM

TRAVEL AND COMMODITIES	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
A. TRAVEL - DOMESTIC						
Recruit & Trng - 46 Trips @ \$700	\$ 32,200	\$ 32,200	\$ 32,200	\$ 32,300	\$ 32,200	
B. PER DIEM - DOMESTIC						
Recruitment, Orientation &						
Training - 900 days @ \$75	67,500	67,500	67,500	67,500	67,500	
C. TRAVEL - INT'L - 21 Trips @ \$2,500						
	52,500	52,500	52,500	52,500	52,500	
D. TRANSPORTATION - New Personnel						
MHG & Vehicles @ \$11,800	70,800	82,600	82,600	82,600	82,600	
E. EXPENDABLE EQUIPMENT & MATERIALS						
Office Supplies	10,000	10,000	10,000	10,000	10,000	
Equipment Spare Parts	10,000	10,000	10,000	10,000	10,000	
Vehicle Spare Parts	30,000	30,000	30,000	30,000	30,000	
Tools	10,000	10,000	10,000	10,000	10,000	
F. NON-EXPENDABLE EQUIP. & MATERIALS						
Computer Equipment & Software	120,000	20,000	20,000	20,000	20,000	
Household Furniture	40,000	40,000	40,000	20,000	20,000	
Office Furniture & Equipment	30,000	30,000	30,000	20,000	20,000	
Shop & Warehouse Equipment	10,000	10,000	10,000	10,000	10,000	
New & Repl. Vehicles @ \$20,000	80,000	80,000	80,000	80,000	80,000	
Books & Reference Materials	15,000	15,000	10,000	5,000	5,000	
Other Equipment	-0-	100,000	100,000	100,000	100,000	
TOTAL TRVL, PER DIEM, TRANSP. & COMMOD. 578,000						
	578,000	589,800	584,800	549,800	549,800	
Inflation Factor 6% Compounded P.A.						
	34,680	73,135	111,697	144,048	185,832	
SUBTOTAL						
	612,680	662,935	696,497	693,848	735,632	
Contingency - Minus 12%						
	73,522	79,522	83,580	83,262	88,276	
TOTAL RECRUITMENT, TRAVEL AND						
COMMODITY COSTS						
	\$539,158	\$583,383	\$612,917	\$610,586	\$647,357	\$2,993,401

TABLE B-8
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)

CORE SUBPROJECT - LOCAL PAYROLL COSTS (Expressed in Dollars)

I. OFFICE	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
Co-Manager	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	
Administrative Assistant	16,000	16,000	16,000	16,000	16,000	
Accounting Clerk	16,000	16,000	16,000	16,000	16,000	
Cashier	12,000	12,000	12,000	12,000	12,000	
Personnel Assistant	11,000	11,000	11,000	11,000	11,000	
Purchasing Assistant	12,000	12,000	12,000	12,000	12,000	
Customs Expeditor	15,000	15,000	15,000	15,000	15,000	
Secretaries 6 FTE	67,000	67,000	67,000	67,000	67,000	
Telex Operator	9,000	9,000	9,000	9,000	9,000	
Translators 3 FTE	57,000	57,000	57,000	57,000	57,000	
Janitors	8,000	8,000	8,000	8,000	8,000	
Guards	8,000	8,000	8,000	8,000	8,000	
Caretaker	8,000	8,000	8,000	8,000	8,000	
Accounting Technician	16,000	16,000	16,000	16,000	16,000	
Arabic Typists 2 FTE	20,000	20,000	20,000	20,000	20,000	
Clerk Typist	10,000	10,000	10,000	10,000	10,000	
SUBTOTAL	309,000	309,000	309,000	309,000	309,000	
II. MOTOR POOL AND WAREHOUSE						
Motor Pool-Warehouse Assistant	16,000	16,000	16,000	16,000	16,000	
Inventory Stock Clerk	14,000	14,000	14,000	14,000	14,000	
Auto Parts Clerk	14,000	14,000	14,000	14,000	14,000	
Warehouseman	5,000	5,000	5,000	5,000	5,000	
Senior Mechanic	16,000	16,000	16,000	16,000	16,000	
Mechanic 4 FTE	35,000	35,000	35,000	35,000	35,000	
Maintenance Foreman	17,000	17,000	17,000	17,000	17,000	
Property Maintenance Man	17,000	17,000	17,000	17,000	17,000	
Dispatcher 2 FTE	28,000	28,000	28,000	28,000	28,000	

TABLE 6-8 (Continued)
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - LOCAL PAYROLL COSTS (Expressed in Dollars)

II. MOTOR POOL AND WAREHOUSE (Cont.)	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
Drivers 16 FTE	180,000	180,000	180,000	180,000	180,000	
Janitors 4 FTE	32,000	32,000	32,000	32,000	32,000	
Guards 4 FTE @ \$7,500	32,000	32,000	32,000	32,000	32,000	
Casual Labor 6 FTE	20,000	20,000	20,000	20,000	20,000	
SUBTOTAL	426,000	426,000	426,000	426,000	426,000	
TOTAL LOCAL-HIRE DIRECT PAYROLL	735,000	735,000	735,000	735,000	735,000	
Fringe Benefits:						
Ramadan Bonus @ 0.0833	61,226	61,226	61,226	61,226	61,226	
Reserve for Severance @ 0.0833 1/	61,226	61,226	61,226	61,226	61,226	
TOTAL FRINGE	122,451	122,451	122,451	122,451	122,451	
SUBTOTAL	857,451	857,451	857,451	857,451	857,451	
Anticipated Lapse Rate Savings 20%	171,490	171,490	171,490	171,490	171,490	
SUBTOTAL	685,961	685,961	685,961	685,961	685,961	
Inflation Factor 10% Compounded P.A.	68,596	144,052	227,053	318,286	419,122	
TOTAL PAYROLL	\$754,557	\$830,013	\$913,014	\$1,004,247	\$1,105,083	\$4,606,913

1/ Assumes sinking fund for severance is already in base contract. If annual "savings" from non-use are carried forward as new money for each year's budget, then each year's budget would need to provide for possible full severance. The budget above provides the new increment needed in event of total severance.

TABLE 6-9
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM (Project 279-0052)
 CORE SUBPROJECT - LOCAL CURRENCY COSTS

OTHER COSTS (US \$ EQUIVALENT)	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
ENGLISH LANGUAGE TRAINING (YALI)	55,000	55,000	55,000	55,000	55,000	
ENGLISH LANGUAGE TRAINING (MAF)	20,000	20,000	20,000	20,000	20,000	
ARABIC LANGUAGE TRAINING	12,000	12,000	12,000	12,000	12,000	
IN-SERVICE TRAINING - ADVISORS	7,000	7,000	7,000	7,000	7,000	
I. OPERATIONS:						
A. Office						
1. Utilities	12,000	12,000	12,000	12,000	12,000	
2. Communications	30,000	30,000	30,000	30,000	30,000	
3. Rent	85,000	85,000	85,000	85,000	85,000	
4. Maintenance and Repairs	26,000	26,000	26,000	26,000	26,000	
5. Printing	15,000	15,000	15,000	15,000	15,000	
B. Vehicles						
1. Gasoline and Oil	96,000	96,000	96,000	96,000	96,000	
2. Insurance and Licenses	36,000	36,000	36,000	36,000	36,000	
3. Spare Parts and Tires	30,000	30,000	30,000	30,000	30,000	
4. Outside Services	5,000	5,000	5,000	5,000	5,000	
C. Housing						
1. Rent	280,000	280,000	280,000	280,000	280,000	
2. Utilities	88,000	88,000	88,000	88,000	88,000	
3. Maintenance	10,000	10,000	10,000	10,000	10,000	
4. Retrofitting	8,000	8,000	8,000	8,000	8,000	
D. Warehouse						
1. Small Tools and Supplies	10,000	10,000	10,000	10,000	10,000	
2. Road and Yard Maintenance	6,000	6,000	6,000	6,000	6,000	
3. Warehouse & Shop Renovation	6,000	6,000	6,000	6,000	6,000	
II. EXPENDABLE EQUIPMENT						
A. Office						
1. Supplies	25,000	25,000	25,000	25,000	25,000	
2. Equipment	20,000	20,000	20,000	20,000	20,000	
B. Warehouse - Supplies						
1. Warehouse - Supplies	10,000	10,000	10,000	10,000	10,000	
C. Training						
1. Training	10,000	10,000	10,000	10,000	10,000	
D. Advisors Programs 7 @ \$8,000						
1. Advisors Programs 7 @ \$8,000	56,000	56,000	56,000	56,000	56,000	

19-1

TABLE 6-9 (Continued)
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM (Project 279-0052)
 CORE SUBPROJECT - LOCAL CURRENCY COSTS

OTHER COSTS (US \$ EQUIVALENT)	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
III. NON-EXPENDABLE EQUIPMENT & MATERIALS						
A. Office Furniture	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
B. Office Equipment	20,000	20,000	20,000	20,000	20,000	
C. Office Remodelling	15,000	15,000	15,000	15,000	15,000	
D. Housing/Furniture	90,000	50,000	30,000	20,000	20,000	
E. Advisors Program Equipment	300,000	200,000	-0-	-0-	-0-	
F. Short Term Special Equipment	100,000	10,000	-0-	-0-	-0-	
G. Motor Pool Equipment	10,000	10,000	10,000	10,000	10,000	
IV. OTHER DIRECT COSTS						
A. Pouch Service	20,000	20,000	20,000	20,000	20,000	
B. Printing	4,000	4,000	4,000	4,000	4,000	
C. Equipment Maintenance	24,000	24,000	24,000	24,000	24,000	
D. Computer Services	14,000	14,000	14,000	14,000	14,000	
SUBTOTAL	1,575,000	1,345,000	1,115,000	1,105,000	1,105,000	
Inflation Factor 13% Compounded P.A.	204,750	372,565	493,945	696,150	930,410	
SUBTOTAL	1,779,750	1,717,565	1,608,945	1,801,150	2,035,410	
Contingency - Minus 12%	213,570	206,108	193,073	216,138	244,249	
TOTAL US \$ EQUIVALENT	\$1,566,180	\$1,511,457	\$1,415,872	\$1,585,012	\$1,791,161	\$7,869,682

TABLE B-10
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - LOCAL CURRENCY BUDGET (US \$ Equivalents)

TRAVEL, PER DIEM & TRANSPORTATION	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
I. IN-COUNTRY TRAVEL, PER DIEM & TRANSPORTATION						
In-Country Travel @ \$50/Day	\$ 9,700	\$ 9,700	\$ 9,700	\$ 9,700	\$ 9,700	
Per Diem @ \$95/Day	32,775	32,775	32,775	32,775	32,775	
II. INTERNATIONAL TRAVEL, PER DIEM & TRANSPORTATION						
Travel to US @ \$2,500 R.T.	125,000	125,000	125,000	125,000	125,000	
R&R Travel to Athens @ \$1,500	45,000	45,000	45,000	45,000	45,000	
Int'l Per Diem @ \$75/Day	2,550	2,550	2,550	2,550	2,550	
Transp. of HHG & Vehicles @ \$11,800 per Departure	70,800	70,800	70,800	70,800	70,800	
Transp. of Commodities	46,000	46,000	46,000	46,000	46,000	
TOTAL TRAVEL, PER DIEM AND TRANSPORTATION	331,825	331,825	331,825	331,825	331,825	
Inflation Factor 8% Compounded 1/	26,546	55,083	86,275	119,457	155,626	
SUBTOTAL	358,371	386,908	418,100	451,282	487,451	
Contingency - Minus 12%	43,005	46,429	50,172	54,154	58,494	
TOTAL LOCAL CURRENCY TRAVEL, PER DIEM AND TRANSPORTATION BUDGET	315,366	340,479	367,928	397,128	428,957	\$1,849,858

1/ An eight percent inflation rate is used to reflect the combination of US and Yemen rates.

TABLE 6-10A
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - LOCAL CURRENCY INPUT

TRAVEL, PER DIEM & TRANSPORTATION	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
I. IN-COUNTRY						
A. Travel (Days - Cost of Travel)						
Team Leader	12	12	12	12	12	
Co-Manager	12	12	12	12	12	
Advisors 7 @ 20 days	140	140	140	140	140	
Other	30	30	30	30	30	
TOTAL	194	194	194	194	194	
B. Per Dien (Days)						
Team Leader	20	20	20	20	20	
Co-Manager	20	20	20	20	20	
Beekeeping Leader	20	0	0	0	0	
Advisors 7 @ 20 Days	140	140	140	140	140	
Engineering Assistant	15	15	15	15	15	
DLRC Advisor & Librarian	10	10	10	10	10	
Unspecified	20	20	20	20	20	
Drivers	100	100	100	100	100	
TOTAL	345	325	325	325	325	

1975

TABLE 8-10A (Continued)
 AGRICULTURAL DEVELOPMENT SUPPORT PROGRAM
 (Project 279-0052)
 CORE SUBPROJECT - LOCAL CURRENCY INPUT

TRAVEL, PER DIEM & TRANSPORTATION	FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
II. INTERNATIONAL						
A. Travel (Round Trips to US)						
Team Leader	2	2	2	2	2	
Co-Manager	2	2	2	2	2	
Unspecified Professional	5	5	5	5	5	
End of Tour & Home Leave	30	30	30	30	30	
Short Course	5	5	5	5	5	
Emergency Travel	6	6	6	6	6	
TOTAL	50	50	50	50	50	
B.R&R Travel to Athens	30	30	30	30	30	
C. Per Diem (Days)						
Team Leader	12	12	12	12	12	
Co-Manager	12	12	12	12	12	
Unspecified	10	10	10	10	10	
TOTAL	34	34	34	34	34	
D. Transportation						
HMB & Vehicles (End of Tour)	6	7	8	8	8	

BREAKOUT OF CORE ON-CAMPUS BUDGET

ITEM:	STATESIDE COORDINATION AND SUPPORT	BACKSTOPPING	SHORT-TERM SERVICE IN YEMEN	DIRECT SUPPORT TO FIELD OPERATIONS	TOTAL
SALARIES	222,400	58,000	160,000		440,400
FRINGE BENEFITS	71,730	16,820	46,400		134,950
ALLOWANCES			48,000		48,000
INDIRECT COSTS	100,004	25,439	86,496		211,939
RECURRING COSTS				54,450	54,450
PER DIEM, TRAVEL & TRANSPORTATION					
Per Diem - Domestic	4,500	900			5,400
Per Diem - International			84,000	6,300	90,300
Travel - Domestic	10,500	2,100			12,600
Travel - International			75,000	15,000	90,000
Transportation					
Commodities				275,000	275,000
Air Freight				7,500	7,500
Pouch				30,000	30,000
EXPENDABLES					
Office Supplies	5,000				5,000
Communications	2,000			8,000	10,000
TOTAL	416,134	103,259	499,896	396,250	1,415,539

ANNEX H

LOG OF PERSONS CONTACTED

USAID Mission:

Charles F. Weden, Jr.	Office of the Director
Thomas L. Rose	Office of the Director
David Fredrick	Program Office
Geraldine Donnelly	Program Office
Bobby Allen	Controller's Office
Jack Winn	Controller's Office
G. Tracy Atwood	Office of Agriculture
Frank Mertens	Office of Agriculture
Raymond Renfro	Office of Agriculture
Karl Schwartz	Office of Education
Edward Hirabayashi	Office of Education
Beverly C. Morton	Executive Office
Edward Thomas	Contract Officer
Douglas Roberts	Legal Counsel

Yemen Government - Ministry of Agriculture and Fisheries:

Mokbil Ahmad Mokbil	Deputy Minister
Lutf Al-Ansi	General Director, Planning
Ahmad al-Jiradi	Director, Irrigaion
Muhammad al-Nowayrah	Counterpart to DLRC Advisor
Muhammad Ba'thar	Counterpart to Training Advisor
Abdull Hafiz Karhash	Counterpart to Core Team Leader
- Project Co-Manager	

ADSP - CID Staff:

Royal H. Brooks	Chief of Party
Amir A. Badiei	Agricultural Advisor
Richard Griffin	Water Use & Management Advisor
Darryl Kuhnle	Extension Communications Advisor
G. R. Jack Law	Training Advisor
G. Yazdani Siddiqui	DLRC Advisor
Audrey Dibble	DLRC Librarian
Richard Field	Core Technician
Jan Karpowicz	Beekeeping Specialist
Susan Hase	Assistant to COP
Colin Sorhus	Core Executive Officer
Robert J. Tullock	HITS Team Leader
Kendrick A. Holleman	PETS Team Leader
T. Paul Heidloff	Poultry Technician
Everett D. Edington	ISAI Team Leader
Mark Hansen	ESL Coordinator

International Donor Agencies:

Najwa Adra	UNICEF
Omar Salah Ahmed	FAO
Thomas Hartmann	GTZ
Gerrit Bartels	GTZ
Peter Bisset	GTZ (formerly ODA)

Others:

Nasser al-Aulaqi	Dean, Faculty of Agriculture, Sana'a University
Ahmed al-Yamani	Faculty of Agriculture, Sana'a University
Salim al-Rammah	Faculty of Agriculture, Sana'a University
Daniel Martin Varisco	Social Scientist
Harold Matteson	New Mexico State University
Edwin Price	Oregon State University
Kurt Rulon	Academic Advisor, YALI
Daniel Lubovich	Director of Courses, YALI

ANNEX I

BIBLIOGRAPHY

1. Adra, Najwa, The Impact of Male Migration on Women's Role in Agriculture in the Yemen Arab Republic, Prepared for the Inter-Country Experts Meeting on Women in Food Production, Amman, Jordan, Oct 22-26, 1983.
2. Adra, Najwa, Social Soundness Analysis and Beneficiary Profile for SAE Extension Design Project, Consortium for International Development, Sana'a, Yemen, May 1984.
3. AID Handbook 14, Appendix H, Agency for International Development, Washington, DC, June 29, 1978.
4. Agricultural Policies to give Production Incentives to Farmers in the Yemen Arab Republic, Departments of Agricultural Economics and Planning, Directorate of Planning and Statistics, Ministry of Agriculture and Fisheries, mimeo (n.d.).
5. Agriculture Development Support for the Yemen Arab Republic, Individual Reports, Consortium for International Development, Sana'a, Yemen Arab Republic, mimeo, 1979.
6. A Social and Institutional Profile of the Yemen Arab Republic. Daniel Varisco et al., The American Institute for Yemeni Studies, for AID Regional Operations Division - ME. n.d. (c. 1983).
7. Baseline Field Study Report, Consortium for International Development, Sana'a, Yemen Arab Republic, 1979.
8. Consultant's Report on MAF Organizational Needs to Support Irrigation Development in Yemen, A. Alvin Bishop, mimeo (n.d.).
9. Core Subproject Paper, Agricultural Development Support Project 279-0052, USAID Yemen, Sana'a.
10. Criteria for Establishment of the IFP Subproject. Richard Griffin and Daniel Martin Varisco, Consortium for International Development, Sana'a, Yemen Arab Republic, mimeo, April 1984.
11. FY 1987 Country Development Strategy Statement, United States Agency for International Development, Mission to the Yemen Arab Republic, Sana'a, Yemen Arab Republic, January, 1985.
12. Food Production in the Yemen Arab Republic: the Historical Record to 1982 with Future Projections, Departments of Agriculture Economics and Planning, Directorate of Planning and Statistics, Ministry of Agriculture and Fisheries. mimeo, n.d.
13. Agricultural Sector Assessment, Yemen Arab Republic, E.B. Hogan, et al., US Agency for International Development, Sana'a, Yemen Arab Republic, December, 1982. Reprinted, April, 1984.

14. International Monetary Fund, General Report on the Yemen Economy. Washington, DC, Oct., 1984.
15. Irrigated Farm Practices Concepts Paper, Reuben J. Johnson et al., Sana'a, Yemen Arab Republic, February, 1984.
16. Ministry of Agriculture, Food Policy, Historical Requirements and Future Trends of Food Requirements. Sana'a (n.d.).
17. Ministry of Agriculture, Summary of Agricultural Census. Sana'a, April 1983.
18. Marib Dam and Irrigation Project, Yemen Arab Republic, Main Report, Electrowatt Engineering Services Ltd., Zurich, Switzerland, in association with Hunting Technical Services Ltd., Herts. England, June 1978.
19. Marib Dam and Irrigation Project, Yemen Arab Republic, Annex III, Agriculture, Electrowatt Engineering Services Ltd., Zurich, Switzerland, in association with Hunting Technical Services Ltd., Herts. England, June 1978.
20. Review of Yemen ADSP Core Subproject, Jan Noel and David L. McKinney, Consortium for International Development, Tucson, Arizona, January 5, 1985.
21. PES to Evaluation of Agricultural Development Support Program (279-0052), USAID Yemen, Sana'a, Yemen, October 2, 1984. mimeo.
22. Program Strategy Statement of the Yemen Title XII Agricultural Development Support Program, Project 279-0052, USAID Yemen, Sana'a, Yemen Arab Republic, May 4, 1983.
23. Project Officer Guidebook, Agency for International Development, Washington, D.C., June, 1980.
24. Report of the FAO/WFP Mission on the Assessment of the Impact of Drought on 1983 Cereal Production and the Availability of Basic Foods in 1984, Food and Agriculture Organization of the United Nations, OSRO, Report 20/83/E, mimeo, n.d.
25. Second Annual Work Plan for CID/CORE Subproject, May 1, 1982 to April 30, 1983, Consortium for International Development, mimeo, n.d.
26. Subproject Paper, Horticulture Improvement and Training, Agricultural Development Support Project, 279-0052, U.S. Agency for International Development, Sana'a, Yemen, September 1982, Revised January, 1983.
27. Snodgrass, Milton W. Final Report, Agriculture Planning Advisor, March 1982-July 1984.

28. Snodgrass, Milton W. Strengthening the Ministry of Agriculture and Fisheries in the Yemen Arab Republic as an Institution -- a Goal of the AID/CID Agricultural Development Support Program, CID, Tucson, Arizona, January, 1985.
29. Subproject Paper, Poultry Extension and Training Subproject of Project 279-0052, Agricultural Development Support Program, Consortium for International Development, Sana'a, Yemen. Reissued AID/W, May 25, 1982, July, 1982.
30. Summary of the Final Results of the Agricultural Census in Eleven Provinces, Ministry of Agriculture and Fisheries, Department of Planning and Statistics, Yemen Arab Republic, April, 1983.
31. The Second Five Year Plan, 1982-1986, Central Planning Organization, Prime Minister's Office, Yemen Arab Republic.
32. UNDP, Report on Drought Relief Requirements, FAO, Rome, n.d.
33. Various USAID/Sana'a Status Reports for Quarterly Project Review Meetings on Project 279-0052 Subprojects.
34. Work Plan for Core Subproject, October 1, 1984 to September 30, 1985. Consortium for International Development, draft, mimeo, n.d.
35. Yemen Agricultural Development Support Program (ADSP), External Evaluation Project PDC/1406-1-09-1141, The Pragma Corporation, Washington, D.C., Reprinted April, 1984.
36. Yemen Arab Republic, Recent Economic Developments, International Monetary Fund, Washington, D.C., November 2, 1984.
37. YARG - Second Five Year Plan (1981-1986), Sana'a, n.d.