PDCBK 679

FILE COPY

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT PAPER

MOROCCO

AGRIBUSINESS PROMOTION

608-0210

UNCLASSIFIED

TABLE OF CONTENTS

Project Authorization
Project Summary and Recommendations
Project Committee Members
Acronyms

1 PROJECT RATIONALE AND DESCRIPTION Page 1

1.1 Background Page 1
1.1.1 Macroeconomic Context Page 1
1.2 Role of Agribusiness in Moroccan Economy Page 2
1.3 Relationship to GOM Development Strategies Page 3
1.4 Relationship to USAID Development Strategy Page 7
1.5 Project Objectives Page 8
1.6 Detailed Project Description Page 8
1.7 Basic Approach Page 10
1.7.1 Subsector Diagnostic Study Page 11
1.7.2 Promotion and Investment Fund Page 12
1.8 Elaboration of Planned Activities Page 14
1.8.1 Promotion Component Page 14
1.8.2 Investment Climate Component Page 17
1.8.3 Industrial Organization and Supporting Industry Component Page 17
1.8.4 Human Resource Development Component Page 19
1.9 Outputs Page 20
1.10 Major Project Inputs Page 22
1.11 Project Participants Page 23
1.12 Beneficiaries Page 27

2 COST ESTIMATE AND FINANCIAL PLAN Page 30

2.1 AID Contribution Page 34
2.2 Moroccan and Other Contributions Page 34
2.3 Recurrent Cost and Financial Sustainability Page 37
2.4 Financial Plan Page 38
2.4.1 Methods of Implementation and Financing Page 38

3 IMPLEMENTATION PLAN Page 42

3.1 Length of Project Page 42
3.2 General Approach to Implementation Page 42
3.3 Basic Implementation Process Page 42
3.4 Specific Implementation Actions Page 45
3.5 Early Implementation Activities Page 47
3.6 Implementation Schedule Page 48

4 MONITORING AND EVALUATION Page 54

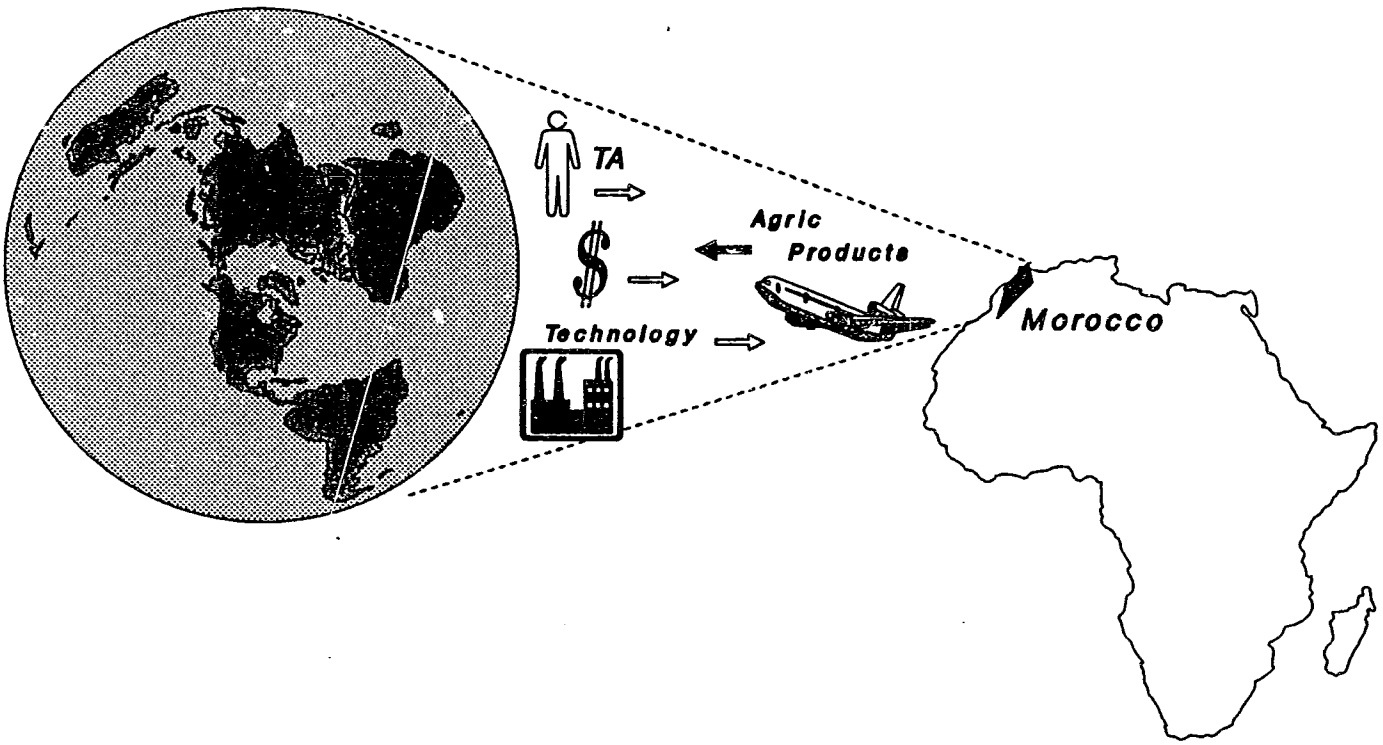
4.1 Project Monitoring Page 54
4.1.1 Tracking Inputs and Outputs Page 54
4.1.2 Impact Monitoring Page 55
4.1.3 Specific Monitoring Considerations and Examples Page 57

2

Morocco Agribusiness Promotion

Project Paper

608-0210



USAID/Morocco
August 1991

4.2 Evaluation Page 58
4.2.1 The Role of Market Discipline Page 58
4.2.2 Evaluation Process Page 59

5 SUMMARIES OF PROJECT ANALYSES Page 61

5.1 Technical Analysis Page 61
5.1.1 Production Page 61
5.1.2 Postharvest, Packing, and Processing Technology Page 62
5.1.3 Marketing Page 63
5.1.4 Commodity Subsector Analysis Page 64
5.2 Economic Analysis Page 66
5.3 Social Soundness Summary Page 69
5.3.1 Direct Beneficiaries Page 69
5.3.2 Indirect Beneficiaries Page 70
5.3.3 Differential Impact, Concerns, and Issues Page 70
5.4 Training Analysis Summary Page 71
5.4.1 Demand Analysis Page 71
5.4.2 Supply Analysis Page 72
5.4.3 Strategy Page 72
5.5 Institutional Analysis Page 72
5.5.1 Institutional Landscape of Moroccan Agribusiness Page 73
5.5.2 Institutions Involved in Project Implementation Page 73
5.6 Environmental Analysis Summary Page 76

6 CONDITIONS AND COVENANTS Page 79

6.1 Source and Origin of Commodities, Nationality of Services Page 79
6.2 Condition Precedent to Initial Disbursement Page 79
6.3 Covenants Page 79
6.4 Terminal Dates for Conditions Precedent Page 80

Annexes:

A Environmental Analysis
B Logframe
C AID/W PID Authorization Cable
D Statutory Checklists
E Grantee Request for Assistance
F Technical Analyses
G Baseline Studies
H Economic and Financial Analysis
I Social Impact of Agribusiness in Morocco
J Training Analysis
K Institutional Analysis
L Policy Agenda - Actions to be Undertaken
M The Grant for the Program to Support Agribusiness in Morocco
N Subsector Analysis and its use in Initial MAP Diagnostic Studies

4

MAP PROJECT CHARTS AND TABLES

CHART NUMBER	TITLE	PAGE
CHART 1.1	Main Target Markets to Absorb Growing Production from Moroccan Agribusiness	4
CHART 1.2	Moroccan Exports Between 1987-1989	5
CHART 1.3	Moroccan Exports by Geographic Region	6
CHART 1.4	MAP Project Main Relationships	25
CHART 1.5	MAP Project Institutional Organization	26
CHART 1.6	Long-Term TA Level of Effort	28
CHART 2.1	Distribution of AID Costs	35
CHART 2.2	Dollar Project Component Costs	36
CHART 2.3	Dollar Expenditures	36

TABLE NUMBER	TITLE	PAGE
TABLE 1.1	Distribution of Long and Short Term Technical Assistance Level of Effort	29
TABLE 2.1	Summary of Project Costs	30
TABLE 2.2	Project Annual Expenditures	31
TABLE 2.3	A.I.D. Input Costs by Component	32
TABLE 2.4	A.I.D. Costs by Activity in Each Component	33
TABLE 2.5	USDA-PASA Budget	40
TABLE 2.6	Background Data	41
TABLE 3.1	Implementation Schedule	49

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: [X] A = Add, C = Change, D = Delete — Amendment Number ____ — CODE 3

2. COUNTRY/ENTITY: USAID/Morocco

3. PROJECT NUMBER: 608-0210

4. BUREAU/OFFICE: Near East Bureau — NE

5. PROJECT TITLE (maximum 40 characters): Morocco Agribusiness Promotion

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 08 DD 31 YY 98

7. ESTIMATED DATE OF OBLIGATION (Under "B." below, enter 1, 2, 3, or 4)
A. Initial FY 91 B. Quarter 4 C. Final FY 98

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 91 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	18,300		18,300	20,000		20,000
(Grant)	(18,300)	( )	(18,300)	(20,000)	( )	(20,000)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country	750		750			5,262
Other Donor(s)	650		650			4,338
TOTALS	19,700		19,700			29,600

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) ESF						18,300		20,000	
(2)									
(3)									
(4)									
TOTALS						18,300		20,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) — 11. SECONDARY PURPOSE CODE

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

13. PROJECT PURPOSE (maximum 480 characters)

To increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a wide variety of demand-driven, value-added agricultural commodities.

14. SCHEDULED EVALUATIONS
Interim MM 07 YY 95 | MM YY | Final MM 12 YY 97

15. SOURCE/ORIGIN OF GOODS AND SERVICES
[X] 000 [ ] 941 [ ] Local [ ] Other (Specify) ____

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

USAID/Morocco Controller approves proposed methods of implementation and financing.

Richard L. Warin
Richard L. Warin
Controller

17. APPROVED BY
Signature: [signature]
Title: A/Mission Director USAID/Morocco
Date Signed: MM 08 DD 31 YY 91

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM DD YY

ACTION MEMORANDUM TO THE MISSION DIRECTOR

DATE : August 26, 1991

FROM : Richard Burns, Chief, PDPE RB

SUBJECT : Morocco Agribusiness Promotion Project (608-0210)

PROBLEM : Your approval is requested for (i) the Project Paper for the Morocco Agribusiness Promotion Project and (ii) the Project Authorization.

DISCUSSION: The PID for the Morocco Agribusiness Promotion (MAP) Project (608-0210) was approved by the USAID/Morocco Mission Review Committee on September 24, 1990. AID/W approved the PID for the MAP Project on November 1, 1990 (State 370822, 90). Pursuant to Redelegation of Authority No. 654, as amended September 1, 1986, you have the authority to authorize new projects not to exceed $20 million life-of-project total. This Project falls within this limit.

The MAP Project consists of activities designed to directly assist the Government of Morocco and the private agribusiness sector. The goal of this new Project is to increase the contribution that the private, commercial agribusiness sector makes to GDP, foreign exchange earnings, and employment and income. The purpose is to increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a wide variety of demand-driven, value-added agricultural commodities.

USAID assistance under the Project will be initially targeted at eight agribusiness commodity subsectors, viz., fresh vegetables, fresh fruit, processed fruit and vegetables, spices and essential oils, olives, food legumes, cut flowers, and grapes, raisins, and wine.

Activities will initially fall under four components: promotion of Moroccan agribusiness products; enhancing the investment climate for Moroccan agribusiness; strengthening public and private support institutions; and enhancing the human capital available to agribusiness. The Project will support activities implemented by the Hassan II Institute of Agronomy and Veterinary Medicine in the agribusiness field. It will also fund a Promotion and Investment Fund, designed to assist private agribusiness enterprises to take calculated risks and to strengthen research and development support services.

The Project Grant Agreement will be signed with the Ministry of Agriculture and Agrarian Reform, which will be the lead ministry for the Project. The life-of-project will be seven years from the date of signing of the Project Grant Agreement. Many Project activities will be implemented by an institutional contractor under direct contract with USAID/Morocco.

The Mission Review Committee met on May 21, 1991 to discuss the MAP Project Paper. The Committee recommended that the Project

Paper be approved subject to certain final changes in the text. These changes have been completed and incorporated in the paper. The main changes are:

- The Institute of Agronomy and Veterinary Medicine will be the lead host country institution implementing training/applied research activities under the Project. Funds granted under the Project Grant Agreement to pay for these activities will be made available by USAID to IAV pursuant to a Letter of Request to USAID by the Ministry of Agriculture and Agrarian reform;

- Environmental services for the Project will be provided using the expertise of a private environmental consulting organization;

- MAP activities will be coordinated with other USAID/Morocco projects;

- The Promotion and Investment Fund will be completely managed by the institutional contractor. Proposals for funding under this mechanism will be approved by the Project Steering Committee, with USAID in all cases retaining the right to veto any and all proposals under this Fund; and

- The Chief of Party of the institutional contractor will serve in an ex-officio role on the Steering Committee and will participate in the selection of recipients of the Promotion and Investment Fund. The Institute of Agronomy and Veterinary Medicine will be represented on the Steering Committee on an ad hoc basis, in matters directly relating to its role in the Project.

A Congressional Notification was sent to Congress on July 9, 1991, and expired on August 2, 1991.

RECOMMENDATIONS:

1) That you approve the Morocco Agribusiness Promotion Project by signing the face sheet of the Project Paper.

2) That you sign the attached Project Authorization for a life-of-project total of $20,000,000.

Approved: _____ for Date: 8/30/91 Disapprove_____
Dennis M.Chandler
Director

PDPE:RScott:8/20/91 _____

Clearances:

DDIR:JLowenthal	: _____
PROG:WNance	: draft CU
PDPE:RBurns	: _____
RLA:BBarrington	: draft CU
ADO:CUphaus	: CU
CONT:RWarin	: draft CU
RCO:MReynolds	: draft CU

PROJECT AUTHORIZATION

Name of Country: Kingdom of Morocco

Name of Project: Morocco Agribusiness Promotion

Number of Project: 608-0210

1. Pursuant to Sections 103 and 531 of the Foreign Assistance Act, as amended, I hereby authorize the Morocco Agribusiness Promotion Project for Morocco (the "Cooperating Country") involving planned obligations of not to exceed Twenty Million United States Dollars (20,000,000) in grant funds over a seven year period from the date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help finance foreign exchange and local currency costs of the project. The planned life of the project is seven years from the date of initial obligation.

2. The project consists of assistance to the Government of Morocco and the Moroccan private agribusiness sector to strengthen and increase agribusiness activity in Morocco.

3. The Project Agreement which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with AID regulations and delegations of authority shall be subject to the following essential terms, covenants, and major conditions together with other terms and conditions as A.I.D. may deem appropriate.

a. Source and Origin of Commodities, Nationality of Services

Commodities financed by A.I.D. under the Project shall have their source and origin in the United States, except as A.I.D. may otherwise agree in writing. Procurement from local sources will be authorized to the extent permitted by the Agency's "Buy America" Initiative guidance cable dated December 5, 1990 (90 State 410442), as may be subsequently amended. Except for ocean shipping, the suppliers of commodities or services financed by grant funds shall have the United States as their place of nationality, except as A.I.D. may otherwise agree in writing.

Ocean shipping financed by A.I.D. under the Project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

b. Other

No funding will be provided under the Project for any testing or breeding, feasibility study, variety improvement or introduction, consultancy, publication, conference, or training in connection with the growth or production in a foreign country of an agricultural commodity for export which would compete with a similar commodity grown or produced in the United States if such activities will have a significant impact on the export of agricultural commodities of the United States.

(Acting Director)

Dennis M. Chandler, Mission Director

Drafting Officer: RScott:PDPE:06/14/91

Clearances:

DDIR:JLowenthal
PROG:WNance
PDPE:AShapleigh
CONT:RWarin
ANR:JSchamper
RLA:BBarrington
RCO:MReynolds

PROJECT PAPER
MOROCCO (608- 0210)
MOROCCO AGRIBUSINESS PROMOTION

Project Summary and Recommendations:

A. Borrower/Grantee: The Government of the Kingdom of Morocco (GOM).

B. Implementing Agency: The Ministry of Agriculture and Agrarian Reform.

C. Amount: The Project is authorized for $20,000,000 in grant funds of which $18,300,000 will be obligated in FY 91 for Fiscal Year 1991-1995. The remaining amount will be obligated in FY 1996. The LOP is seven years from the date of signing the Agreement.

D. Project Costs: The total AID contribution is estimated to be $20,000,000 over the life of the project. The GOM will contribute $5,262,000 and the private sector $4,338,000 in appropriate project costs over the LOP.

E. Project Goal and Purpose:

Goal: To increase the contribution that the private, commercial, agribusiness sector makes to GDP, foreign exchange earnings, and employment and income.

Purpose: To increase the capacity of the agribusiness sector in Morocco to produce, package, and market a wide variety of demand-driven, value-added agricultural commodities.

F. Summary Project Description:

The Moroccan agribusiness sector currently contributes some 15 to 20 percent to the GDP, depending upon the weather, biannual bearing cycles in tree crops, market prices, and nontariff barriers to Moroccan products in its current major market - the European Economic Community. The sector is also a major employer - some 40% of the labor force makes its living from agriculture and related industry.

The sector has benefitted from the GOM's structural adjustment program in many ways, including freer trade, economic liberalization, and more incentives to private entrepreneurs among others. Because of its importance to the economy, the GOM, and particularly the Ministry of Agriculture and Agrarian Reform (MARA), is giving it a high priority - the overall objective being to stimulate the sector, thereby increasing its ability to provide employment and increase incomes.

Even though the sector is making a major contribution to the Moroccan economy, constraints have been identified which limit it realizing its full potential. The major constraints are:

- excessive dependence on the EEC market for its exports and corresponding lack of knowledge of foreign markets outside the EEC;
- insufficient knowledge of new and efficient processing and packaging procedures;
- insufficient new foreign investments;
- policy and regulatory problems, particularly with regard to investment;
- poor financial intermediation;
- inconsistent quality control for the domestic and export market;
- transportation system inadequacies;
- insufficient vertical integration in the marketing system;
- weak industry and trade associations;
- inadequacy of supporting public sector institutions and services, and,
- paucity of formal educational alternatives relating to agribusiness and consequent shortage of well trained management and technical cadre capable of managing Moroccan agribusiness into the world market of the 90's.

The Morocco Agribusiness Promotion Project will provide assistance to the Government of Morocco and the Moroccan private sector with a view to overcoming these constraints, aiding the agribusiness sector realize its full potential and, thereby, making a significant impact on the country's economy.

Project implementation will be flexible and responsive to private sector needs. In order to assure maximum impact, assistance will initially be focussed on those agribusiness commodity subsectors that have been identified as promising to benefit the most from limited and highly leveraged project investments. The subsectors are: fresh vegetables (off-season), fresh fruit, processed fruit and vegetables, spices and essential oils, olives, food legumes, cut flowers, and grapes, raisins, and wine.

Project activities will initially be implemented within the framework of four components that will further focus limited funds. The components reflect groupings of the identified, similar constraints. They are: promotion of Moroccan agribusiness products, improving the investment climate, supporting the increased efficiency of related trade associations and groups, and training. The basic approach will be to utilize short-term technical assistance to complete an in-depth Diagnostic Study of each of the subsectors, then design specific tasks within each of the components to aid the subsector. Although initial project implementation will be according to this approach, project flexibility and responsiveness will ensure that the approach can be modified, if, through further analyses, it can be shown that other methods of assistance will be more effective.

12

In order to assist in executing the project, an Institutional Contract will be awarded. The Contract will be competed and the Contractor will be located in the business capital of Morocco - Casablanca. In addition, funds will be given to the Hassan II Institute of Agronomy and Veterinary Medicine to carry out related training, applied research, and outreach activities. A Steering Committee, with representatives from the GOM, USAID, and the private sector will review project activities. Also under the project a contract will be signed with an environmental services organization to ensure that project activities are carried out in an environmentally safe manner. A PASA will be signed with the USDA which will include the provision of short-term technical assistance to assist the Moroccan government upgrade its quality control for export. Early project activities will include a MAP Introductory workshop in Fall of 1991, buy-ins to centrally funded projects, such as AMIS, and training activities.

Project monitoring and evaluation activities will be carried out under the project. Funds will be available for a midterm and end-of-project evaluation, and for audits, as necessary.

AMPAC Concerns and Design Guidelines

With regard to Contractor conflict of interest, the contract will state that the Contractor cannot participate in any activity that will accrue to it benefits that it could not have received if it were not the Contractor. USAID retains the right to approve any activities undertaken by the Contractor, and it retains the right to veto any grants under the Promotion and Investment Fund. In addition, the project Steering Committee, made up of members of USAID, the government, and the private sector (and the Institutional Contractor serving in an ex-officio role), will review all activities proposed by the contractor, and will vote on distribution of Promotion and Investment Fund grants, subject to final review by USAID.

A complete financial analysis, using the PID cable as a guide, is contained in the Project Paper as Annex G.

The Promotion and Investment Fund will be managed by the Institutional Contractor. It is not perceived of as a subsidy, but more a source of seed money to encourage private firms to take risks they might not otherwise have taken.

Environmental concerns listed in the AMPAC cable have been addressed in the Project paper and sufficient environmental expertise will be available during the project.

Through monitoring, evaluation, and the development of a database that tracks assistance to all firms, potential assistance that might violate the Bumper's Amendment will be identified and avoided.

Product profiles have already begun with the technical assistance provided by the American Society of Agriculture Consultants.

The Project Paper addresses the question of resources going to the private sector and the GOM has agreed that this is an important ingredient to project success.

The Mission has determined that the project is economically, technically, and socially feasible.

Recommendation: **USAID/Morocco has reviewed the Morocco Agribusiness Promotion Project (MAP) and finds the project to be technically, administratively, financially, and socially sound. Therefore, the Project is recommended for FY 1991 authorization and obligation of funds.**

14

PROJECT COMMITTEE
MOROCCO AGRIBUSINESS PROMOTION PROJECT

William Nance,	Program Officer
John Schamper,	Acting Agricultural Officer
Fenton Sands,	Agricultural Economist
Belinda Barrington,	Regional Legal Advisor
Mary Reynolds,	Regional Contracting Officer
Eric Loken,	Mission Environmental Officer
Mark Krackiewicz,	Program Economist
Rick Scott,	Project Development Officer
Md. Hanafi,	Project Officer
Driss Meski,	Project Officer

ACRONYMS

ADO	Agriculture Development Officer
AMIS	Agricultural Marketing Improvement Strategies (AID/W)
ASPAM	Association de Producteurs des Agrumes
ASPRIM	Association de Producteurs des Primeurs
BCM	Banque Commerciale du Maroc
BEI	Banque Européenne d'Investissements
BNDE	Banque Nationale de Développement Economique
CAAB	Center for Assistance to Agribusiness in Morocco
CAER	Consulting Assistance for Economic Policy Project
CCCE	Caisse Centrale de Coopération Economique
CGEM	Confédération Générale Economique Marocaine
CHA	Complexe Horticole d'Agadir (IAV)
CMPE	Centre Marocain de Promotion des Exportations
CMV	Centre de Mise en Valeur
CNCA	Caisse Nationale de Crédit Agricole
DPA	Direction Provinciale de l'Agriculture
DPAE	Direction de la Planification et des Affaires Economiques (MARA)
DPV	Direction de Production Végétale
DPVCTRF	Direction de Protection des Végétaux, Contrôle Technique, et Repression des Fraudes
EACCE	Etablissement Autonome de Contrôle et de Coordination d'Exportations
EEC	European Economic Community
ENA	Ecole Nationale d'Agriculture
EXIM Bank	U.S. Export-Import Bank
GOM	Government of Morocco
IAV	Institut Agricole et Vétérinaire, Hassan II
IMEC	Institut Marocaine de l'Emballage et du Conditionnement
ISCAE	Institut Supérieur de Commerce et des Affaires Economique
IESC	International Executive Service Corps
IFC	International Finance Corporation
INRA	Institut National de Recherche Agricole
ISCAE	Institut Supérieur de Commerce et des Affaires Economiques
ISSEA	Institut Supérieur de Statistiques et de l'Economie Appliqué
P&I Fund	Promotion and Investment Fund
MAP	Morocco Agribusiness Promotion Project (USAID)
MARA	Ministère de l'Agriculture et de la Réforme Agraire
MCE	Ministère de Commerce Extèrieure
MCI	Ministry of Commerce and Industry
MPR	Minimally Processed Refrigerated Product (*Quatrième Gamme*)
OCE	Office de Commercialisation et d'Exportation
ODI	Office de Développement Industriel
ONA	Omnium Nord Africain

16

ONICL	Office National Interprofessionnel de Céréales et Légumineuses
ORMVA	Office Régional de Mise en Valeur Agricole
PASA	Participating Agency Services Agreement
SASMA	Service Company for Moroccan Citrus and Vegetable Growers
SME	Small and Medium-Size Enterprise
SODEA	Société de Développement des Exploitations Agricoles
SOGETA	Société de Gestion de Terres Agricoles
TAT	Resident Technical Assistance Team
UMA	Union Maghrebienne Arabe
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
USDA/OICD	USDA Office of International Cooperation and Development
USDA/APHIS/ PPQ	Animal and Plant Health Inspection Service/Plant Protection and Quarantine
TA	Technical Assistance
TIS	Trade and Investment Services
TVA	Value-Added Tax

17

CHAPTER ONE: PROJECT RATIONALE AND DESCRIPTION

1.1 Background

1.1.1 Macroeconomic Context

Over the last 20 years Morocco's economy has been affected strongly by a number of exogenous developments, including the sharp rise in oil prices, which began in the mid-70's; the rapid expansion and subsequent contraction of the international phosphate market in the 1970's and 1980s; a tightening of Morocco's traditional export markets; and periodic droughts severely reducing agricultural output. These events, coupled with the extra fiscal burden engendered by extra military expenditures incurred since 1975, led to a drastic degradation of the country's fundamental economic accounts.

The Moroccan economy was particularly strong in the 1970s. A boom in the international phosphate market led to a 14 percent real increase in GDP from 1973 to 1975, at which time the government budget deficit was at its lowest ever. However, the surge in value of phosphate exports was short-lived. While accounting for as much as 28 percent of GDP in 1974 at the height of the phosphate boom, their value sank back to 16-18 percent by the late 1970s. Other government costs mounted at the same time that the value of phosphates crashed. Public consumption, which had surged in response to the phosphate boom, saw its base undercut by the late 1970s.

The ensuing economic crisis provoked two responses from the government. The first was protectionism. The economic liberalization programs of the early 1970s were severely curtailed in favor of policies promoting domestic industry and import substitution crops over export commodities. Quantitative restrictions and import deposit requirements, in effect from 1965 through 1968-1969, were reintroduced between 1978 and 1981-1982. The second government response to the crisis was postponement of adjustment via recourse to international capital markets. From 1975 to 1983, Morocco's foreign debt grew from U.S.$ 1.8 billion to U.S.$ 13.9 billion, at which point it represented about 120 percent of GDP and 355 percent of foreign exchange earnings. Debt service totaled 53 percent of receipts from the export of goods and services in 1983, with interest payments alone equivalent to 20 percent of export revenues.

The Government of Morocco responded to these fiscal pressures by undertaking a series of stabilization and structural adjustment programs. A series of IMF stand-by arrangements supported a devaluation of the Dirham, a reduction in average tariff levels, and a cutback in public expenditures, especially through the reduction of subsidies and a freeze in the size of public administration. The Fund-supported stabilization program, also supported by the World Bank, helped increase exports in value and volume, thus setting Morocco back on the road to international competitiveness. Rescheduling of public debt due

in 1983 and 1984 and the securing of new loans from international agencies further eased short-term fiscal pressures.

With immediate financial and economic disequilibria mitigated somewhat by the stabilization program, the GOM directed its attention to longer-term structural reforms to be undertaken in a number of priority sectors. Industry and agriculture were the first sectors to receive heavy scrutiny. In agriculture, the sector adjustment program, which has been underway since 1985, covers a number of subsectors, including irrigation, other inputs and cereals. Changes in these sectors, plus legal and administrative reforms, have contributed to strengthening the potential for Moroccan exports.

1.2 Role of Agribusiness in the Moroccan Economy

The Moroccan agricultural sector is the largest in the Maghreb region, in terms of arable and irrigated land. Numerous temperate and semiarid microclimates allow it to produce a wide variety of crop and livestock products. In climate, geography, and agricultural potential, and in the types of irrigated crops that can be produced, it is similar to the state of California in the United States. The major difference is that more than 80 percent of California's crops are produced on irrigated land, while the opposite is true in Morocco.

Dryland farming occupies over 80 percent of the arable land and is dominated by the production of cereals (mostly barley, soft wheat, and hard wheat) and legumes. Given the semiarid environment of most producing zones, aggregate production is largely a function of the levels and distribution of rainfall.

Irrigated production has expanded rapidly over the past 30 years and has become the most dynamic part of the country's agriculture. Early development of citrus (Morocco is currently the world's number 2 exporter of oranges and tangerines after Spain), followed by the large-scale production of sugar beet and cane which raised the domestic supply from 10 percent to 60 percent of local demand, are considered to be the beginnings of modern Moroccan agriculture and indications of its ability to compete in the world market. Success in these areas has been followed by the development of off-season vegetables for export (*primeurs*), such as tomatoes, potatoes, and onions. This has led to the recent introduction of more exotic vegetables and cut flowers as promising crops for the export market. Chart 1.1 shows target markets for the increasing varieties and production of Moroccan agriculture.

Exports are playing an increasingly important role in the economy, and agricultural products play an important role in overall exports. Even though the sector has not realized its full potential, between 1987 and 1989 agribusiness exports averaged about U.S. $982 million a year, or just over 30 percent of the country's total exports (see Charts 1.2 and 1.3).

Given the climate and topography and the country's proven ability to produce quality products for export, and considering the large and important role the sector plays in the overall economy and that the potential of the sector is just beginning to be realized, assistance to agribusiness that makes it stronger, more efficient, and adaptable to the demands of the world market can not come at a better time.

1.3 Relationship to GOM Development Strategies

The agribusiness sector currently contributes some 15 to 20 percent to the GDP, depending upon the weather, biannual bearing cycles in tree crops, market prices, and nontariff barriers to Moroccan products in its current major market -- the European Economic Community (EEC). The sector is also a major employer -- some 40% of the labor force makes its living from agriculture and related industry.

The sector has benefitted from the GOM's structural adjustment program in many ways, including freer trade, economic liberalization, and more incentives to private producers and entrepreneurs among others. Because of its importance to the economy, the GOM, and particularly the Ministry of Agriculture and Agrarian Reform (MARA), is giving it a high priority -- the objectives being to further stimulate the sector, thereby increasing its ability to provide employment and increase incomes.

The proposed **Morocco Agribusiness Promotion (MAP)** Project fits within overall GOM development strategy in two important ways. First, it will assist the agribusiness sector to better compete on world markets thus raising domestic product quality, value added and export earnings, and benefitting the overall economy. Second, assistance to agribusiness falls well within the GOM's overall economic strategy of strengthening the private sector as a partner in broad-based, sustainable development leading to higher employment rates.

The **MAP** also holds substantial potential for establishment of meaningful coordination with other donors, especially the IBRD and the EEC. The most active agency involved in activities related to the **MAP** is the IBRD. A new agribusiness project is being planned by the IBRD; USAID/Morocco has maintained close contact with the IBRD office responsible for the design of this activity (EMENA II Agriculture) and there is mutual agreement to assure maximum complementarity of the two projects. Mission and Bank officials have met to exchange ideas on needs and responses in the agribusiness sector. The World Bank has recently completed an "Off-Season Vegetable Marketing Project" which provided $50 million from 1980 to 1987. The European Economic Community, as well as individual European countries and Canada, are also active in the agribusiness area. These

Chart 1.1
Main Target Markets for Moroccan Agribusiness

Primarily Export

- Cut Flowers
- Citrus Fruit
- Orange Juice
- 'Fancy' Processed Fruit & Vegs
- Wine
- Fish
- Cork
- Medical & Aromatic Plants
- Gums and Waxes
- Essential Oils
- Algae/Seaweed

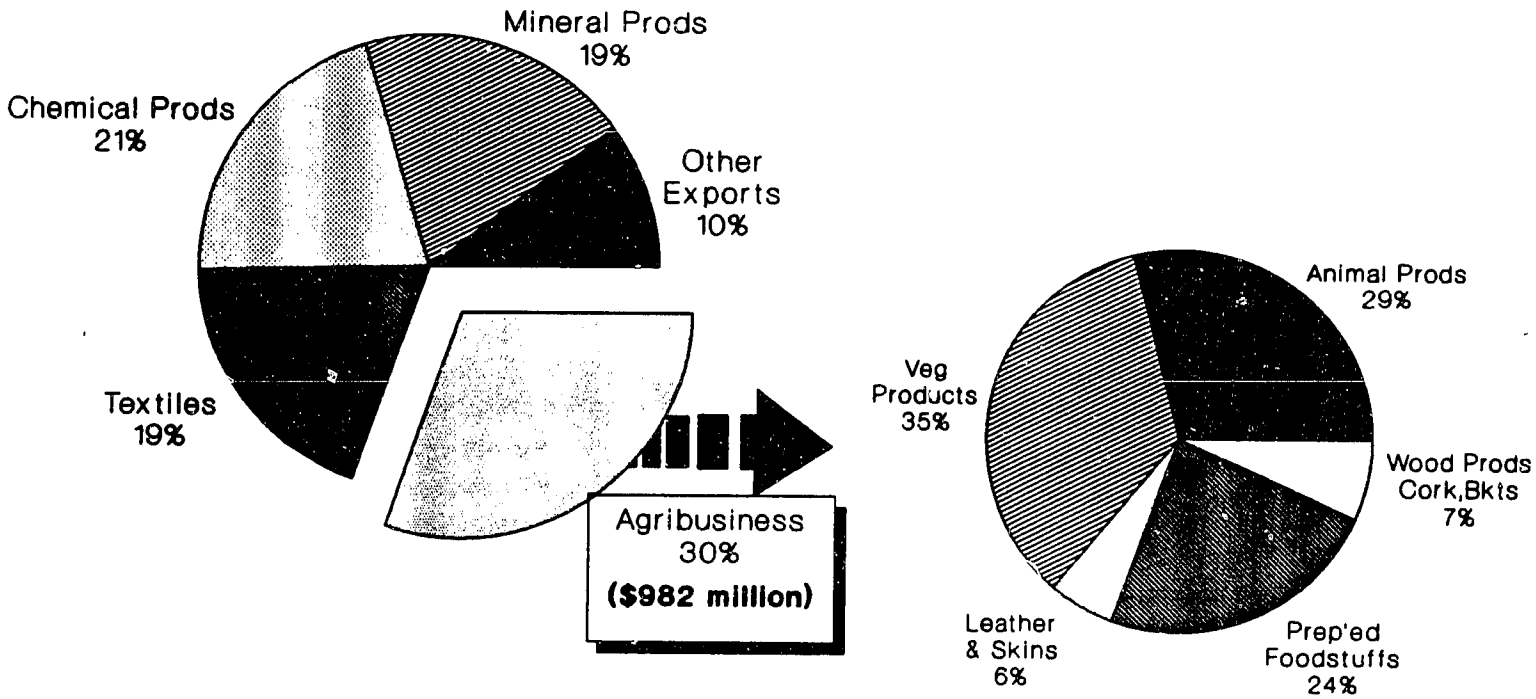
Combination of Both

- Food Legumes
- Seeds (as inputs)
- Olives
- Fresh Temp. Fruit
- Basic Processed Fruit & Vegs
- Small Ruminants
- Leather
- Wool Rugs
- Spices

Primarily Domestic

- Cereals
- Oil Seeds
- Sugar
- Bananas
- Dairy
- Beef
- Poultry
- Apricots
- Apiculture
- Animal Feeds

Chart 1.2
Moroccan Exports Between 1987 - 1989

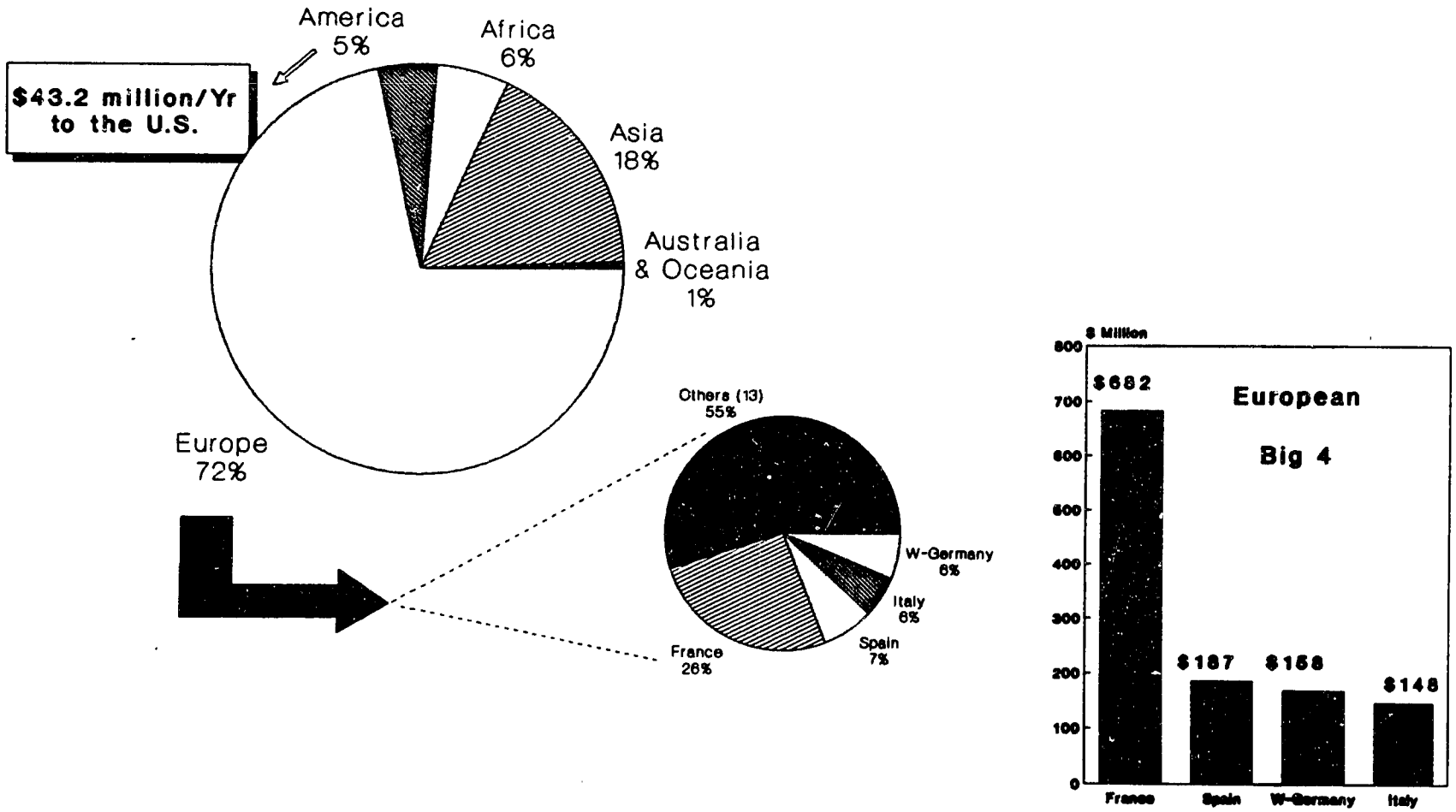


22

Chart 1.3

Moroccan Exports by Geographic Region

Average Value of Exports between 1984 - 1988



23

activities include concessional financing for joint agribusiness investments as well as training in packaging and other agribusiness technologies.

1.4 Relationship to USAID Development Strategy

USAID/Morocco views this project within the following context: First, project activities will support the GOM's economic liberalization policy adjustments, as described above; second, the ENE Bureau's "Food System Strategy for Growth in the 1990's", has identified agribusiness development as one of the critical components of sustainable economic growth; third, USAID/Morocco conducted its own agribusiness sector assessment in 1990, which clearly concluded that the agribusiness sector in the country has an exploitable comparative advantage over other producing countries. This comparative advantage is due to low labor costs, Morocco's proximity to the EEC and Europe, and the availability of over 900,000 hectares of irrigated land.

Assistance targeted towards alleviating the constraints to overall sector progress is critical and, if delivered at the current time in its evolution, will be a key catalyst guaranteeing the strengthening, maturation, growth, and sustainability of agribusiness in Morocco. Through its assistance, the Project will aid agribusiness in overcoming the following constraints identified in the Assessment and summarized in Chapter Five, ("Summaries of Project Analyses"):

1. excessive dependence on the EEC (European Economic Community) market for its exports and corresponding lack of knowledge of foreign markets outside the EEC;
2. insufficient knowledge of new and efficient processing and packaging procedures;
3. insufficient new foreign investment;
4. policy and regulatory problems, particularly with regard to investment;
5. poor financial intermediation;
6. weak and inconsistent quality control for the domestic and export market;
7. transportation system inadequacies;
8. insufficient vertical integration in the marketing system;
9. weak industry and trade organizations;
10. inadequacy of supporting public sector institutions and services, and,
11. paucity of formal educational alternatives relating to agribusiness and consequent shortage of well trained management and technical cadre capable of managing Moroccan agribusiness into the world market of the 90's.

The **MAP** Project is an outgrowth of this assessment and the ensuing conclusion that the time is right for GOM and USAID mutual development of a project that positively addresses these constraints. Also, as USAID/Morocco begins **MAP** implementation,

it will be in the process of designing and initiating five other new projects, all of which call for substantial involvement of the private sector as a partner in the country's economic development efforts. Given the importance of the agribusiness sector in Morocco, it is appropriate that this new program approach begin with **MAP**, which will serve as a model for these other new projects in the Mission portfolio. While serving as a model, **MAP** will also coordinate with and complement similar activities with other Mission-sponsored projects. An example is the TIS program of IESC which is involved in arranging export deals with U.S. firms. **MAP** will also coordinate activities with the New Enterprise Development Project and the Training for Development Project as is appropriate.

1.5 Project Objectives

Within this context, then, the **Morocco Agribusiness Promotion Project** has been developed. Its **Goal** is to **increase the contribution that the private, commercial, agribusiness sector makes to GDP, foreign exchange earnings, and employment and income.** Agribusiness is defined in this instance to include the full range of activities and actors upstream and downstream of the farm. Thus, increased agribusiness activity will have a **wide ranging impact.** It will contribute to the economy by increasing employment and incomes for many people involved in input and service supply upstream of agriculture production, in crop production itself, and in post-harvest handling, packing, processing, storage, transport and marketing. Increased exports will positively affect GNP and foreign exchange earnings.

The **Purpose** of **MAP** is to **increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a wide variety of demand driven, value-added agricultural commodities.** Particular emphasis will be placed on the vertical marketing channels from assembly of raw materials to delivery of final products in their fresh or processed state to consumers. Although it will be difficult to draw direct, causal relationships, the Project should positively contribute to levels of both domestic and foreign investment in the agribusiness sector; quality, volume, and value of exports of agribusiness products; value-added in agroprocessing; contribution of the agribusiness sector to the GDP; numbers of high-level formal education courses being offered in Morocco and numbers of graduates going on to work in related fields; and employment in production, packing, and processing operations.

1.6 Detailed Project Description

The agribusiness sector is, thus, poised to be a leading player for creating opportunity in the Moroccan economy's drive towards increased competitiveness and efficiency through liberalization. There are, however, major constraints to the realization of its full potential and they have been identified. Grouping those constraints of similar nature provides the **MAP** project with the framework for the four principal activity

components, as listed below:

1. **Promotion** of agribusiness products and **investment** and **marketing**, with emphasis on export marketing. Moroccan agribusiness products need to be promoted cost-effectively both domestically and abroad with a view towards increasing production and marketing efficiency, increasing the country's share of external markets, and attracting new investments. Actors in the agribusiness sector must be in a position to understand markets and respond to demand for new products and new packaging and processing techniques quickly and efficiently. The sector needs to develop a sustainable capability to react to demand and, where and when possible, to create it.

2. **Improving** the **agribusiness investment climate** through the provision to the GOM of actionable recommendations for policy and regulatory change. Concurrent with the promotion of Moroccan agribusiness products, GOM policies within the sector regarding investment, joint ventures, private entrepreneurial development, and overall financial regulation need to be examined and recommendations for modification made and acted on as is feasible.

3. **Reinforcing industry organization and supporting institutions** with the objective of improving the effectiveness and efficiency of companies, private groups, industry and trade associations, and public institutions. An industry strengthened by top flight managers working in an environment conducive to investment, and with a knowledge of market potential and the ability to respond to it, needs efficient and well-targeted support services. These include such services as state-of-the-art information systems, stronger trade associations and groups, and an efficient mechanism for lobbying the Government and ensuring that the needs of the industry are considered as and when appropriate. This component of the project will strengthen support services available to agribusiness entrepreneurs and the industry as a whole.

4. **Human Resource Development**, to strengthen the human capital needed by agribusiness. Sustainability of agribusiness activity needs to be guaranteed. One of the prime methods of ensuring this is to educate and re-educate mid to upper level managers. The key to ensuring that agribusiness in the country can develop new markets and products, and respond to new opportunities, is management. In-country training capacity in agribusiness management needs to be developed along with methods of ensuring placement of graduates in key positions. Managers exposed to current management techniques and to methods used in other markets will have the comparative advantage needed to keep Moroccan agribusiness competitive.

These four components provide the framework within which project activities will be implemented. An equally vital and complementary element of **MAP** will be the development and strengthening of the indigenous capacity to provide training, responsive applied research and outreach services in support of

Moroccan agribusiness. A Program of Support to Agribusiness in Morocco (PSA), at the Institute of Agriculture and Veterinary Medicine (IAV), will be promoted and funded through the project. This element will relate to all four **MAP** components, and will provide an institutional sustainability framework to the specific interventions envisaged under the Project.

In order to **maximize impact**, most activities will be focussed on subsectors in the agribusiness industry that, at the time of project design, show the most promise for reacting positively to project inputs. The **Kingdom of Morocco: Agribusiness Sector Report**, referred to above, identified eight commodity subsectors within the agribusiness industry as those having the greatest initial potential for project impact. This potential was measured by **estimated demand, availability of market outlets, presence of competition among vertical service and product flows**, and **identifiable leverage points for project activities**. The commodity subsectors are (in order of ability to take advantage of project activities):

1. fresh vegetables (off-season);
2. fresh fruit;
3. processed fruit and vegetables;
4. spices and essential oils;
5. olives;
6. food legumes;
7. cut flowers; and,
8. grapes, raisins, and wine.

In order to further maximize impact, every effort will be made to co-locate activities in regions where USAID is active with other projects, and to coordinate closely with other projects financed by USAID or other US Government agencies.

1.7 Basic Approach

At the outset, the strategy will be to proceed from commodity subsector diagnosis to development and implementation of action plans, while being as **flexible and responsive** as possible to the needs of private enterprise in the target subsectors. As the overriding concern of the project is to provide maximum impact through proper leveraging of limited funds, this approach can be modified through mutual agreement between USAID and MARA if the situation warrants.

Two major project activities will be crosscutting in nature -- that is, they will influence the direction and content of the entire project across all components. These two activities are the **Subsector Diagnostic Surveys** and the **Promotion and Investment Fund**.

Activities will normally begin with a **Diagnostic Study**.

1.7.1 Subsector Diagnostic Study

The objective of the Subsector Diagnostic Studies is to provide project management with a comprehensive look at the commodity subsectors and thus provide the basis of plans for specific activities. They will help project managers:

- identify the structure and geographic location of current production, processing, distribution, and export practices of Moroccan firms in that commodity subsector;
- identify specific technical, regulatory, marketing and human resource constraints that currently impede the growth in each subsector, both domestically, and in export markets;
- identify the current status of market promotion activities in each subsector, for both domestic and export markets;
- determine current institutional strengths in each sector, in particular the way sector associations or groups organized at the national, regional, or local areas promote and stimulate export activity and marketing; and,
- recommend concrete steps for project action in the commodity subsector, to include technology development and application, marketing, policy analysis, and institutional measures.

Special attention will be devoted to determining how MAP can productively work with existing or new trade associations or other non-governmental groups. This is particularly important since the project must find ways of leveraging the impact of its activities. With regard to the trade associations, the diagnostic studies will help:

- define the interest of associations or groups in working with the Project and their capacity to respond to project generated market stimuli;
- integrate production, processing, shipping, and export trading interests in the development of strategies for new product marketing;
- examine the feasibility of joining with all subsectors in creating an Industry Advisory Council or a similar mechanism, which would advise and support generic export promotion programs and act as a unifying body;
- examine the feasibility of securing matching checkoff funds from industrial associations for promotional activities or in modification of existing checkoff procedures;
- lay out guidelines and parameters for working with sector associations or groups; and,
- build in provisions for flexibility and preference considerations in working with diverse sector interests or groups.

1.7.2 Promotion and Investment Fund

The objectives of the P & I Fund are, 1) to promote greater risk taking on the part of individual firms during initial phases of new product or market development, and, 2) to strengthen the private sector focus of research and development that supports agribusiness.

The Fund will be accessed through a competitive application process. Procedures for vetting and approval for funding of discrete activities under the Fund will be developed by the TAT and approved by the USAID Project Officer. Management of the Fund will be the responsibility of the Institutional Contractor. In all cases, however, USAID will have the final veto power over any proposal under the P&I Fund.

The Fund will be accessible to private Moroccan firms, U.S. firms interested in the development of agribusiness processing, production, and/or marketing from Morocco; or any combination of these. The availability of the Fund will be made known throughout Morocco through the media, through TAT, GOM, and USAID contact with agribusiness, and through workshops and seminars sponsored by the project. In the United States, it will be advertised through publications in journals such as Commerce Business Daily. Maximum funding per activity is $100,000 on a 50/50 cost-sharing basis. The total amount budgeted for the LOP is approximately $2.0 million.

The Fund will assist firms or groups of firms directly, by helping to pay for a portion of new product development or a portion of the costs of trial shipments of products into new markets, or, indirectly, through funding the purchase of services from a third party having specialized expertise. Such use of third party services is meant to strengthen the recipient firm in an aspect of its operations that needs improvement, and will also promote the development of business service providers which in itself will promote new expertise and job creation.

The Fund is not meant to be a substitute for investment capital (grants will not exceed 10 percent of the gross receipts of the recipient firm in its most recently completed fiscal year). Examples of use of Fund grants are:

- to facilitate industry contacts with foreign buyers and counterparts in order encourage development of new partnerships, new markets, etc.;

- to provide assistance to agribusiness industry groups to test new product ideas, more efficient management procedures, and development of new processing techniques, etc.; and,

- to provide assistance on a competitive basis for individual firms with clear plans for growth and product development.

Through the Fund, the project can subsidize up to 50% of the direct costs of travel for tours to foreign markets, and up to 50% of foreign buyer tours to Morocco, for the purpose of facilitating industry contacts. Specific TA support to Moroccan industry groups and firms may be included in the grants; i.e., a portion of a grant could be "in kind" in the form of short-term TA through the project's Institutional Contractor, or TAT. The Fund could cover, for example:

- R&D for developing and pilot testing of new technologies through such private or public research institutions as IAV or *Ecole Nationale d'Agriculture* (ENA). Examples include new or modified packaging technology.

- Market studies for commodity-specific entry into a new market, including product profiling, market segmentation, entry requirements, regulatory and nontariff barriers, and promotional approaches up to and including test marketing.

- Product adaptation services to meet technical or consumer market requirements, such as identification and testing of new varieties preferred by fresh-market consumers or processors, or studying the impact of a shift from an unregistered pesticide to a U.S.-registered pesticide on production and fresh product quality and unit cost.

- Purchase of services like accounting, marketing, and laboratory testing to help improve the operating efficiency of enterprises, cooperatives or association-owned packing houses. In this category, funding will be available only to the extent that the purchase of this service can be shown to have a direct affect on alleviating a clear constraint that is preventing the firm from increasing its sales in target domestic or international markets.

- New product development for target markets in Morocco, Europe, the United States, and elsewhere. This can include experimentation with new processes such as new packaging techniques and new market penetration techniques.

- Partial coverage of the cost of trial shipments of new products to old markets or old products to new markets. This can include individual firm attendance at trade fairs and other direct promotional actions.

Use of this type of fund to directly assist private firms and associations is justified in terms of both Agency and ENE Bureau guidelines regarding assistance to the private sector. The availability of grants will be **openly advertised with pre-established selection criteria**. The development/finalization of such criteria will be the responsibility of the TAT (to be

completed within four weeks of the arrival of the TAT in country), subject to the review by the Project Steering Committee and final approval by USAID.

Because the objective is to work with the private sector and to be responsive to its needs, P & I Fund application requirements will be the minimum necessary to comply with A.I.D. procedural and legal regulations. The minimum requirements will include the objectives for use of the grant monies, the cost to USAID, how much matching funds will be spent and how they will be used, and a description of the activities to be undertaken.

Applications for grants from the Fund will first go to the TAT, which will evaluate the proposal in terms of the criteria established for acceptance. Minimal content requirements will be that the activities to be carried out fall within the overall parameters of Fund administration, and within the A.I.D. policy statements, (including A.I.D. Policy Paper, Private Enterprise Development, dated, March, 1985). After reviewing each proposal, the TAT will make the decision whether or not the proposal is worthy of funding based on the established criteria. This decision will in all cases be made no later than two weeks from the date of receipt of any proposal.

The TAT will forward all proposals to the Steering Committee, noting the ones it recommends for approval. Proposals will be reviewed by the Steering Committee and forwarded to USAID, along with the Committee's recommendations. USAID must give final approval of any proposal retained for funding. Grants will be given directly to the qualifying applicant by the TAT, and it will be responsible for monitoring and reporting on Fund use.

The TAT will be required to submit an Initial Environmental Recommendation with each proposal forwarded to the Steering Committee for approval. The Mission Environmental Officer will determine whether additional environmental review will be required for approved proposals.

Proposals denied funding will be returned within two weeks after a final decision is made with notes of the reasons for the refusal. The proposing entity will then be given one more chance to modify and submit another proposal.

1.8 Elaboration of Planned Activities

The types of activities that may be implemented within each of the project components are as follows:

1.8.1 Promotion component:

This component is directed at assisting Moroccan agribusiness to develop name-recognition for its products in overseas markets, and to respond to demand. Component activities will be "demand driven" -- i.e., structured to work from the

demand perspective, making sure that the real or potential demand for a given product exists or can be created, and that response to the demand will ensure growth in market share in the short and medium term.

"Matchmaking" of Moroccan and U.S. firms in production, marketing and licensing ventures will be an important element of the promotion component. Since many U.S. firms have a presence in the EEC, and because of the traditional ties between Moroccan industry interests and the EEC, such promotional and matchmaking activity may include contacts with the European subsidiaries of U.S. companies.

In order to accomplish these objectives, promotion component activities will include:

1. **measures to stimulate U.S. private and public sector interest and involvement in Moroccan agribusiness**, through:

- sponsoring investment prefeasibility studies;
- sponsoring study tours by Moroccan agribusiness, trade association, and public sector personnel to U.S. agribusiness production, processing and export centers;
- sponsoring familiarization tours for U.S. agribusiness leaders to Morocco;
- arranging logistics and contacts for matchmaking leading to partnerships and/or joint ventures between Moroccan and U.S. agribusiness, through contacts and public relations activity by the U.S. based TAT member;
- sponsoring joint conferences and workshops on new product development, market development, and technology transfer through partnerships.

These activities will serve the dual purpose of informing and obtaining support from the U.S. financial community, state and federal agencies and port organizations (EXIM Bank, Overseas Private Investment Corporation, State Export Assistance Programs), U.S. trade associations, and other groups.

2. **market identification and new product development**, through provision of technical assistance for the adaptation and/or development of new products that can be marketed by Moroccan agribusiness abroad. A new product is defined as a completely new one, or a current product using new packaging or processing techniques to make it more marketable;

3. **commodity specific market and demand studies**, through, provision of technical assistance to Moroccan agribusiness for (1) design of studies and analyses of foreign markets, and (2) the implementation of these studies in markets outside Morocco;

4. **making Moroccan agribusiness more proactive in promoting its' products outside the country**, through,

- sponsoring workshops and follow-up technical assistance to implement recommendations from market and demand studies;
- sponsoring study tours by private and public sector agribusiness and marketing support service representatives to foreign markets;
- developing marketing strategies for specific products in the U.S. market, through the provision of short-term technical assistance;

5. **business promotion and training workshops**, to present new and relevant packaging and processing technologies to Moroccan agribusiness. Examples include:

- new processing technologies -- a conference to acquaint Moroccan target audiences with new technical and marketing aspects of aseptic processing and packaging;

- critical fluid and solid/liquid extraction technology. A conference to stimulate the development of better extraction techniques; and

- a workshop on membrane technology, to acquaint target groups with new membrane recovery techniques for water saving and recirculation, recovery of potable water, pollution control, and other applications.

6. **determining alternative methods of funding the generic promotion of Moroccan exports**, through;

- short term technical assistance to determine ways to promote the "Maroc" brand products in foreign markets;
- assistance in the development of marketing materials, and public relations activities for the promotion of Moroccan agribusiness abroad.

Project staff and consultants will provide advice throughout the life of project on the efficient use of promotional measures and activities to achieve maximum impact. The Steering Committee and MARA, in addition to the Institutional Contractor, will be positioned to diffuse information through advertising, media, and through workshops and seminars to agribusiness entities throughout the country.

SUMMARY OF A.I.D. INPUTS
PROMOTION COMPONENT

	Inputs
Lt-TA	135 pm
St-TA	19 pm
Studies	12
Promotional Trips	29

	Inputs (cont.)
Individuals who Travel	74
Workshops/Conferences	8
Business Subscriptions	6

1.8.2 Investment Climate component:

The activities under this component are directed at providing actionable recommendations to the Government of Morocco for change in areas of agricultural investment, and overall financial policy as it relates to agribusiness. These will flow from both the Diagnostic Studies and from proposals raised directly by Steering Committee members, and will be included in TAT annual workplans.

The actions under this component will focus specifically on those aspects of policy and regulation that can fundamentally affect the economic viability and competitiveness of Moroccan agribusiness. The main area for study will be industry-specific regulatory and policy studies. One study that will be completed early in the project is an in-depth study of the Moroccan transportation system as it relates to both domestic and export marketing. This in-depth study will provide actionable recommendations for policy change aimed at stimulating the transportation sector. Other possible areas for in-depth investigation leading to actionable recommendations include private investment in cold storage, private sector laboratories for quality control, markets for prepared salads in Europe, the current checkoff system, privatization of appropriate agribusiness-related public sector entities, and others.

The TAT will prepare the Terms of Reference (TORs) for these policy studies, and will be ultimately responsible for their completion. The studies may be carried out by the TAT through short-term TA, by IAV, or by other local consulting firms subcontracted by the TAT.

SUMMARY OF A.I.D. INPUTS
INVESTMENT CLIMATE

	Inputs
Lt-TA	39 pm
St-TA for Studies	54 pm
Studies	11
Workshops/Seminars	6

1.8.3 Industry Organization and Supporting Institutions component

The objective of this component is to improve the effectiveness and efficiency of companies, private groups, associations, and public institutions in meeting the demands placed upon them from increased competition for domestic market

share and greater competition in traditional export markets. These Moroccan groups must grow and adapt to also meet the demands of a rapidly evolving business environment, both domestically and abroad. The environmental impact of project activities must also be managed, and a well-trained cadre capable of monitoring the environmental aspects of increased agribusiness activities developed.

The strategy is to improve various public and private functions vis-a-vis the agribusiness sector. For example, the project will help GOM and industry improve the regulatory and information functions of the *Direction de Protection des Vegetaux, Controle Technique, et Repression des Fraudes* (DPVCTRF) and the EACCE by providing computer equipment and training for an operational market information system, and for upgrading the MARA agribusiness database service currently available to agribusiness entrepreneurs within MARA.

The **MAP** Project will improve the capacity of IAV to respond to industry concerns in processing and packaging by providing state-of-the-art processing and packaging equipment for research and development to its two campuses in Rabat and Agadir. This will fall under the mandate of the PSA which will coordinate equipment design and placement. Through publication of results of applied research with this new machinery the private sector supply of laboratory, management, marketing, and other supporting services will be stimulated.

The Project-funded PASA with USDA will assist the DPVCTRF and the EACCE through short-term technical assistance and training to gain an understanding of U.S. principles and practices for fresh and processed food standards, inspection, and enforcement. This should enable Moroccan exports to pass more easily into other markets. USDA and FDA, through the PASA, will work with the two Moroccan regulatory agencies to review Moroccan standards, train staff in U.S. regulatory, inspection, and enforcement procedures, and train packers, shippers, and processors to prepare products that meet U.S. import standards. An agreement will be reached with an environmental consulting firm to provide the environmental services and training aspect of this component.

The USDA will also, through the PASA, perform a feasibility study for a foreign market statistics service at MARA, will prepare specifications for equipment and management of the service, and will help install hardware and software for the service. In addition, **MAP** will provide short-term TA to assist MARA in determining how to consolidate existing data on Moroccan agribusiness to cover both domestic and export producers.

The project will provide technical assistance to MARA for the development of a protocol agreement with USDA/APHIS International Services in Rome. The protocol with APHIS will be based on a study to determine the volume, type, and timing of fresh produce export. The study will be sent to Rome and APHIS will respond within two weeks on how it can assist Morocco in

developing and training its inspection services for export. APHIS objectives will be to certify Moroccan export facilities and to train inspectors. Implementation details will be worked out in the protocol agreement and funding for APHIS services will come from a trust fund to be set up by Moroccan business.

Other activities may include studies to determine the viability of an association approach to support industry R&D, market research, industry-specific promotion, industry regulation and government affairs, and product organization, and analyses of agribusiness support services, such as transportation.

SUMMARY OF A.I.D. INPUTS
INDUSTRIAL SUPPORT

	Inputs
Lt-TA	45 pm
St-TA	18.5 pm
USDA PASA Support	$1.061 million
Environmental Consultation	$.15 million

1.8.4 Human Resources Development component

The objective of this component is to **provide the Moroccan agribusiness sector with professionals having theoretical and practical experience with the technology of post-harvest handling, processing, and manufacturing; and who are capable of managing technological and business aspects of competitive agribusiness firms through the 90's.** Through exposure to formal training programs within Morocco, short and long-term (graduate level) training in the U.S., industry internships and visits to companies and markets abroad, this component will produce managers capable of understanding product needs, production, processing, and manufacturing from the perspective of the buyers in export markets. Other objectives include the provision of skilled technologists and the retention of current midlevel technology, process quality control, agricultural marketing, and business administration managers.

A major activity under this component will be the development of the Program of Support to Agribusiness in Morocco (PSA). PSA will be situated at the Hassan II Institute of Agronomy and Veterinary Medicine (IAV) which will be the lead training institution, operating under a host country contract. The PSA will integrate the current expertise at IAV and its international connections and expertise to develop a proactive, one-year agribusiness certificate program for higher level students desiring a career in agribusiness management.

The PSA will provide the missing link between private sector producers, processors, marketers, and technical expertise that can solve sector problems through applied research. As problems become better known, and a fee-for-service response of the PSA is developed, it will assist the Project in the dissemination of pertinent information on agribusiness. An outreach program for

presentation of seminars and workshops to industry on topical subjects is planned for the PSA.

The Institutional Contractor will be directly responsible for the following activities:

- Apprenticeships for up to 20 Moroccans for six months in firms and industries in target market countries, primarily the U.S;
- Short term industry awareness training in the U.S. and Europe for up to 16 people from industry, Government agencies, educational institutions, and regulatory agencies to study industry and government policies specific to their needs and interests;
- Long term study for up to nine advanced degrees in the U.S. in agribusiness related subjects; and,
- Follow-up conferences and workshops for returned students and participants to share their new information with colleagues.

SUMMARY OF A.I.D. INPUTS
HUMAN CAPITAL DEVELOPMENT

	Inputs
Lt-TA	33 pm
St-TA	5 pm
Individuals Receiving short-term training	36
Outreach Participants	30
Apprenticeships	20
Long term trainees	9
Workshops/Conferences	5
PSA	$2.5 million

1.9 Outputs

Given the multi-faceted nature of MAP and its overriding concern to provide the **maximum impact** with limited funding, outputs cannot be generalized over all components and activities. It is, however, possible to list minimum outputs expected in each component. They are:

1. **Promotion, Investment and Marketing** Component:

- at least 8 prefeasibility studies for agribusiness investment;
- at least 4 adapted processing and packaging technologies for higher value-added (e.g. *quatriemme gamme*) products;
- promotional activities for the "Maroc" generic brand name and for company specific products;
- at least 4 Moroccan and U.S. business organizations and partnership arrangements for the purpose of increasing exports to the U.S. and other markets;

- demonstrated knowledge of new markets and products developed to respond to them; and,
- at least 6 product marketing strategies developed, products processed and packaged, and pilot marketing activities undertaken.

2. **Agribusiness Investment Climate** Component:

- at least 8 in depth analyses of key constraints affecting the investment climate for agribusiness, either on sectoral or subsectoral bases;
- actionable recommendations for policy and regulatory change based on these analyses.

3. **Industry Organization and Supporting Institutions** Component:

- analyses of and specific recommendations for private sector supply of services, such as laboratory analyses, to agribusiness;
- an operational market information system within the Ministry of Agriculture that is accessible to the private sector;
- an agribusiness database and agroprocessing reference service within MARA;
- at least 6 specific, actionable plans for defining and improving the service and lobbying capacities of agricultural production, processing and marketing professional and trade associations;
- improved GOM inspection services for exports and improved quality control for the domestic market; and,
- capacity for applied research, consulting and outreach services to agribusiness in place and associated activities underway from Rabat and Agadir campuses of IAV.

4. **Human Resource Development** Component:

- industry, regulatory, university, and IAV staff with active links to the potential markets for Moroccan products and to the foreign companies active in those markets;
- a national center for agribusiness training and education, with a certificate program in agribusiness management, operational at IAV/PSA;
- operationally trained technicians, managers, and marketers;
- at least 20 Moroccans returned from the U.S. or third country business internships; and
- at least 9 Moroccans with advanced degrees (PhD and Masters from U.S. universities).

1.10 Major Project Inputs

→ The major input to the Project will be up to $20 million in A.I.D. funds. Part of this amount will go to an institutional contract for provision of technical assistance to the GOM, private firms, educational institutions, and trade associations and groups over all project components.

→ Technical assistance will help trade associations and private firms develop programs that efficiently benefit their member firms through marketing, promotion, development of a strong lobbying function, and developing fund raising schemes. Also funded through the institutional contract will be policy studies and limited commodity procurement.

→ Through a Participating Agency Services Agreement (PASA) with the U.S. Department of Agriculture (USDA) the Project will obtain access to the personnel resources of the USDA and other U.S. Government institutions to assist in addressing a range of technical and policy issues, primarily to assist public agriculture support services; e.g., market information, inspection services, grades and standards.

→ The Project will include monies for a training program that will be formalized between MARA and the Hassan II Institute of Agronomy and Veterinary Medicine (IAV) and will be called the **Program of Support to Agribusiness in Morocco (PSA)**. IAV will use Host Country contracting procedures to procure services and commodities needed to perform this portion of the project. The PSA's three pronged approach to developing a sustainable capacity to service agribusiness in Morocco will include, 1), development of new curriculum reflecting current state-of-the-art agribusiness management targeted at mid to upper level managers resulting in an accredited agribusiness certificate/degree, 2), applied research that will respond to the needs of agribusiness entrepreneurs, and, 3), outreach of information to agribusiness throughout the country in areas as new production, packaging, processing, and other useful and appropriate techniques. Funds will be provided for limited equipment (to upgrade applied research capability in food sciences), assistance in curriculum development and course design, and for faculty exchange with US universities and business.

The training contract (implemented through the prime institutional contract) will provide for long and short-term training in the U.S., including professional internships, to the staff of both private and public institutions. U.S. (and third country, as the opportunity arises) training will be initially administered through the main institutional contract, with the option of transferring responsibility to IAV during the course of project implementation.

→ An agribusiness grant fund (Promotion and Investment Fund - P & IF) will be set up as part of the catalytic process to (1) encourage research and development into new products and

processes by firms and professional associations, and (2) to encourage risk taking by individual firms through prefeasibility studies and similar activities.

→ Assistance will be provided to Moroccan firms and associations in the area of environmental services through an agreement with an environmental consulting firm to provide expertise on environmental issues directly to private firms and groups, and which will draw on the resources of the U.S. private sector.

→ Funds will be reserved for use by project management for central or regional A.I.D. project buy-ins to assist in addressing specific technical, marketing or policy issues. Such projects include Agricultural Marketing Improvement Services (AMIS), Agricultural Policy Analysis Project (APAP), and the planned Regional (ENE Bureau) Agricultural Support Services Project.

→ A monitoring program will be developed and implemented by the Institutional Contractor, including development of an information baseline. Funds will be reserved under USAID control for two outside evaluations and for audit purposes if required.

→ The GOM will contribute approximately $4.6 million to the project for the LOP. These costs will be in the form of office space, travel costs, support staff salaries, translation, supplies and materials, clerical services, computer maintenance services, and other appropriate project related costs.

→ The Moroccan private sector will contribute approximately $4.3 million over the LOP in the form of travel costs, seminars, workshops, publicity, 50 percent contribution to the Promotion and Investment Fund, and other appropriate project related costs.

1.11 Project Participants

Chart 1.4 shows the organizational structure for the project. The main participants are:

A. Steering Committee: This Committee will meet quarterly (or more often if the chair considers it necessary) to review project operating policy, review and comment on annual workplans, conduct semiannual reviews, and review and approve proposals submitted to the project Promotion and Investment Fund. The Committee will review analyses conducted under the project aimed at improving the agribusiness investment climate and it will recommend means for advancing identified and recommended policy and administrative reforms based on these analyses.

The Committee will consist of two representative each from USAID and MARA, three from the private sector and the Secretary General of MARA, who will co-chair the Committee with one of the private sector representatives. The Chief of Party for the

main institutional contractor and representatives, as appropriate, of other agencies, e.g. IAV/PSA, DPV, DPAE, EACCE, etc., will serve in ex-officio roles. Private sector participants will be drawn from the *Confederation Generale Economique Marocaine*, the *Comite Technique de Produits Transforme*, which coordinates exports with the *Etablissement Autonome*, and from the *Comite Technique de Produits Frais*. As the project progresses and the agribusiness situation in the country changes, the membership of the Steering Committee can be changed by mutual agreement between USAID and the Ministry of Agriculture.

B. MARA: The Ministry of Agriculture and Agrarian Reform will be the lead technical ministry for the project. The Project Manager, designated from the *Direction de la Production Vegetale*, (DPV), will coordinate the work of project staff with other ministries, establish the protocol and provide technical coordination with the USDA/APHIS/PPQ International Services Division, will serve as a member of the Steering Committee, and will work closely with USAID on all aspects of project implementation.

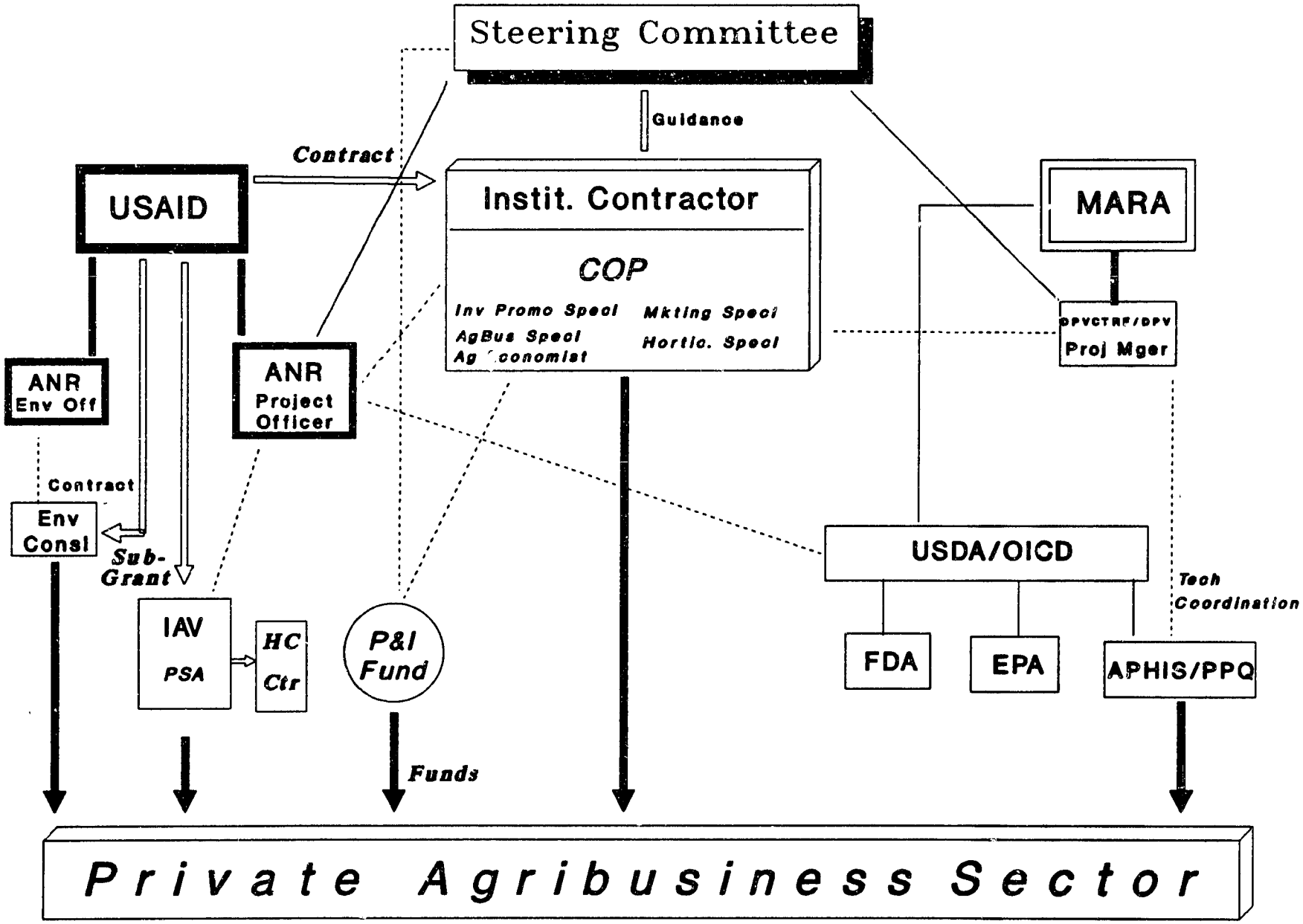
C. USAID: USAID will appoint a Project Officer from within its Division of Agriculture and Natural Resources to coordinate all project activities and oversee all contracts and grants under the Project. The Project Officer will also be the USAID representative to the Steering Committee and transmit Steering Committee recommendations regarding expenditures under the USDA/OICD PASA or the Promotion and Investment Fund to authorized Mission signatories. Technical oversight of specific project activities will be divided amongst Direct Hire and Foreign Service National professional staff in the Division of Agriculture and Natural Resources. The Mission Environmental Officer will review studies to be supported by the Promotion and Investment Fund. The USAID Project Officer will be supported by USAID contracting, legal, controller and technical resources. The Mission project committee, chaired by the Project Officer, will ensure coordination with other USAID activities.

D. Institutional Contractor: An institutional contractor (the resident technical assistance team, or TAT) will be directly contracted by USAID to provide (1) long-term technical assistance in the four project components, (2) short-term technical assistance (STTA), and (3) operational coordination with other project components and participants. The TAT will also be responsible for implementation of the U.S. (both short and long-term) training element of the project. It will be based in Casablanca.

The planned composition and duration of services (see Table 1.1 and Charts 1.6 and 1.7) of the TAT are as follows:

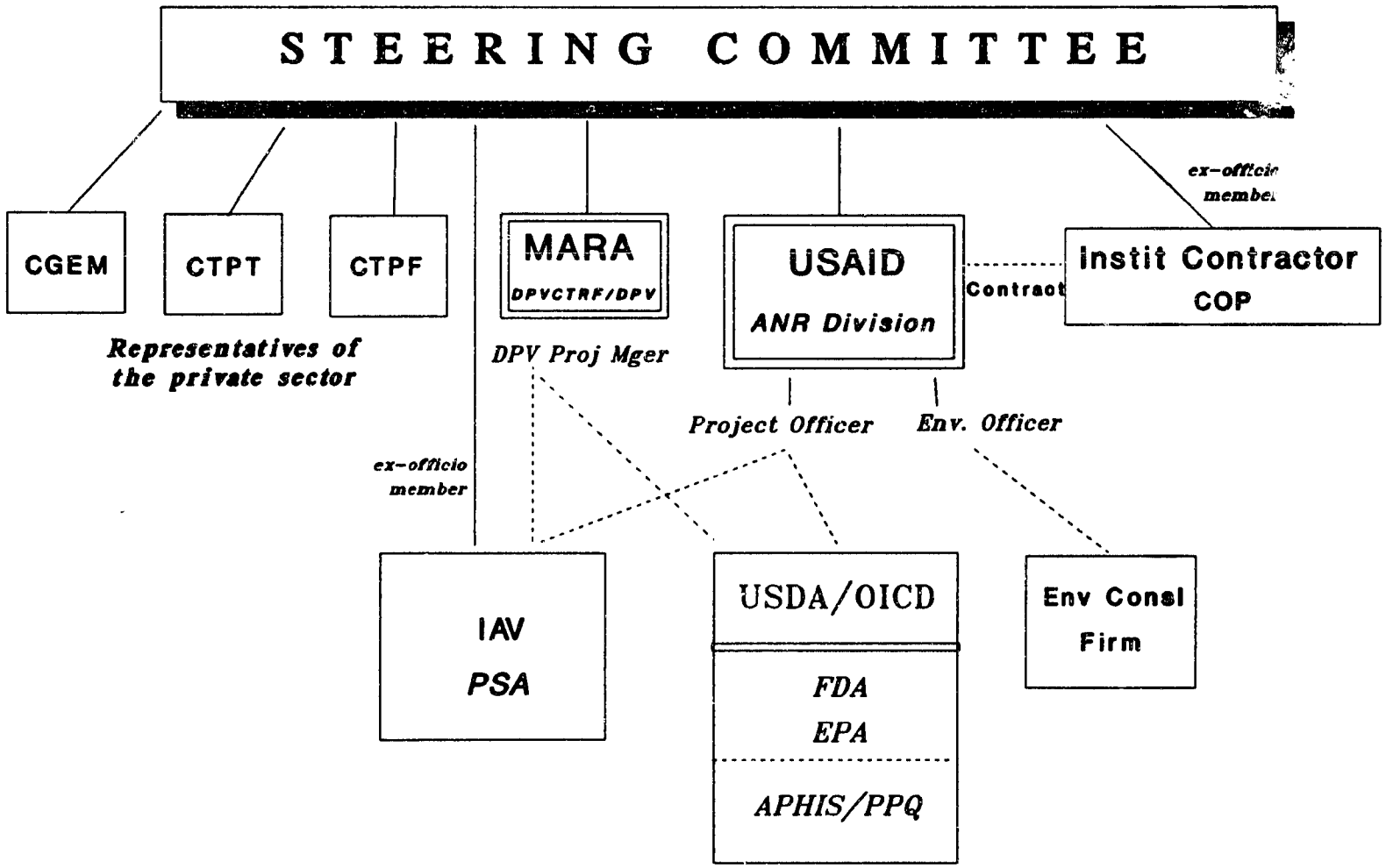
41

Chart 1.4: M.A.P. Project Main Relationships



48

Chart 1.5: M.A.P. Project Institutional Organization



43

- a Chief of Party (five years) supported by national and expatriate staff in Morocco and in the United States for the duration of the contract;
- an American agribusiness specialist (based in the United States, three years);
- a Moroccan marketing specialist (four years);
- an expatriate agricultural economist (three years);
- a Moroccan horticultural specialist with private sector experience (three years); and,
- an agribusiness investment/promotion specialist (four years).
- approximately 135 person-months of short-term technical assistance to accomplish project objectives.

The COP will be responsible for ensuring that the overall contract is implemented and that it is connected to decision-makers in government and industry. He/she will also be responsible for representing the contractor to USAID, serving as ex-officio member of the Steering Committee, managing the technical assistance team, and for insuring the efficient functioning and coordination of all contract activities.

The expatriate investment/promotion specialist and the Moroccan marketing specialist will supervise the promotion component activities in Morocco and other markets, such as Europe. The expatriate American agricultural economist and the Moroccan horticultural specialist will direct activities in the investment climate, support services, and human resource development components. The American agribusiness specialist will be based in the U.S. and will be responsible for promotional activities, agribusiness matchmaking between Moroccan and U.S. firms, and for overseeing U.S. training and study tours.

E. IAV/PSA: The PSA will implement in-country training, applied research, and outreach services. Coordination of PSA activities with those of the TAT will be assured through the Steering Committee mechanism and through constant coordination between the TAT COP and the Director of the PSA.

1.12 Beneficiaries

The primary beneficiaries of the project will be small to medium agribusiness entrepreneurs, cadre level personnel, including women, in larger agribusinesses and public institutions, and rural and urban unemployed. The project will also be an efficient way to benefit small and medium private entrepreneurs within the agribusiness sector.

Increased employment will mean more opportunities for women. Training activities will be specifically targeted at women, as project funded training activities will use USAID/Morocco policies - one women for every two males trained. Secondary beneficiaries will include business service providers and consumers and small, private farmers.

Chart 1.6
LT-TA Level of Effort by Component

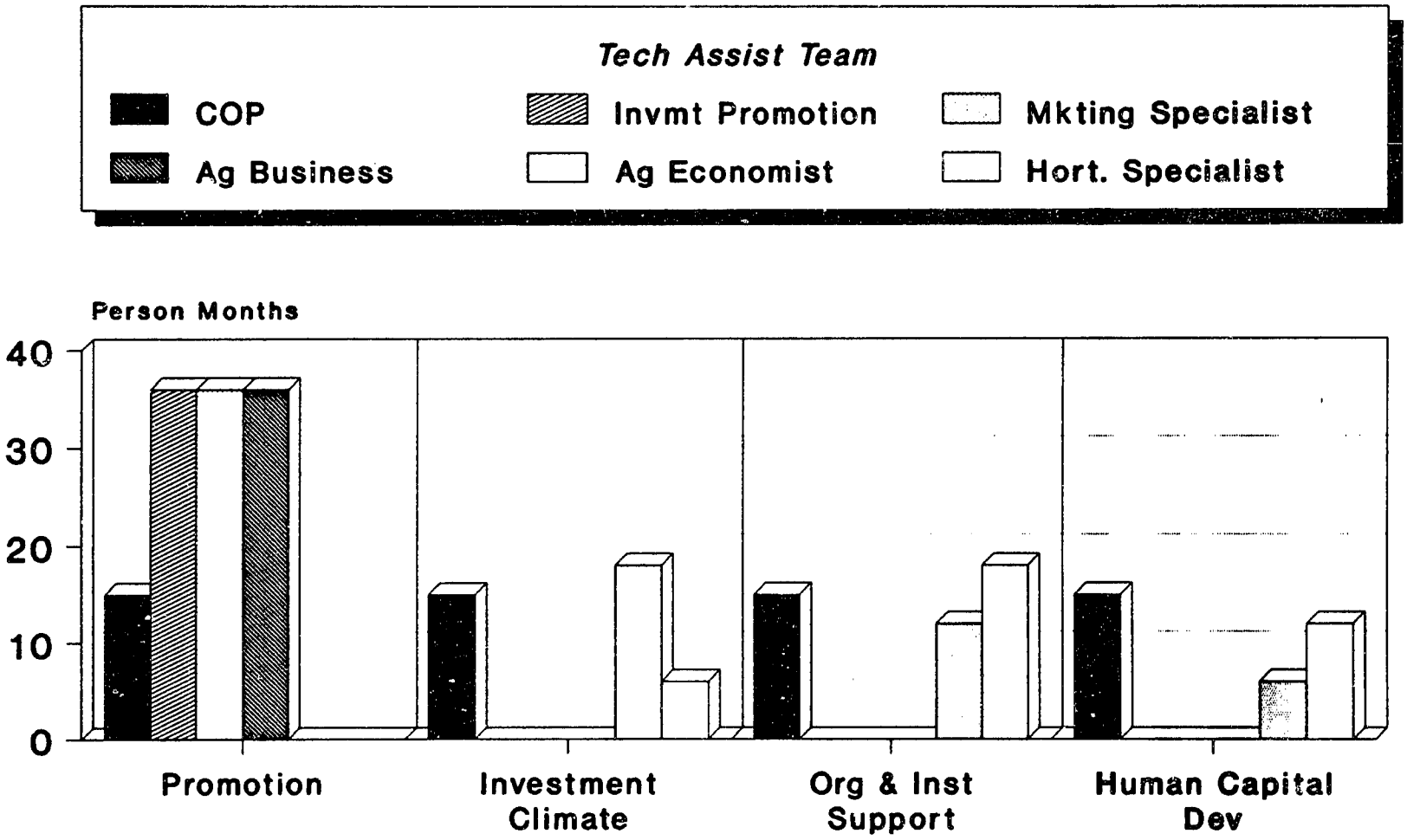


TABLE 1.1: DISTRIBUTION OF LONG-TERM and SHORT-TERM TECHNICAL ASSISTANCE

COMPONENT	(American) COP		(American) Inv Promo Specialist		(Moroccan) Marketing Specialist		(American) Agri-Bus Specialist		(American) Agric Economist		(Moroccan) Hort. Ind Specialist		Total PM Long-Term TA	Total PM Short-Term TA		
	%	pm	%	pm	%	pm	%	pm	%	pm	%	pm		Inst Contr	USDA	CAAB
1. Promotion	25%	15	100%	48	100%	36	100%	36					135	19.0		
2. Inv Climate	25%	15							50%	18	17%	6	39	54.0		
3. Ind. Organ/Support	25%	15							33%	12	50%	18	45	18.5	29.4	
4. Human Capital Dev	25%	15							17%	6	33%	12	33	5.0		36.0
	100%	60	100%	48	100%	36	100%	36	100%	36	100%	36	252	96.5	29.4	36.0

CHAPTER TWO: COST ESTIMATE AND FINANCIAL PLAN

The MAP Project is a $29.6 million project to which AID is contributing $20 million, the Moroccan government and private sector about $9.6 million, and an environmental assessment firm may contribute approximately $120,000. Most direct project funds will be used to cover the cost of technical assistance ($5.7 million), the PSA program ($5 million), promotion and investment funds for the private sector ($4 million), funds for training, workshops, and conferences ($3.1 million), followed by funds for promotional travel expenses ($2.4 million). The table below provides a summary of direct and indirect project costs while Table 2.2 provides more details on annual project input costs.

Table 2.1
SUMMARY OF PROJECT COSTS
($000)

INPUT	AID	GOM	Private Sector	TOTAL
Tech Assistance	4,876	775	-	5,651
Promo Travel	1,322	550	500	2,372
P&I Fund	2,000	-	2,000	4,000
Trn/Wkshops/Confr	1,804	290	1,000	3,094
Equip & Supplies	314	25	-	339
PASA (USDA)	1,061	25	-	1,086
PSA	2,500	2,536	-	5,036
Env Conslt Firm	150	-	-	150
Buy-ins	200	-	-	200
Evaluation	330	45	-	375
Audit	37	-	-	37
Indirect Costs	5,405	1,016	838	7,259
TOTAL COSTS	20,000	5,262	4,338	29,600
Share of Total Cost:	67%	18%	15%	100%

Project funds were budgeted according to the major project interventions of early start-up activities, cross-cutting activities, and four project components. Early start-up costs include an introductory workshop, buy-ins to other projects, study tours, and information baseline studies.

Funds for cross-cutting activities include industrial diagnostic studies, the P&I Fund, and vehicles, equipment and supplies (for the institutional contractor).

Within the project components, funds have been budgeted for such activities as technical assistance, market identification and product development, industry-wide and firm promotion, studies and analyses to address industry, sectors or sector-wide issues, workshops and conferences, study and/or observation tours, etc.

TABLE 2.3: A.I.D. INPUT COSTS by COMPONENT

COMPONENT / INPUTS	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
			($ 000)				
EARLY START-UP ACTIVITIES	312						312
CROSS-CUTTING ACTIVITIES							
A. Ind Diagnostic Studies	344						344
B. P&I Fund	515	500	500				2,015
C. Vehicles/Off Eq/Supplies	205						205
Sub-total:	1,064	500	500				2,564
1. PROMOTION							
A. Long-term TA	455	455	455	304	81		1,751
B. Short-term TA	75	32	24	21	11		164
C. Promo Travel	367	254	338	218	146		1,322
D. Trn/Wkshops/Confr	10	40		20	10		80
E. Equipment	2	2	2	2	2	2	9
Sub-total:	909	783	819	565	249	2	3,326
2. INVMT CLIMATE							
A. Long-term TA	164	164	164	59	71		622
B. Short-term TA	236	150	64	86	43		580
C. Trn/Wkshops/Confr	10	10	10	10	10	10	60
Sub-total:	411	325	239	155	124	10	1,263
3. IND ORGAN & INST SUPPORT							
A. Long-term TA	156	156	156	59	71		598
B. Short-term TA	45	30	90	45	37		247
C. Equipment	50	50					100
D. USDA PASA	796	265					1,061
E. Env Consultating Firm	150						150
Sub-total:	1,197	501	246	104	109		2,156
4. HUMAN CAPITAL DEV							
A. Long-term TA	110	110	110	59	71		450
B. Short-term TA	75						75
C. Trn/Wkshops/Confr	777	241	211	199	119	25	1,572
D. IAV-PSA	2,500						2,500
Sub-total:	3,462	351	321	258	190	25	4,606
5. EVALUATION & AUDIT			217			150	[illegible]
6. INDIRECT COSTS	1,919	1,093	1,094	750	522	27	5,405
GRAND TOTAL:	9,273	3,552	3,435	2,331	1,194	214	20,000

TABLE 2.2: MAP PROJECT ANNUAL EXPENDITURES
($000)

INPUTS	FY-92		FY-93		FY-94		FY-95		FY-96		FY-97		TOTALS			TOTAL
														:---Morocco---:		
	AID	Morocco	AID	Morocco	AID	Morocco	AID	Morocco	AID	Morocco	AID	Morocco	AID	GOM	Private Sector	
1. Long-term TA	885	150	885	150	885	150	480	150	295	50	--	--	3,430	650	--	4,080
2. Short-term TA	811	50	213	20	178	20	152	20	91	15	--	--	1,446	125	--	1,571
3. Promo Travel	367	200	254	200	338	200	218	200	146	200	--	50	1,322	550	500	2,372
4. P&I Fund	500	667	500	667	500	667	500	--	--	--	--	--	2,000	--	2,000	4,000
5. PSA/Trn/Wks/Confr's	3,389	2,277	291	340	221	284	229	299	139	319	35	309	4,304	2,826	1,000	8,130
6. Equipment	257	25	52	--	2	--	2	--	2	--	2	--	314	25	--	339
7. USDA PASA	796	25	265	--	--	--	--	--	--	--	--	--	1,061	25	--	1,086
8. Env Consulting Firm	150	--	--	--	--	--	--	--	--	--	--	--	150	--	--	150
9. Buy-Ins	--	--	--	--	--	--	--	--	--	--	--	--	200	--	--	200
10. Evaluation	--	--	--	--	180	25	--	--	--	--	150	20	330	45	--	375
11. Audit	--	--	--	--	37	--	--	--	--	--	--	--	37	--	--	37
Sub-total:	7,354	3,393	2,459	1,376	2,341	1,345	1,581	669	673	584	186	379	14,595	4,246	3,500	22,341
12. Overhead																
- Tech Assistance	809	--	534	--	518	--	279	--	251	--	--	--	2,392	--	--	2,392
- Other Costs	529	--	209	--	196	--	157	--	100	--	13	--	1,204	--	--	1,204
13. Fee	257	--	136	--	130	--	86	--	54	--	3	--	665	--	--	665
Sub-total:	1,595	--	878	--	844	--	523	--	405	--	16	--	4,261	--	--	4,261
14. Contingency	324	164	171	67	164	65	109	32	68	28	4	18	839	206	169	1,214
15. Inflation	--	255	44	214	87	326	118	224	49	254	8	206	305	811	668	1,784
TOTAL:	9,273	3,812	3,552	1,657	3,435	1,736	2,331	925	1,194	866	214	603	20,000	5,262	4,338	29,600

Notes on U.S. Costs: (see also Table 2.7 and Annex H)

Overhead Rates for Institutional Contractor:

100% of wages and fringe benefits for Tech Assistance

35% for Other Costs (Promo Travel, Training, & Equipment)

8% Fee for Institutional Contractor on TA, Promo Travel, Training, & Equipment

10% Contingency factor on TA, Promo Travel, Training, & Equipment

4% Compounded inflation factor on Promo Travel, the P&I Fund, Training, & Equipment

Notes on GOM Costs:

5% GOM Contingency factor

7.5% GOM Inflation factor

TABLE 2.4: ANNUAL A.I.D. COSTS by COMPONENT and ACTIVITY

COMPONENT / ACTIVITIES	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
			($000)				
EARLY START-UP ACTIVITIES							
- Intro Workshop	20						20
- Buy-ins	200						200
- Study Tours	72						72
- Baseline Studies	20						20
Sub-total:	312						312
CROSS CUTTING ACTIVITIES							
- Ind Diagnostic Studies	344						344
- P&I Fund	515	500	500				2,015
- Vehicles/Off Eq/Supplies	205						205
Sub-total:	1,064	500	500				2,564
1. PROMOTION							
- Long-term TA	455	455	455	304	81		1,751
- Market Id and Prod Dev	327	254	289	187	94	2	1,153
- Industry & Firm Promo	127	74	74	74	74		422
Sub-total:	909	783	819	565	249	2	3,326
2. INVESTMENT CLIMATE							
- Long-term TA	164	164	164	59	71		622
- Sec Pol Studies	129	64					193
- Non-Sec Pol Studies	43	43		43	43		172
- Ind Spec Studies	64	43	34	43			215
- Workshops/seminars	10	10	10	10	10	10	60
Sub-total:	411	325	239	155	124	10	1,263
3. IND ORGAN & INST SUPPORT							
- Long-term TA	156	156	156	59	71		598
- Stim Supply Services	0	30	30	30	30		120
- Trade Associations	95	50	60	15	7		227
- PASA (USDA)	796	265					1,061
- Env Consultating Firm	150						150
Sub-total:	1,197	501	246	104	109		2,156
4. HUMAN CAPITAL DEV							
- Long-term TA	110	110	110	59	71		459
- Ind Awareness Training	87	36	36	24	24		207
- Follow-up Conference	10	10	10	10	10		50
- Outreach Fund	40	25	25	25	25	25	165
- Apprenticeships	285	120	90	90	60		645
- Long-term Training	430	50	50	50			580
- IAV - PSA	2,500						2,500
Sub-total:	3,462	351	321	258	190	25	4,606
5. EVALUATION			180			150	330
6. AUDIT			37				37
7. OVERHEAD & FEES	1,595	878	844	523	405	16	4,261
8. CONTINGENCY & INFLATION	324	215	250	227	116	12	1,144
GRAND TOTAL:	9,273	3,552	3,435	2,331	1,194	214	20,000

50

2.1 AID Contribution

Annual AID expenditures are shown in Table 2.2 while Table 2.3 shows input costs by component, and Table 2.4 shows costs by component and activity. See Table 2.6 for background information on assumptions behind AID input cost calculations and Annex H for more details on costs.

AID is providing over two-thirds of all project costs. Most of AID's contribution is for technical assistance, comprised mainly of long-term technical assistance as well as almost $1.5 million for short-term technical assistance to conduct agribusiness sector and sub-sector studies and an additional approximate $865,000 for sector-wide short-term technical assistance.

AID has earmarked 14 percent of its contribution for training, workshops, conferences and tours, 11 percent for promotional travel expenses for Moroccans, and another 11 percent for the private sector promotion and investment fund (approximately $500,000 a year for 4 years). These funds are AID's most unique input. This promotion and investment grant program will require a minimum 50/50 cost-sharing on the part of the private sector so that the total amount of resources involved in this program is almost twice the AID input. This grant program will be administered by the institutional contractor and is described in greater detail in Chapter 3 and the procedures for contracting and accounting are explained in Chapter 5.

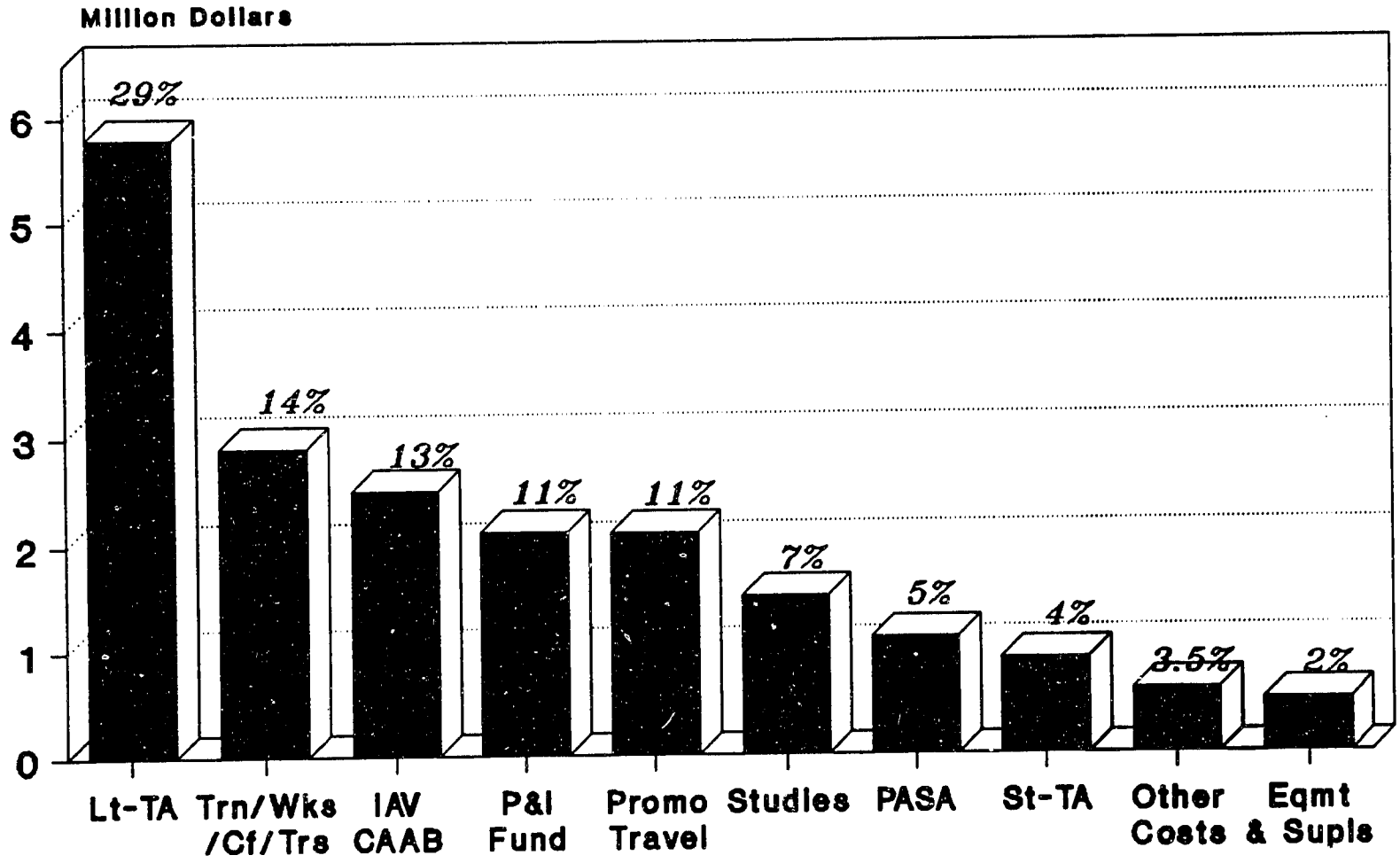
AID will provide as much as $2.5 million, or 12 percent of its budget, for the PSA. About $1.5 million has been established as necessary for a Phase I, 3 year program in support of foreign exchange costs for technical assistance, commodities, program operations, international travel and contingencies (see Annex M).

To support environmentally related issues in this project, AID has set aside $150,000 to procure the services of an environmental consulting firm.

2.2 Moroccan and Other Contributions

The Moroccan contribution to the project (about one-third of total project costs) will be primarily the GOM's support of the PSA at IAV which is over 50 percent of the GOM's contribution. Most of this will be of an in-kind nature. The other important part of the GOM contribution will be funds for international travel and transportation costs. The Moroccan private sector's contribution will consist primarily of matching funds related to the promotion and investment development program plus funds for training, international travel and transportation.

Chart 2.1
Distribution of A.I.D. Costs



Including inflation, contingency, etc.

Chart 2.2
Dollar Project Component Costs

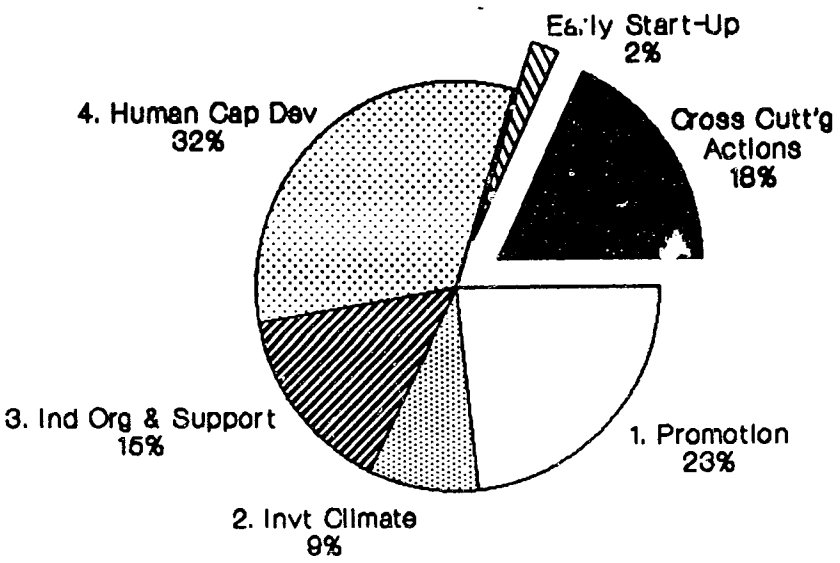
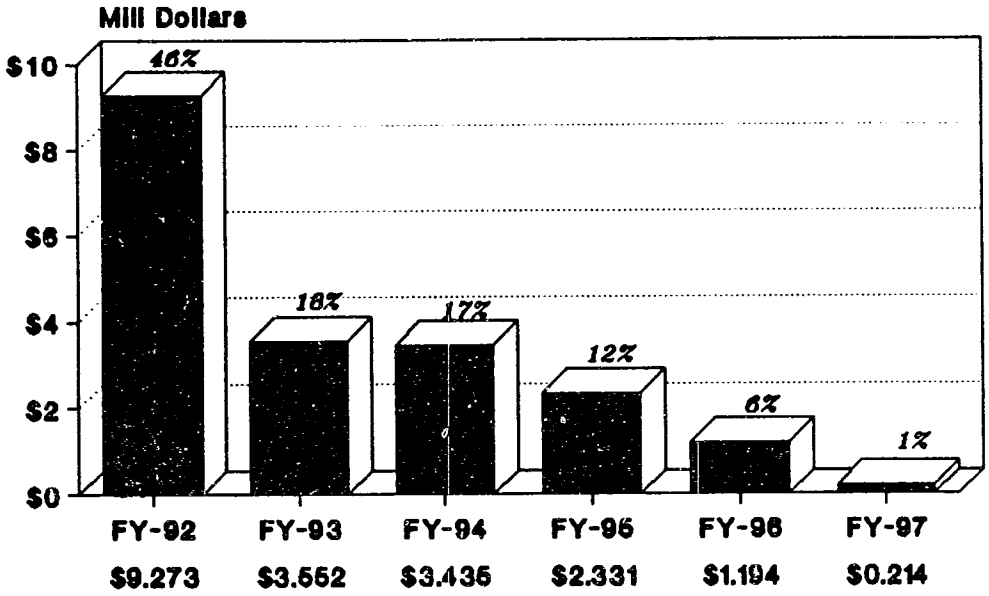


Chart 2.3
Dollar Expenditures



There is a possibility that the environmental consulting firm will provide some contributions to the project. For example, an organization like the World Environment Center would contribute initially about $120,000 to match the AID $150,000 and on a matching fund basis, their contribution could reach a maximum of a $1.5 million, depending upon how much AID is able to contribute. The WEC contribution would be in-kind donations of experts' time and resources in support of projects. AID would be expected to fund direct costs (e.g., commodities, studies and short-term technical assistance, training, etc.) and overhead. The WEC proposal dated 3/12/91 has more information on this activity.

2.3 Recurrent Costs and Financial Sustainability

Given the fact that this project is directed towards supporting only financially viable, market driven private sector investment and business activities, no major recurrent cost and sustainability problems are expected to arise. This project intends to leave behind primarily a process for continued business development and growth and only a few public sector institutional capabilities to assist the growth of the private agribusiness sector. However, there may be some recurrent cost and sustainability issues in these particular institutional enhancement activities involving the Ministry of Agriculture and IAV.

The Ministry of Agriculture activities are related to improving phytosanitary, post-entry quarantine and pesticide use standards. No significant recurrent cost and sustainability problems are likely since project inputs are mainly for training and technical assistance to improve public sector performance and responsiveness to private sector needs. The extent to which the GOM and private sector are able to successfully expand exports and find new markets will to a large extent, depend on these services. This fact, in turn, will likely insure that these services are not neglected. The private sector's willingness and ability to pay for these services will be one way to measure sustainability. The U.S. provides an excellent example of where American firms pay for such services that enables the government to maintain a quality program.

This is equally likely at IAV where continued support for the agribusiness training and outreach programs in the PSA, which could be about $200,000 in operating costs per year, must come from the increased business activity in the private sector. The best way to ensure continued support of PSA after the project ends is for there to be sustained demand for IAV trained people and private sector financial support of student attendance at PSA and financing of outreach program activities. It will be up to IAV to maintain quality programs and be responsive to private sector needs; otherwise they will voice their opinion by withdrawing their interest and financial support.

2.4 Financial Plan

As shown in Table 2.3, AID (through USAID/Morocco) anticipates spending $312,000 for early start-up costs of a MAP Project introduction workshop, buy-ins to other projects, study tours, and the cost of starting the baseline studies. Annual dollar expenditures are expected to be greatest in FY-92 ($9.3 million or 46 percent of total dollar expenditures) and are expected to decline gradually over the next 5 years (see Chart 2.3).

AID expenditures are distributed among three cross-cutting activities and the four components. The cross-cutting activities (industrial diagnostic studies, the P&I Fund, and equipment and supply purchases) are about 18 percent of AID dollar project costs. The Promotion and the Human Capital Development Components will benefit from the majority of AID funds, 23 and 32 percent respectively (see Chart 2.2). AID is also financing an audit and two evaluations.

An institutional contractor will be contracted directly by AID as the primary implementing agent on behalf of AID. This contract is anticipated to total about $12.6 million for technical assistance ($7.8 million), promotional travel expenses ($1.9 million), funds to support training, workshops, conferences, and tours ($2.5 million) and roughly $450,000 for equipment and supplies. Within technical assistance costs, funds have been budgeted for U.S. based home-office expenses as well as staff and maintenance costs of a Moroccan office (including administrative costs for the P&I Fund).

Of the remaining $7.4 million, USAID will finance buy-ins (e.g., with AMIS), the P&I Fund, a sub-grant to IAV for the PSA, a PASA with the USDA, and the services of an environmental consulting firm (e.g., a requirements contract) such as the World Environment Center.

The agribusiness environment will undoubtedly change over the life of the project. Efforts will be made to maintain the maximum flexibility in the allocation of MAP financial resources, in order to enable the Project to respond quickly and effectively to these changes and opportunities as they may arise.

2.4.1 Methods of Implementation and Financing

The "US Direct Reimbursement/Payment Method" will be the primary method of financing an institutional contract for approximately 68 percent of AID project costs. This method will also be used for a PASA with the USDA. Direct Payment will be the other method of financing the contribution to IAV, the private sector, buy-ins, and other AID costs.

Funds will be granted to IAV through an agreement with MARA. IAV will in turn, use a Host Country Contract to secure

the dollar funded services necessary for the PSA Program. Prior to any actions in this regard, however, it will be necessary to review and certify IAV's host country contracting ability.

The P&I Fund will operate as a grant program to the private sector through the institutional contractor while AID will have veto authority over issuance of grants. A grant recipient must match the AID grant funds on an equal basis and only those items or activities eligible for financing under OMB Circular Number A-122 will be funded. The procedures for implementation of the grant program are described on page 10 of Chapter 1.

The PASA and buy-ins will follow standard AID procedures (e.g., the issuance of PIO/Ts) for such programs.

Summary of Methods of Implementation and Financing

Method of Implementation	Method of Financing	Approx. Amount ($ 000)
TA - AID Direct Institutional Contract	Direct Reimbursement	$12,615
TA - AID Direct PSCs	Direct Payment	260
PASA	Direct Reimbursement	1,061
Sub-Grant (PSA)	Direct Payment	2,500
Grants (P&I Fund)	Direct Reimbursement	2,125
Buy-Ins	Direct Payment	200
Other Costs	Direct Payment	1,239
Total Project:		20,000

TABLE 2.5: USDA - PASA Budget

	AID	GOM ($000)	TOTAL
1. Short-term Tech Assist		25	172
- Mkt News Service	40		
- Agbus Info Center	37		
- Grades & Standards	40		
- OICD TA Setup	30		
2. Training		25	160
- Market News	50		
- Pesticides	35		
- PPQ Site Training	50		
3. Ag Mkting Hbk & Trls Sv	58		
4. Post entry Site Visits	10	25	35
5. Prod Dev & Utilization	220		
6. Equipment	200	25	225
7. Contingency	10		
Sub-total:	780	100	332
8. Overhead (36%)	281		281
Total	1,061	100	1,161

TABLE 2.6: Background Data

	Unit Cost		Units
TECHNICAL ASSISTANCE			
- Home Office Staff	$50,000	/year	
- Local Office Staff	$50,000	/year	
- Long-Term TA (in US)	$100,000	/year	36 pm
- Long-Term TA (US OvSeas)	$185,500	/year	144 pm
- Long-Term TA (Moroccan)	$60,000	/year	72 pm
			252 total
- Short-term TA (US OvSeas)	$15,000	/pm	56 pm
- Short-term TA (Moroccan)	$6,500	/pm	41 pm
			97 total
TRAVEL			
- AgBus Spec Activities	$10,000	/year	
- U.S./International Trips	$12,000	/rd-trip	29 trips
TRAINING			
- Outreach/Local Wksp,Confr	$5,000	/student	30 students
- Apprenticeships	$30,000	/student	20 students
- Workshops	$10,000	/program	19 wkshops
- Long-term Training			
- MS	$70,000	/program	4 students
- PHD	$100,000	/program	1 students
- Post Doc	$50,000	/program	4 students
COMMODITIES			
- Eqmt for Trade Assoc's	$50,000		
- Subscriptions	$1,500	/year	6 subsc
- Vehicles	$20,000	/vehicle	6 vehicles
- Office Equip & Supplies	$85,000		
P&I FUNDING PER YEAR	$500,000	/year	4 years

OVERHEAD RATE: (Institutional Contractor)		
- on TA wages and benefits	100%	
- Other Costs	35%	
FEE: -- Instit. Contractor	8%	
CONTINGENCY	10%	/year
INFLATION	4%	compounded annually

CHAPTER THREE: IMPLEMENTATION PLAN

3.1 Length of Project

The length of project is seven years.

3.2 General Approach to Implementation

The administration and implementation of the project will be based on the principle that activities are to be directed as much as possible by private industry. By the very nature of the Subsector Diagnostic Studies, which require extensive interaction with the agribusiness private sector, industry will have the opportunity to work with MAP in jointly developing an approach to overcome identified constraints. This collaboration will be guaranteed through the establishment of the Project Steering Committee with representatives from the private sector, USAID, and the GOM.

Regular, close contacts with firms, professional and trade associations, and agribusiness support services will be necessary throughout the length of the project, since understanding of industry constraints, and opportunities comes from constant interaction. This will involve a significant outreach and communications effort on the part of the TAT. The technical assistance itself will be through joint expatriate and Moroccan teams of experts, thus allowing MAP to capitalize on appropriate cultural, linguistic, and technical skills to help build and strengthen dynamic, new, export-oriented agribusiness.

This vital program of interaction with agribusiness industries will come from regular contacts with:

- Individual firms that produce raw product, process, and market finished goods;
- Formal or informal groupings of firms on a national or regional basis; and
- Public and private suppliers of training, information, product development, marketing, and other services in the support of industry development.

3.3 Basic Implementation Process

The major share of implementation activities (conduct of subsector diagnostic studies and baseline studies, developing monitoring systems, developing subsector action plans and annual workplans, implementing policy studies and the promotion and investment fund, overseas training) will be the responsibility of the Institutional Contractor. Other responsibilities will be with other implementing institutions, principally IAV/PSA for its own agribusiness training and support activities, and USAID, which will have the primary responsibility for managing the USDA PASA, the environmental consulting firm Agreement, and central project buy-ins. All activities will be coordinated through the Steering

Committee and approved by USAID as necessary.

A basic four-step process will be followed by the institutional contractor's TAT in working with the commodity subsectors; this process will also serve as a general framework for project implementation, and is outlined below:

1. **Step one -- initial contacts with the commodity subsector** (one to two months): The TAT will review existing information on the commodity subsector and make initial visits to sample producers, processors, exporters, as well as to national and regional trade associations within the subsector. Information from these initial contacts will be used by the TAT to develop a specific TOR (perhaps based on a generic TOR developed for the initial commodity subsector study) adapted to the particular circumstances of the subsector in question. The TOR for each study will include the preparation of a draft two to three year action plan for the subsector. The team will finalize the TOR for approval by USAID and begin to recruit and mobilize the expatriate and Moroccan personnel needed for that assignment. Information gathered in this process will also serve as baseline data for monitoring and evaluation purposes.

2. **Step two -- Subsector Diagnostic Study** (an average of two person-months of short-term TA per study): An outside team, contracted by the TAT, will conduct the Diagnostic Study with support and assistance from the TAT. This work will include a final presentation of team recommendations for the subsector action plan and will include reports on discussions with a selected group of industry representatives and appropriate specialists from supporting institutions (e.g. PSA, INRA, IMEC, MARA, EACCE). Additional detail on the methodological approach is contained in Annex L.

Plans for action in any one commodity subsector will take into account the amount and types of project resources available to assist industry-wide efforts and the other activities underway under project auspices. The TAT COP will have an important role in making sure that both short-term diagnosis personnel and resident staff have a clear understanding of these resource constraints and trade offs. High priority will be given to leveraging limited project resources for maximum impact.

3. **Step three -- Development of Subsector Action Plan** (to be completed within one month of the end of the Diagnostic Study): The TAT will review the Diagnostic Study Report and recommended subsector action plan, which will contain a detailed description of activities to be carried out in the first year of implementation. It is anticipated that the action plans will vary widely from one commodity to the next, given the differing opportunities and constraints of those industries, and the varying degree to which the general categories of project resources and actions are appropriate under those circumstances. The Action Plans will then be

reviewed by the Steering Committee prior to initiation of implementation. The Steering Committee can suggest modifications to plans within a specific period of time if it deems this necessary.

4. **Step four -- begin implementation of the subsector action plan on an annual cycle:** It is estimated that the entire process of subsector diagnosis and development and approval of an action plan may take up to six months. At this point, implementation may begin, with activities included in the institutional contractor's work plan for subsequent years. The Team will forward periodic action plan implementation status reports to the Steering Committee and USAID.

It is important to note that as the project personnel gain more in-depth understanding of the agribusiness sector in the country, the commodity subsector approach can be modified with mutual agreement between USAID and the Ministry of Agriculture. To the extent feasible, targets of opportunity within the agribusiness industry will be seized as they arise. A different, and perhaps more efficient method of impacting the agribusiness sector may evolve.

Commodity subsectors, too, might change, as more in-depth knowledge becomes available. The process of modifying the list of commodity subsectors will simply be a matter of the TAT notifying the Steering Committee of any proposed changes in emphasis. The Steering Committee will review such proposals, and they can be approved by mutual agreement (for example,through a Project Implementation Letter) between the Ministry of Agriculture and USAID.

While this process is going on the IAV/PSA will be planning training, applied research, and outreach activities. Similarly, USAID, in collaboration with MARA and the institutional contractor, will develop annual plans for the use of PASA, an environmental consulting firm and central project resources under its direct control. MARA will utilize project resources to develop the protocol for APHIS activities.

The Steering Committee will play a vital role in MAP implementation in three distinct ways: as a forum for discussing agribusiness-related issues from the perspectives of the GOM (MARA), the private sector and USAID; as the coordinating body for the different parties, reviewing workplans and ensuring that everyone is working together to achieve project objectives; and as the review panel for grants from the Promotion and Investment Fund. Secretariat functions for the Steering Committee will be performed by the TAT, with the COP serving on the Committee in an advisory and secretarial status, except for approval of the P&IF when the COP will have full voting rights. Representatives of other agencies can serve on the Committee in ex-officio roles, as appropriate.

3.4 Specific Implementation Actions

3.4.1 Institutional Contract: The institutional contractor will be responsible for a wide range of services, including provision of all long-term and the bulk of the short-term technical assistance, determining the needs and implementation of U.S. training, planning and implementation of subsector diagnostic and policy studies, management of the P&I Fund, preparation of subsector action and annual workplans, and, as noted above, playing an overall coordinating role as secretariat for the Steering Committee. The technical assistance resources under the contract will be applied primarily to the conduct of the subsector diagnostic and policy studies, preparation of action plans, and the provision of advisory services to associations and firms in accordance with the action plans. Long term technical assistance will consist of a Chief of Party, agribusiness specialist, agricultural economist, marketing specialist, horticultural specialist, and an investment/promotion specialist.

The contract will be A.I.D. direct, openly competed. The contracting process will be initiated as soon as possible after project approval and authorization and the review of the terms of reference by the Steering Committee. Because of the breadth of services required, a consortium of consulting and training institutions, or private sector agribusiness firms, with strong private agribusiness sector linkages, will be encouraged. The target date for having the institutional contractor selected and on the ground in Morocco is the summer of 1992 at the latest.

3.4.2 Training: U.S. (and third country, when appropriate) training needs will be determined by the institutional contractor through the subsector diagnostic surveys; any additional training needs (e.g., for MARA staff) will be identified through contacts with the Steering Committee. Training plans will be included in the TAT's annual workplans. U.S. and third country internships and agribusiness-tailored specific study tours and seminars will be programmed and managed by the institutional contractor, at least for the initial years of implementation. The feasibility of the transfer of all training responsibilities to PSA will be assessed in the midterm evaluation.

3.4.3 IAV/PSA: IAV/PSA will be responsible for contracting for needed technical assistance and commodities in accordance with A.I.D. host country contracting procedures. PSA activities will be focussed initially on the development of a curriculum for an advanced agribusiness degree or certificate, applied research designed to address stated packaging and processing problems, and outreach. Short-term training addressing specific problems, and high-interest seminars will also be developed. IAV/PSA will be represented on the MAP Steering Committee, in an ex-officio role, as appropriate, to help insure the integration of PSA with other Project activities.

3.4.4 Promotion and Investment Fund: The purposes of the P&IF are to, 1) promote greater risk taking on the part of

individual firms during initial phases of new product or market development, and, 2) strengthen the private sector focus of research and development that supports agribusiness. P&IF monies will be accessible by private Moroccan firms, U.S. firms interested in the development of agribusiness processing, production, and/or marketing from Morocco, or any combination of these. The Fund will be accessed by a competitive application process. Maximum funding per activity under the P & I Fund will be $100,000 and funds will be available on a 50/50 matching basis.

Applications for grants from the P & IF will first go to the TAT for evaluation. The TAT will make the decision as to which proposals are fundable, based on criteria determined by TAT in consultation with USAID. Proposals will be sent to the Steering Committee which will review them and make recommendations for final approval by USAID. The TAT will manage the Fund and will be responsible for ensuring that grant monies are spent according to Agency rules and regulations.

3.4.5 USDA PASA: A PASA with USDA will be negotiated and signed as soon as possible after signing of the Project Agreement. Discussions concerning this have already taken place in Washington; initial response to these preliminary discussions has been positive. Short-term technical assistance under the PASA will be authorized by means of PIO/Ts. Terms of reference for specific assignments under the PASA will be developed by the USAID Project Officer and will pass through the Steering Committee for coordination purposes.

3.4.6 Private Sector Environmental Consulting Firm: USAID/Morocco will arrange for the services of an environmental consulting firm through a contracting modality which will be determined by the USAID Contracting Officer and the Project Officer. This modality will be used jointly by the New Enterprise Development Project and MAP. Requirements for environmental assistance will either be identified by the TAT and included in the annual workplans or will arise in the course of reviewing proposals under the Promotion and Investment Fund. In either case, a PIO/T will serve as the mechanism for requesting services.

3.4.7 Monitoring: The TAT will be responsible for development and implementation of a project monitoring plan. TAT and IAV activities will be monitored through the use of periodic progress reports. In addition to the periodic progress reports, annual meetings of the Steering Committee will review the previous year's accomplishments and problems, and formulate plans for the following year. The regular quarterly meetings of the Steering Committee will also serve as a forum for monitoring project activities. As in all USAID supported private sector projects, a monitoring database will be set-up by the Institutional Contractor.

3.4.8 Evaluation: One midterm and one final evaluation of the project are planned. Both will be funded by the project and will be undertaken by outside experts, likely using an IQC.

3.4.9 Commodities: Commodity procurement under MAP will be limited. The following are the main items for procurement under the project:

1. Food technology research and testing equipment for IAV/PSA;
2. Office furnishings and necessary supplies for PSA;
3. Microcomputer systems and software (primarily for MARA);
4. Residential furnishings, supplies and vehicles for the TAT.

Items one and two will be procured directly by IAV under its grant in accordance with A.I.D. host country contract procedures. Items three and four will be procured by the Institutional Contractor. Authorized source and origin for all commodities will be the U.S. (Code 000) and according to the Agency's "Buy America" guidelines.

USAID/Morocco has determined that subcontracting opportunities exist within the parameters of the project. A.I.D. encourages the participation to the maximum extent possible of U.S. entities that are small business concerns, small disadvantaged business concerns, including women-owned concerns, historically black colleges and universities, colleges and universities whose student body is at least 40 percent Hispanic American, and private voluntary organizations controlled by socially and economically disadvantaged individuals including women. It is anticipated that no less than 10 percent of the total value of the contract will be subcontracted to Gray Amendment entities. Subcontracting plans reflecting no less than 10 percent subcontracting with Gray Amendment entities will be required in proposals submitted.

3.5 Early Implementation Activities

Certain short-term training and consulting activities may be initiated prior to signing of the Project Grant Agreement using USAID/Morocco's existing training project and other funding mechanisms. Implementation cannot get fully underway until execution of the prime institutional contract, a process that is likely to take up to one year. However, on the compliance of the GOM with the Conditions Precedent to Initial Disbursement (see Chapter 6) and the issuance of the first Project Implementation Letter (PIL), a number of implementation actions may be initiated independent of the institutional contract procedures. These consist of:

- Initial meetings of the Steering Committee to agree on procedures and begin implementation planning;
- Certification of IAV for Host Country Contracting procedures;
- Negotiation of the USDA PASA and commencement of PASA services;
- Completion of an environmental consulting firm agreement; and,
- Buy-ins to central and/or regional Agency projects,

notably but not exclusively the Agriculture Marketing Improvement Support Project (AMIS).

One early AMIS buy-in is envisaged for the purpose of planning and implementing the MAP Introductory Workshop in Casablanca to introduce the GOM and private sector to the Project, and to lay out MAP objectives and procedures. Buy-ins may also be used to develop specific criteria for the Promotion and Investment Fund, develop the scope of work for the initial subsectoral diagnostic study, and possibly to conduct the study.

Additional early implementation activities include short courses and study tours for MARA staff and possibly private sector representatives as determined by USAID with input from the Steering Committee.

Finally, follow-up activities to the subsector profiling work (in canned and processed vegetables, grapes and wine, cut flowers, potato seeds, and fruit) by the American Society of Agricultural Consultants (ASAC) can be undertaken through provision of technical assistance and continuation of facilitation of deal-making already begun.

3.6 Implementation Schedule

See Table 3.1.

TABLE 3.1

IMPLEMENTATION PLAN

COMPONENT/ACTIVITY	QTR1	CY 1991 QTR2	QTR3	QTR4	CY 1992 QTR1	QTR2	QTR3	QTR4	1993	1994	1995	1996	1997
LOP MILESTONES													
PP Approval			X										
GOM Negotiation			------										
PROAG Approval				X									
Contractor selection process				---	------								
Pre-Implement Activites				------	------	------							
Intro Workshop					------								
Buy-in to AMIS				------	------								
Study tours				------	------	------							
Baseline Studies					------	------							
Steering Committee Meeting			X		X		X		X	X	X	X	X
Environmental Consulting				X									
Firm negotiations complete													
Contractor Fielded						------	------						
Diagnostis Studies						------	------	------	------				
Annual Workplans complete						------		------	------	------	------	------	------
IAV-CAAB begun				-------									
P & IF criteria developed						------							
P & I Fund advertized						------	------		------	------	------	------	
P & I Fund activities						------	------	------	------	------	------	------	------
USDA PASA negotiated			------										
PASA activities				------	------	------	------	------	------	------	------	------	------
GOM/APHIS negotiations				------									
APHIS activities					------	------	------	------	------	------	------	------	------

TABLE 3.1

IMPLEMENTATION PLAN

COMPONENT/ACTIVITY	CY 1991 QTR1	CY 1991 QTR2	CY 1991 QTR3	CY 1991 QTR4	CY 1992 QTR1	CY 1992 QTR2	CY 1992 QTR3	CY 1992 QTR4	1993	1994	1995	1996	1997
Mid Term Evaluation									------				
Final Report													------
Audit								------					
PACD													X
PROMOTION Component													
Prefeasibility Studies							------	------	------	------	------	------	------
Tech workshops							------	------	------	------	------	------	------
Promotional activities							------	------	------	------	------	------	------
Study tours								------	------	------	------	------	------
Experts to Morocco								------	------	------	------	------	------
Partnership arrangements									------	------	------	------	------
Marketing strategies dev									------	------	------	------	------
New products developed									------	------	------	------	------
New markets developed									------	------	------	------	------
INVESTMENT CLIMATE Component													
In-depth Analyses													

TABLE 3.1

IMPLEMENTATION PLAN

COMPONENT/ACTIVITY	CY 1991 QTR1	CY 1991 QTR2	CY 1991 QTR3	CY 1991 QTR4	CY 1992 QTR1	CY 1992 QTR2	CY 1992 QTR3	CY 1992 QTR4	1993	1994	1995	1996	1997
Transport Study					-------								
Study #2								------					
Study #3											------		
Actionable recommendations							------	------	------	------	------	------	------
Privatization proposals									------		------		
INDUSTRY SUPPORT SERVICES Component													
Operational market Information System installed and functioning (incl equipment purchase)						------			------				
Agribusiness database service upgraded									------				
IAV HASSAN II Industrial Equipment Seed Money													
Food P cessing Line							------						
Packin Line							------						
Private Sector Supply of Agribusiness Services							------	------	------	------	------	------	------

TABLE 3.1

IMPLEMENTATION PLAN

COMPONENT/ACTIVITY	CY 1991 QTR1	CY 1991 QTR2	CY 1991 QTR3	CY 1991 QTR4	CY 1992 QTR1	CY 1992 QTR2	CY 1992 QTR3	CY 1992 QTR4	1993	1994	1995	1996	1997
Plans and actions strengthening trade associations								------	------	------	------		
Industry-wide workshops on improved agribusiness services									------		------		
STTA in Assoc. Mgmt.							------	------	------	------	------		
HUMAN RESOURCE Component													
Industry staff training													
Industry						------	------	------	------	------			
Government					------	------	------	------					
Faculty						------		------	------	------	------	------	------
Training Conferences								------	------	------	------	------	------
Apprenticeships/internships													
Industry Employees					------	------	------	------	------	------	------	------	------
New Graduates					------	------	------	------	------	------	------	------	------
Agribusiness Certificate													
Design						------							
Course Preparation							------	------					

TABLE 3.1

IMPLEMENTATION PLAN

COMPONENT/ACTIVITY	CY 1991 QTR1	CY 1991 QTR2	CY 1991 QTR3	CY 1991 QTR4	CY 1992 QTR1	CY 1992 QTR2	CY 1992 QTR3	CY 1992 QTR4	1993	1994	1995	1996	1997
First Course Series								------					
Evaluation								------					
Subsequent Courses									------	------	------	------	
Long-term study													
Masters									------	------	------	------	------
PhD									------	------	------	------	------
Post-Doctoral									------	------	------	------	------
CAAB activities			------	------	------	------	------	------	------	------	------	------	------

CHAPTER FOUR: MONITORING AND EVALUATION

Monitoring and evaluation of MAP will be an integrated effort involving two parallel activities: One will be the tracking of project inputs and outputs, and of changes in selected economic and social indicators; the other the periodic assessment of overall project progress towards its developmental objectives. Evaluation of progress and effectiveness will rely heavily on the baseline and information tracking that are integral to the monitoring effort. Thus, while implementation responsibilities for monitoring and evaluation will differ, the objectives and overall system can be regarded as a single, distinct and vital component of the Project.

4.1 Project Monitoring

The TAT will be responsible for developing the monitoring plan for the project, including final specification of indicators and monitoring procedures, and for implementing the approved plan following its review by the Steering Committee and approval by USAID. Monitoring will include accounting of project inputs and outputs, tracking of key sectoral and national economic and social indicators, and maintenance of a data base on enterprise or association-specific interventions under the Project. (The first of these may be thought of as **progress** indicators, and the latter two as **impact** indicators.) Information gathered through the monitoring program will be disseminated back to private agribusiness through project participants.

Monitoring will also be important for keeping track of project activities as they relate to the Bumpers Amendment and other relevant considerations, such as A.I.D.'s PD 71, both concerning exports of agricultural products and materials. The monitoring system will include a database that will track all project-related exports and highlight any potential problems. Yearly Steering Committee project reviews will be the forum for determining if further study, project modification, and/or attention must be given to the issue. The final responsibility for ensuring compliance will lie with the TAT.

Not much of a problem is foreseen on this issue, however, as the Mission has already financed a study to investigate the competition between Moroccan and U.S. citrus products in third country markets. This study concluded that only in two third country markets do the two countries actually compete (after correcting for seasonality): Quebec in Canada, and Holland. In both cases Morocco's market share is so small and when seasonality is accounted for, it is not possible for Moroccan exports to adversely affect U.S. market shares in these countries.

4.1.1 Tracking Inputs and Outputs

The purpose of tracking inputs and outputs is threefold:

1. to insure that project activities are continuing

according to the overall guidelines of the Project Paper and Project Agreement;

2. to insure that human and financial resources are being leveraged in the most efficient way possible; and,
3. to provide a timely means of including project participants for making mid-course corrections as necessary based on judgements of current and future trends in agribusiness in Morocco.

The basic input/output monitoring instrument will be the annual workplans prepared by the TAT and PSA, and related quarterly progress reports. Workplans will include descriptions of activities to be undertaken during the year (including subsector action plans), level of effort required, the estimated cost, expected output, and an explanation of how the activities relate to the overall project and component objectives. Annual workplans will be reviewed by the Steering Committee and approved by USAID prior to initiation of the year's activities.

The Steering Committee will formally review progress relative to the workplans, including project expenditures, at meetings twice a year. The meetings will provide an opportunity to modify and update timetables, targets, and task assignments, as appropriate. Also, these reviews will provide an opportunity to assess changes in the local agribusiness climate and how these, in turn, may affect Project plans and activities. As changes take place, the Steering Committee reviews should provide a good vehicle for adjusting the workplans to respond to (or even anticipate) trends and, thus, provide an opportunity for MAP to remain at the leading edge of change.

Results of the Steering Committee reviews will be documented in the form of minutes, including recommendations for any changes in Project emphases and activities.

4.1.2 Impact Monitoring

Monitoring will also extend to the assessment of progress relative to developmental objectives of the project. This activity will be an ongoing responsibility of the institutional contractor. Impact monitoring is divided into two parts: (1) monitoring of economic and social indicators from the national to the subsectoral levels in order to relate Project activities to overall trends; and (2) development of an enterprise or association-specific data base for each MAP-sponsored intervention that will permit an assessment of impact from the "bottom up".

The first part will begin with identification of key indicators such as contribution to GDP, sectoral value added, export volume and value, U.S. investment in Moroccan agribusiness, employment in agroindustry. It is not intended to try to demonstrate direct Project impact on these indicators. Rather, the intent is to establish the overall context in which the Project is operating, which may serve some explanatory value in assessing overall performance. The TAT, with guidance from USAID/Morocco and the Steering Committee, will decide what indicators will be used.

Following identification of indicators, a baseline will be established. This can build upon the already established statistical base and data collection capacity in Planning and Agricultural Economics Department (DPAE) in MARA. Monitoring of project progress in these areas will also involve working with MARA/DPAE to assist them in making their annual surveys more efficient.

Baseline data gathering will extend across commodity subsectors. The approach to collecting data on each subsector will be determined based on the situation in the subsector. In addition, topical surveys on employment generation in the agribusiness sector, employment prospects and performance of graduates with advanced agricultural degrees, and membership and activities of trade associations may be part of this data gathering activity.

The second area of impact monitoring will be the development and maintenance of a complete database on MAP interventions in the private sector and the results of these interventions. This would involve recording the ownership, product line, capitalization, employment, total sales, etc., for each enterprise directly assisted by MAP, and then tracking this over the life of the Project. This would permit a definite relationship to be drawn between project inputs and results and would, when set against the overall sectoral and national backdrops, provide a more complete picture of project impact.

Much baseline data required for impact monitoring is already available from sources such as the Division for Planning and Economic Affairs in the Ministry of Agriculture and the *Etablissement Autonome de Controle et de Coordination des Exportations*.

There are certain special monitoring concerns that have surfaced as a result of analyses undertaken in the course of project development or of specific Agency policies. The social analysis highlighted the need to carefully monitor the impact of increased agribusiness activities on women and children who constitute a large share of both the rural labor force and the employees in agro-processing industries. The monitoring plan will insure that the Project is not in violation of Agency Policy Determinations 15 and 71, which limit or restrict A.I.D. support for activities having adverse effects on U.S. commercial agricultural interests. Monitoring efforts will also ensure that project activities are in line with Agency environmental regulations.

Many project activities are being funded on a cost-sharing basis with the private sector. Private contributions constitute a valuable indicator for the demand among the private sector enterprises for the services of the Project. Close account will be kept of the resources that firms and individuals put forth as their share in costs. Examples are tuition payments for short courses, cost sharing of prefeasibility studies, and matching funds provided by associations for promotion. As in other Mission projects with

similar activities, specific criteria will be developed to determine which expenses under a particular scope of work are chargeable to USAID. One example of a non-chargeable expense is the VAT. The TAT will monitor these cost-sharing contributions, even though the funds themselves do not enter project accounts and are not handled by the project.

4.1.3 Specific Monitoring Considerations and Examples

In general, the subsectors include a given product line or class of product from initial production to the final consumer. The product cycle is organized into production and marketing, with marketing subsequently being divided into assembly, packing, processing, and distribution. For each of these stages, the project will need information on structure, (number and size of firms), volumes, employment generation, regional location, types of technologies, ownership, prices, costs and returns, and the number and role of trade or professional associations.

One way to track all activities that benefit the private sector will be to develop a computerized private sector assistance monitoring system (CPSMS). CPSMS will be a USAID-wide method of tracking and monitoring private sector assistance as it moves into programming for the 90's. For agribusiness, the system will be the responsibility of the TAT, and will be based on three data files: one on the specific agro-enterprise being assisted, one on each major activity supported by the project, and, the third on each trainee participating in project sponsored courses. Data collected for each of the files is listed below:

Agro-enterprise:

- Name of firm and headquarters address
- Location of plants
- Telephone number
- Name of Chief Operating Officer
- Top four products or services
- SIC applicable to business
- First year of operation
- Annual sales level
- Percent of sales exported
- Employment, disaggregated between male and female, and full and part-time
- annual value of fixed asset investment

Major project activity

- description
- dates and duration
- names of beneficiaries (firms, associations, trainees)
- principle components of intervention
- source of consultancy/training
- financing

Training

- name of trainee
- level of prior education and field of study
- current job title, if employed
- current salary level
- type of training received

For tracking purposes, a standard questionnaire will be prepared and updated every year. For those activities that remain active, file updating will be easy - for those that are one-time beneficiaries, follow-up will be required.

The CPSMS will enable all three databases to be integrated and information accessed based on a wide variety of data points. As information from all private sector related projects is fed into the USAID central CPSMS, current information regarding USAID impact on the private sector will always be available.

This database will also serve as one source of information for the impact evaluation of the agribusiness project and also evaluation of all mission private sector-related projects.

4.2 Evaluation

In addition to using information generated for the CPSMS, evaluation of the effectiveness of the MAP project activities in achieving its stated goal will be carried out at two levels: first, the private sector project participants themselves will provide tangible evidence of benefits resulting from these activities; and, second, USAID and the GOM Ministry of Agriculture will undertake to determine whether public funds spent on the project have accomplished the economic and social goals set forth, and whether useful lessons may be drawn from the experience for future activities.

The evaluation effort is closely linked to the monitoring components of the project. Evaluation of progress made will refer to the baseline data collection done at the outset of project implementation. The annual and periodic updates of each subsector will be essential to conduct both the midterm evaluation in the fourth year of the project, and the final evaluation at the end of the project.

4.2.1 The role of market discipline

MAP is a private-sector oriented project. The activities of the project are designed to address specific needs of the agribusiness community. The extent to which MAP is meeting those needs will be partially manifested by the willingness of agribusiness enterprises to support the activities of the project. Market discipline implies several subordinate principles to be maintained during project execution:

A. Willingness to pay

A good indicator of the level of demand for goods and services offered by the project is the willingness to pay for those goods and services by the immediate recipients. For example, participants in short-term workshops, seminars, and internships are often willing to contribute a significant share of the costs of those training exercises. Companies and organizations for which participants work will be willing to shoulder part of the financial burden when they perceive that the productivity of the individuals involved will increase. When participants and beneficiaries contribute a share of the cost, it is **prima facie** evidence that there are positive benefits in it. A greater willingness to share the costs of activity A over activity B implies that perceived benefits by participants are greater in A than in B.

B. Ability to Pay

The willingness-to-pay criteria should also be applied with flexibility. Willingness depends on the ability of beneficiaries to capture benefits derived from the activities. This is a real concern in funding of activities with substantial externalities -in other words, benefits that accrue to others. In those cases, the general benefits to the group or society might not be captured by individuals or firms, and therefore they will be reluctant to contribute. Many of the marketing and training activities of the **MAP** project will generate general benefits.

4.2.2 Evaluation Process

Theoretically, **MAP**'s merits should be judged in terms of its contribution to expanding exports, production, and employment of both men and women in the agribusiness sector in Morocco. It is important, therefore, to demonstrate that these gross indicators of success show significant growth during the project life. However, as noted above, due to the vast number of factors beyond the control of the Project that can also affect these variables, their utility as measures of Project effectiveness is extremely limited. Instead, the Project will rely on data collected through the monitoring process, augmented by periodic, in depth, outside assessments of goals, achievements, and the continuing relevance of these, along with the means by which **MAP** is attempting to achieve its objectives.

A. Annual Assessments

Through the monitoring process planned in the project, it will become possible to perform an internal evaluation of its own activities on a regular (annual) basis. This will provide an opportunity to review performance and surface issues before too much of project implementation has elapsed. While many of the outcomes anticipated from the project will not be evident for several years, (e.g., long term training results), for many other activities it will be possible to determine quickly whether the expected outputs are being realized or not and make necessary corrections. Conferences, workshops, seminars, and other forums

organized by the project will also provide periodic opportunities to obtain frank assessment from representatives of the agribusiness industry on the effectiveness of project services, and receive suggestions on alternative activities or delivery methods.

B. Mid-project (Process) Evaluation

After three years of implementation (which would be roughly two years after initiation of the work of the institutional contractor), sufficient experience and information will exist to enable a knowledgeable assessment of the process by which MAP is operating, and whether these are liable to be effective in realizing overall project objectives; i.e., an objective of this evaluation will be to identify which activities have been cost effective and sustainable. It should also be possible to determine the extent to which the Project is achieving its output targets. Recommendations as to midterm corrections in either composition of project components or in the methods used to make those services accessible to the private sector will be expected from this evaluation. Four to six person-months of short-term technical assistance by outside U.S. and Moroccan experts, probably obtained through an IQC, will be needed to carry out the midterm evaluation.

C. Final Evaluation

A final impact evaluation will be conducted near the end of the seven-year life of project. It will assess the effectiveness of the different project components in bringing about expanded exports, production, and employment, and will also assess the social impact on small farmers, urban consumers (especially in low-income groups), incomes of rural population, women in the labor force, regional disparities, urban employment, and employment of men and women in technical and managerial roles. It will also endeavor to draw lessons from the experience of the Project that might guide in other, similar efforts. It will look particularly at the extent to which A.I.D. inputs served to catalyze self-sustaining growth in the Moroccan Agribusiness Sector, and at the institutional capabilities and prospects for IAV/PSA and MARA.

Six person-months of short-term technical assistance by U.S. and Moroccan experts will be needed to carry out a thorough final evaluation of the project, and to assess its further extension and replicability. This will also be implemented through a separate contractor, probably by means of an IQC.

CHAPTER FIVE: SUMMARIES OF PROJECT ANALYSES

Seven project analyses are summarized in this section. The Technical Analyses examines production, postharvest handling and processing, and marketing, and then provides a brief assessment of each commodity subsector. The Economic Analysis lays out the issues in defining the three principal benefit streams (growth in product sales, growth in employment in agribusiness, and increases in the efficiency of use of irrigated land) associated with the Project and performs benefit/cost and sensitivity analysis for the identified benefit streams.

The Social Soundness summary concludes that overall MAP project social impact will be positive for direct and indirect beneficiary groups, with special monitoring of the possible differential impact on women, children, and regional distribution of impact. The Training Analysis provides an assessment of the demand for trained agribusiness personnel, current capacity to meet the demand, and a strategy to improve the demand-driven supply of operationally trained staff in technical and agribusiness management fields. The Institutional Analysis discusses the background and dynamics of changes in the agribusiness landscape of Morocco, reinforcing a strategy of providing agribusiness services through institutions only if there is a clientele willing to pay for them. Guidelines and procedures for environmental monitoring and input into MAP activities are outlined in the Environmental Analysis.

5.1 Technical Analysis

5.1.1 Production

Production systems for the crops studied -- fruits, vegetables, spices and herbs, olives, and cut flowers — is relatively advanced. The inputs of fertilizers, pesticides, irrigation, machinery and improved seed varieties are well managed. Use of plastic mulches and greenhouses for *primeur* vegetables shows skillful development of these technologies.

However, crop yields in Morocco are lower than they could be with better management and increased use of more advanced production technologies. Large and diverse areas of land are irrigated in Morocco (about 900,000 ha). These areas, often planted in relatively low value crops, represent the best opportunities to increase agricultural productivity and employment through diversification into higher value crops.

New crop varieties are needed to supply the processing industries. Processors tend to locate in major production areas in order to minimize transport costs for bulk commodities. The production in Morocco of the right varieties could encourage foreign investment in the local processing industry.

Similarly, the Moroccan horticultural industry will have to look at marketing and consumer demand as a major criterion in new

cultivar selection or breeding. For example, *quatrième gamme*, or Minimally Processed Refrigerated (MPR) product, is a relatively new industry in Morocco. European consumption of MPR fruit and vegetables is expanding rapidly. For Morocco to improve market share, *quatrième gamme* research and development requirements will be higher than those for canned (*deuxième gamme*) or frozen (*troisième gamme*) vegetables and fruit. New crop cultivars and much better process control in plants will be needed. Spice and herb producers need assistance in selection of types that yield large quantities of the essential oils or flavorants and that have the cross section of chemical components sought on the highly competitive global market.

The GOM plan to promote the planting of olives should greatly assist this industry, in which production has been declining. The strong emphasis on dual purpose cultivars should continue, because consumer health concerns have improved the market outlook for olive oil in Western Europe and North America.

Crop harvesting decisions for fresh market and processing should be based to a great extent on the intended product. Today, in many parts of the world, there has been a great deal of development of crop maturity and raw material product tests to determine the best time to harvest a crop for the market or for processing. Physical and chemical indicators and tests are used to determine whether, for example, the crop should be marketed immediately or processed because it is too ripe to be stored, or if it is in a condition appropriate for longer-term cold or modified atmosphere storage for later sale or processing. In Morocco today, these harvest timing, packing, and processing plant techniques are still at the research stage.

One very urgent problem is the lack of new product development for the export market. MAP's promotional component will help Moroccan firms link up with buyers and joint venture partners to introduce a more up-to-date product line; its Promotion and Investment Fund will assist firms to research and promote new products, processes and markets through underwriting some of the associated costs.

5.1.2 Postharvest, Packing, and Processing Technology

The postharvest practices in Morocco need to be upgraded in the nearly all commodity subsectors. Field cooling is uncommon. Refrigerated transportation to local markets and local processing plants could improve the quality of these products. Cold storage is used extensively in Morocco, but much potential still exists for fully integrating cold facilities into modern production and marketing channels. There is very little controlled atmosphere storage. MAP can serve as a means to introduce the technologies and new packaging materials to potential users.

There is a great need to modernize the packing and processing plants of smaller and midsized producers. New and improved technologies should be introduced, such as new extraction equipment

for flavorants and natural colorants, new types of concentration equipment such as the membrane technologies (ultrafiltration and reverse osmosis, which are energy efficient in purifying and concentrating food and water), small and midsized equipment to improve unit operations, and new packaging equipment and packaging films. Conferences and workshops are planned under MAP to introduce these technologies. Also, the promotion and investment grant fund can assist firms in testing and adapting these new technologies.

5.1.3 Marketing

The removal of policy and regulatory constraints on Moroccan agriculture and agribusiness has created new opportunities, especially in the horticultural sector. Rapid growth is apparent in domestic markets; however, export marketing of horticultural products does not appear to have grown apace. In examining the likely causes and the remaining constraints, marketing and promotion appear to be two areas in which the opportunity window offered by de-monopolization and liberalization has not been fully exploited.

Following liberalization, OCE (*Office du Commerce Exterieur*) lost its monopoly on exports, opening up other export channels. The OCE still exists but now acts as only one of many exporters and as a service organization. According to an OCE source, in 1989, 14 percent of the citrus exports and 38 percent of the fresh vegetable exports were made through OCE. The Office has since tried to regain producer membership and reportedly now handles 20 percent of the citrus and 50-55 percent of the fresh vegetable exports. But the largest citrus producer, SODEA — a government-owned parastatal, handles 30 percent of total exports and controls much of the remaining 45-50 percent of fresh vegetable exports.

Market information and research reports are available from MARA, international agencies and donor entities, foreign chambers of commerce, Moroccan banks, institutions and universities, and from other sources. The *Centre Marocain de Promotion des Exportations* (CMPE), which is the government agency charged with responsibility for export promotion, publishes a monthly *Bulletin d'Informations Economiques et Commerciales*, which gives statistics, regulatory updates, and information of interest to exporters, and *Maroc Export*, a guide listing industry exporters. Yet, this information does not flow regularly to individual export producers and processors.

The United States has not yet become a major market for Moroccan horticultural products for a number of reasons. The distance between the two countries makes transportation more expensive and requires refrigerated transport for fresh products. Sanitary regulations for importation into the United States are often stricter and different from EEC regulations. Furthermore, the U.S. market demands not only a high quality and uniformity of product, but also higher quantities, which Moroccan exporters are not always able to fill.

Moroccan exporters and processors need technical information about the way to handle both the formal import regulations of EEC, Canada, the United States and Japan, as well as the informal marketing systems and understandings that have developed over time. MAP will assist by provision of USDA and FDA specialists through a PASA to help producers and Moroccan control agencies upgrade their capabilities and wend their way through the United States' regulatory maze in particular. Expertise through the PASA will also assist in upgrading the GOM's agribusiness support and information functions. Finally, the Promotion and Investment Fund, will assist Moroccan firms in identifying and penetrating new external markets.

5.1.4 Commodity Subsector Analyses

Fresh Winter Vegetables: Tomatoes and potatoes are the mainstay of the export market, a role that may expand due to a reported decline in Spanish tomato sales within the EEC. However, the Moroccan *primeur* and fresh vegetable subsectors must continue to improve their efforts to penetrate markets outside the EEC, and to diversify vegetable exports beyond tomatoes, potatoes, and beans. Market penetration and diversification call for increased marketing effort and better promotion methods.

Fresh Fruits: Citrus, especially oranges and clementines, is the most important fruit category for export and the domestic market, accounting for nearly 70 percent of total Moroccan crop exports. Most often culls unacceptable for export move into the domestic market. Exports go to Europe, East Europe, and the Middle East. Exporters have been shipping between 10,000 and 40,000 mt of clementines to Canada annually, but have not succeeded in reentering the U.S. citrus markets lost in the late 1960s.

Much of the production of other fresh fruit is consumed locally. Strong local demand, overlap with European production, and quality problems have tended to limit exports. Peaches, cherries, and strawberries have been exported to Europe. Production, yields, and quality of avocados and strawberries are increasing and some strawberries have been exported to France and Germany. Melons may offer an export opportunity because of their extended transport life as compared with other fruits.

Exports of fresh fruits are limited because of weakness in the cold storage chain, transportation constraints, and the lack of some of the varieties demanded in export markets. Nevertheless, producers are increasing cold storage capacity and introducing new varieties. Among new apple varieties, for instance, Granny Smith is now being produced.

Processed Fruits and Vegetables: Because of the limited purchasing power of the Moroccan consumer and the availability of fresh produce throughout much of the year, most processed fruits and vegetables are moving into export markets. Moroccan processed fruits and vegetables have traditionally gone to the EEC, mainly to France and Germany. However, with the help of the USAID-supported export enhancement programs of the International Executive Service

Corps (IESC) office in Casablanca, Moroccan exporters of olives, anchovies, capers, and whole peeled tomatoes exported over $2 million of products to the United States in the first half of 1990.

There are a number of serious constraints in the processing industry, among them lack of control over raw material supplies, a weak contracting and formal contract law system, weaknesses in the credit system, and lack of price stability. Moroccan processing industries are purchasing surplus production not absorbed by the domestic market. With the exception of the state owned FRUMAT and the large privately owned LOUKKUS, the industry is in need of new investments to build larger and more modern plants to be able to compete in international markets. There are too many small processing plants with uncertain sources of supply and inadequate processing capacity.

Another problem, which will be important in the long term, is that consumption of processed vegetables, especially canned products, is diminishing in European markets. Canned products now constitute only about 4.5 percent of the total vegetable and fruit market. Europe is consuming more *troisième gamme* (frozen) products and is moving rapidly in the direction of increased *quatrième gamme* (minimally processed refrigerated) product consumption.

Food Spices: Domestic and export markets for food spices (e.g., paprika, saffron, pepper) are well developed and structured. Most of the international spice and herb trade is dominated by European firms, and Moroccan exports tend to move in bulk to European processors or traders/re-exporters. Therefore, as in the case of other agricultural exports, Moroccan producers are largely deprived of the added value benefits. For instance, there is no oleoresin paprika extraction capacity in Morocco. Instead, dry (unground) paprika is shipped to Spain and France for processing and reexport.

Food Grain Legumes: Morocco is well suited in agroclimatic terms for production of food legumes. And while both legumes and legume seeds are exported in substantial quantities, most of the production goes to the domestic market. However, legumes tend to be regarded as an inferior food by Moroccan consumers, with per capita consumption declining as incomes increase. Overseas markets, though, show potential. In the United States, for instance, the health conscious consumer has rediscovered the nutritional benefits of legumes; Europe may follow.

Cut Flowers: As in the case of the food spice industry, the cut flower subsector is highly structured. It is a small industry, with high value product, of which 90 percent moves into the export market. The export market lasts from approximately October until May, with the EEC, especially France, being the principal market. Other markets are Scandinavia and to a smaller extent Canada. About 90 percent of exports is roses; most of the remainder is carnations.

Olives: Morocco has been a grower and exporter of olives and olive oil for two millennia. The Mediterranean climate and

calcareous soil provide good growing conditions. Irrigated olive production accounts for 70 percent of the total, with the balance growing under rainfed conditions in the north-central part of the country. Much of the country's olive production is in small holdings of under 10 ha. Although there are some large private groves, the largest is in the hands of the GOM parastatal (SODEA).

Olive and olive oil production has lagged behind national demand. Tree stands have aged, while investments have gone to develop other subsectors. In the mid-1980s, drought also slowed production and exports. The GOM has recognized the problem and has launched the *Plan Olivier* to renew old groves, provide seedling trees, and improve production technology. By 2010, the plan is intended to result in a total olive acreage of 400,000 ha. Thus, while the future looks relatively bright for the olive and olive oil industry, due to greatly increased GOM support and increased consumer demand, production and processing constraints must first be reduced before the industry can proceed with aggressive marketing and promotion.

Lower relative labor costs have improved Morocco's competitive position in the olive export market. This may become even more beneficial if Spanish labor costs continue to rise due to the harmonization with EEC labor and social institutions.

Grapes, Raisins, and Wine: The grape subsector produces wine grapes, table grapes, and raisins. A large portion of the grapes is produced by SODEA. In the 1988/89 crop year, 48,100 ha of grapes were cultivated, of which 14,000 ha were wine grapes. As with Morocco's almonds, the quality of raisins and lack of seedless varieties limit exportation. Wine exports are limited by the varietal makeup of the plantings and the high cost of wine production. Much of this cost is related to parastatal management and ownership of the countries' major wine grape vineyards and wineries. Privatization of the wine industry should be explored to reduce costs, fill existing export quotas, and develop new wines and markets.

5.2 Economic Analysis

The MAP project is complex, with a relatively large number of activities that will contribute to meeting project goals over different time periods and in very different ways. Since a substantial amount of project funding will be devoted to technical assistance, it is critical to project success that those TA resources be used in ways that will leverage broad private sector involvement. As with many projects of this type, it is relatively easy to estimate the costs associated with project actions, but quite complicated to estimate future benefit streams. Difficulty in benefit stream estimation is due to the fact that:

- MAP is not directly financing production or productive infrastructure. Instead, it is undertaking a broad range of facilitating activities;

- The production-increasing impacts of MAP activities will occur over varying time horizons;

- Changes in the production and marketing patterns of Moroccan horticultural subsectors will be attributable only partially to the use of MAP project resources. The use of those resources will be more precisely planned in each commodity action plan;

- Because the project may contribute a very small part of the seed capital (but may play a larger role in other dimensions such as business contacts, information on markets, and technology) required for a new or expanded enterprise, the question of attribution of impact will be difficult to resolve;

- Most of the eight commodity subsectors chosen for MAP focus are ones for which data on production, costs and returns, prices and volumes marketed are sketchy at best, when compared to those for the *grandes cultures*; and

- There are important factors largely exogenous to MAP project design, but which represent potential risks to achievement of project objectives. Chief among these are the changes, both structural and economic, likely to occur in the international marketplace.

Therefore, benefit streams will necessarily be hypothetical, however likely or reasonable those hypotheses may be. This analysis estimates the overall economic viability of the MAP project through indicators chosen to be as easy to monitor as possible.

The goal of the MAP project is to contribute to the growth of its GDP through the promotion of its agribusiness sector. Estimates of contribution to GDP growth will be measured through a combination of the following:

- Growth in the value of commodity-specific agribusiness exports;

- Growth in the value of specific agribusiness products sold on Moroccan markets (or equivalent gains in production or marketing efficiency);

- Increased value added in agribusiness (retail or export prices relative to farm gate produce prices);

- Growth in employment in agribusiness jobs adjusted for growth and levels of unemployment in the overall workforce; and

- Increases in the efficiency of domestic resource use as measured by changes in the proportions of irrigated land planted to crops with low or negative economic rates of

return to those with higher rates of return. (This could also be visualized by reducing levels of subsidy to crops such as sugar beets while increasing foreign exchange earned through greater export of winter vegetables.)

The economic benefits of MAP are estimated to arise from principally three sources. These benefit streams described below and entered into the internal rate of return analysis in Annex Table H-3. These are:

- Increased sales of horticultural products to domestic and foreign markets, from 100 tons of high quality fresh tomatoes, for example, in Year 3 of the project, to 500 tons after year 7;

- Net generation of employment, represented by a portion of the labor costs required for the production of raw products and processing for increased agribusiness sales, as in Morocco through expanded agribusiness activity, particularly in exported products generating foreign exchange; and

- Economic savings stemming from a conversion of 400 hectares of irrigated land to high value horticultural crops from crops with low economic value, resulting in $500/hectare in total increased value in economic terms - or, $200,000/year increase in resource use efficiency.

Net Increases in Wage Employment

Net employment generation, represented by a portion of the labor costs required for the production of raw products and processing of these products for increased Moroccan agribusiness sales, can be considered a legitimate part of the benefit stream of the MAP project. In the internal rate of return analysis found in Annex Table H-3, we have used very conservative assumptions concerning increases in labor due to the actions of the MAP project. Seventy-five percent of the subtotal of benefit streams from the eight commodity groups (not including increased economic value from irrigated land) is considered in this analysis to be a "domestic employment multiplier" which represents less than 4 percent of the estimated wholesale value of increases in sales partially attributed to the project.

Improved Economic Efficiency in Use of Irrigated Land

The MAP project, concentrating on higher-value horticultural crops destined for export in many cases, will have the effect of improving the economic efficiency of agricultural resource use, particularly for irrigated land. As is pointed out in the A.I.D.-financed *Prices and Incentives Study II* (1989), much of Morocco's irrigated land is devoted to the production of cereals and sugar crops, which is not the highest use to which these domestic resources can be put. When GOM subsidies in sugar price supports and subsidies to the costs of irrigation water are taken into account, it is easy to calculate some very significant increases in

per hectare net economic returns if land is put to production of high-value horticultural crops per hectare.

Given the intensive nature of much of horticultural production, switching crop use patterns is not going to make a dramatic impact in the overall land use pattern of the country. Nevertheless, the point is still valid that there are substantial reserves of land in Morocco that can be put to much higher value use with the evolution of market opportunities over time.

Economic Cost/Benefit Analysis

The costs and benefits described above are given in Annex Table H-3. Benefit streams were carried out over 15 years, which, in many cases, only take into account about 10 years of benefits since many of the streams begin in year 5 or 6 of the project. This analysis produced an internal rate of return of approximately 24 percent. Since many of the assumed benefits are conservative, the actual benefits of the MAP could be substantially higher. Even given the numerous caveats mentioned in the initial part of this analysis, the benefit streams described are plausible. Sensitivity analysis showed results of the analysis to be robust. A 40 percent reduction in estimated benefits would still yield an internal rate of return of 15 percent. Eliminating the benefit stream from conversion of irrigated land to higher-value crops would drop overall IRR to 22 percent. Eliminating the employment multiplier results in a MAP IRR of 16 percent.

5.3 Social Soundness Summary

The MAP project should have a highly favorable net social impact. Expansion of the export-oriented agribusiness sector will result in significant gains in employment and incomes among rural inhabitants and lower-income strata in urban areas. It will also contribute to improvement of the nutritional quality of the Moroccan diet by increasing supplies and lowering prices for fruits and vegetables. Nevertheless, some concerns arise regarding the impact of increase agribusiness activities on employment of child labor and exacerbation of gender-related inequities.

5.3.1 Direct Beneficiaries

The activities of the Morocco Agribusiness Promotion project will reach directly a number of firms and institutions in Morocco and the United States, and through them, it is expected to benefit a large segment of the rural and urban population in Morocco. Direct beneficiaries will include the individuals and firms participating in the training and promotional activities sponsored by the project, as well as the private and public institutions strengthened by the project.

Firms: Exporters, processors, packers, and producers of exportable agricultural products will be the principal direct beneficiaries of the MAP project. A majority of the firms receiving assistance through the project will be Small and Medium Enterprises

(SME's). They will participate in both training and promotional activities, and stand to gain from the application of the information and skills acquired in the course of these programs.

Institutions: MAP also seeks to promote the agribusiness sector by strengthening institutions that provide services to enterprises in the sector. Several actions are aimed at these organizations, such as trade associations of exporters and producers of specific products, regional groupings of private entrepreneurs, private and public institutions of higher education and technical training, marketing agencies responsible for the collection and dissemination of market statistics and information, and servicing agencies that provide product quality control and management consulting to agribusiness firms.

Individuals: Recipients of short and long-term training in fields related to agribusiness management will derive immediate and direct benefits from project sponsorship. Higher levels of professional skills should serve to strengthen the industry as well as their own institutions or firms.

5.3.2 Indirect Beneficiaries

Unskilled Labor: The main indirect beneficiaries of the project activities are the large number of potential workers that will be occupied as a consequence of expansion of the agribusiness industry. Employment impact will range from jobs in processing and packing of produce for the export market, to jobs for rural unskilled laborers in the production of export crops. Most of the labor force used in packing and processing of fruits and vegetables are women, while the production labor base is made up mainly of unskilled men, often migrants from poorer regions.

Urban Consumers: Urban consumers will benefit indirectly from expanding exports from the agribusiness sector in two ways: first, the supply of fruits and vegetables will improve and prices will diminish as a result of the diversion of lower grade output to the domestic market. Second, increased accessibility of processed foods will simplify meal preparation and will particularly alleviate that burden of working urban women.

5.3.3 Differential Impacts, Concerns, and Issues

Women: Women in Morocco suffer from an unequal status vis-a-vis men in terms of rights to inheritance, access to land, opportunity for schooling, access to credit, marriage, and divorce. Moreover, customary practices commonly restrict women from engaging in some economic activities such as trade, or occupying positions of responsibility or authority in enterprises and associations. These unequal conditions are reflected in the structure of the agribusiness sector. Although eloquent examples exist in the industry of women owners, entrepreneurs, technicians, and exporters, they stand out as exceptional cases to the general situation. More commonly, women are confined to unskilled and low-paying jobs in packing plants, or as lab technicians under male supervision.

Under these circumstances, women are not likely to enjoy equal opportunity to participate directly in the training and promotional activities of the Morocco Agribusiness Promotion project. The project therefore contemplates specific measures to ensure at least a minimum level of involvement by women. In training activities, for example, the project will adopt the current USAID training program goal of at least one woman participant for every two males. The Project's impact on female employment (numbers, type of jobs) will be monitored over the course of project implementation.

Child Labor: While legally prohibited, the use of child labor is commonplace in Morocco, particularly in rural areas. The design team observed it in several farms producing bananas and export winter vegetables, where small boys, said to be migrants from the other regions, were hired to do field work. This will be closely monitored in the course of project implementation to ensure that it is not encouraged.

Regional Factors: Morocco's comparative advantage in production of winter vegetables reflects a special combination of favorable climate, proximity to European markets, accessibility of irrigation water, and a large pool of inexpensive labor. These factors are especially concentrated in areas with irrigable land near urban centers with good seaports. The impact of the expansion of the fresh winter vegetable sector is therefore concentrated in those areas. Transport availability and cost are one of the principal constraints. Increasing use of refrigerated truck transport is gradually expanding production prospects to other areas. Fruit tree crops have a wider zone of influence than winter vegetables.

5.4 Training Analysis Summary

5.4.1 Demand Analysis

The demand for training was determined through discussions with personnel in industry, associations, and education institutions and from reports and documents from other studies and reports. The team concluded that the primary need for human capital in the agribusiness industry is for people (1) who have more practical experience with the technology of processing and manufacturing, and (2) who are capable of managing the technology, the internal business aspects of the firm, and who understand the needs of production, processing, manufacturing and distribution from the perspective of markets.

The primary needs for training are to develop human capital capable of working effectively in new product development, business management, industrial engineering, international marketing, and energy efficiency. While the general labor intensity of Moroccan industry should result in an administrator:employee ratio lower than that in developed economies, business owners and managers interviewed highlighted the need to train people to fill supervisory positions. As the complexity of technology of postharvest handling, processing, and manufacturing increases to

meet the needs of world markets, the demand for people trained in food technology and in horticultural production and processing will also expand.

5.4.2 Supply Analysis

The capacity to train human capital was determined by examining the informal and formal training institutions. The team concluded that the informal sector (associations, chambers) have little capacity to provide these functions as they are presently organized. The formal training sector, however, is already training large numbers of people for employment in the private sector, but the training focuses on the primary production level of the industry. IAV Hassan II will graduate about 265 students this year, 40 of whom will be from the horticulture-food technology areas. The National School of Commerce and Business Administration at Casablanca will graduate about 250 students with undergraduate and graduate degrees in business management areas. The National School of Agriculture at Meknes will graduate 40-50 students per year. Some 25 private business schools have yet to graduate their first class. There are 11 technical agricultural schools, which graduate 400-500 students per year. Several new public business management schools are proposed. Sufficient plant capacity exists to redirect some of these training resources to better serve the needs of the agribusiness sector.

5.4.3 Strategy

The strategy is to respond to industry demand for staff with operational skills in the near term and, over the medium term, to shape the way that training institutions modify their core curriculum, practical internship programs, and continuing education activities so they are more closely linked to the evolving needs of Moroccan agribusiness. The first step is to start building in-country expertise. Working apprenticeships in U.S. and other target countries' agribusinesses and processing industries is also an important step. In parallel, the project should expose industry, government, and regulatory personnel to the way that industries (and some potential partner companies) are managed and regulated.

IAV/PSA will play an important role in upgrading the programs offered by other important schools in the country. Guest lecturers will be provided by PSA, aid in developing curriculum will be available, exchanges between faculty will be encouraged, and, seminars, and other outreach activities will include representatives of other higher level schools. The overall objective will be to upgrade agribusiness course content and offerings at major institutions throughout the country. It is expected that as the program is developed at PSA, it will become the model for Morocco, and other schools will know where to go for assistance to upgrade their programs.

5.5 Institutional Analysis

5.5.1 Institutional Landscape of Moroccan Agribusiness

Historically, close linkages have existed between the public and private sectors in Morocco. Training, research and extension have been dominated by the public sector. Even quasi-private organizations such as SASMA benefitted from substantial public subsidy in their early years. Until the mid-1980s, state organizations also were the major service and input suppliers in both dryland (through *Centres de Travaux - CTs*) and irrigated (*Centres de Mise en Valeur* - CMVs) areas. Further, the GOM put in place an export monopoly, the OCE, which until 1987 was responsible for orientation of export-directed agribusiness activities, particularly citrus and winter vegetables. This monopoly prevented market signals from directly reaching the individual producers and packers, but, on the other hand, also served as a mechanism to spread R&D costs and marketing risks across industries.

Besides controlling the export trade, the state also held, and still holds, substantial ownership of production and export capacity. For example, SODEA, the parastatal landholding organization, controls nearly a third of national citrus capacity. There are also special circumstances in Moroccan agribusiness, e.g., the royal agricultural domains which have frequently been a source of technological innovation such as the introduction of greenhouse banana production, drip irrigation, center pivot irrigation and tissue-culture-based plant propagation.

5.5.2 Institutions Involved in Project Implementation

The following provides additional detail and analysis for the principal institutions with which the MAP Project will work:

A. <u>Direction de Production Vegetale</u> (DVP) (Direction of Vegetable Production

The DVP of the Ministry of Agriculture and Agrarian Reform will be the host country institution most directly involved in MAP activities, and serve as the "counterpart institution" for the Project. It is organized into divisions for cereal leguminous and forage crops, horticultural crops, industrial crops and agro-industry. The DPV has a total of 148 employees, including 63 professional staff. It has a broad mandate to promote crop production and agribusiness and is involved in all policy decisions regarding the production, marketing and processing of food products.

Prior to Morocco embarking on a structural adjustment program in 1982, DPV was heavily involved in pricing and other control decisions. With liberalization of the economy, its role has shifted to one of promoting investments, technological improvements, and policy formulation as it affects crop production and agribusiness. It has primary responsibility for defining the Ministry of Agriculture long term strategic plan for crop production and agribusiness development.

Of particular interest to the MAP Project are the divisions of DPV that deal with horticultural crops and agribusiness. The Horticultural Division includes three services, those for tree crops, citrus and wine, and vegetable crops. The Agro-Industry Division has four services: agricultural inputs, administrative services, agro-industry and investment studies.

While most investment controls in Morocco have been lifted under structural adjustment, the DPV still plays an important role in overall orientation of the agribusiness industry; its support is also important in obtaining investment project financing and the necessary administrative approvals for investment projects to proceed.

DPV will likely increasingly evolve as facilitate, and supporter of agro-industry development. The Ministry of Agriculture and Agrarian Reform will look to it for guidance in policy and budgeting decisions that affect agribusiness. In its facilitation function, it can greatly reduce administrative barriers for investment projects; it will also be relied upon by the Government of Morocco to keep abreast of technological and economic developments that affect agribusiness.

B. L'Institut Agro-Veterinaire Hassan II (IAV) (Hassan II Agro-Veterinary Institute

Established in 1966 by Royal Decree as a semi-autonomous organization, IAV is generally considered to be the leading agricultural training and research institution in Morocco. It is governed by an advisory board that includes representatives of the Ministries of Agriculture and Agrarian Reform, Finance and Education. Its main facilities are located on a 80 hectare campus in Rabat and it also manages 3 experimental farms and has a satellite facility for horticultural training and research located at Agadir.

IAV has benefitted from nearly $20 million in USAID assistance, and also has received important support from the IBRD, and the German, French and Belgian Governments. To date, ,it has trained nearly 1500 M.S. level engineers, over 400 veterinary doctors, and nearly 3000 bachelors level students. While training was initially largely geared to public sector needs, a steady trend began in the 1980s that saw more and more IAV graduates in private sector employment. Currently, approximately one-half of new IAV graduates find initial employment in the civil service, about one-fourth in semi public sector employment, and about one fourth in private sector employment. While precise data are not available for IAV graduates whose initial employment was public sector, but who since passed to the private sector, their numbers are known to be large. IAV graduates are found throughout all sectors of Moroccan agribusiness.

IAV serves as a focal point for professional associations in Morocco, and for links in technical and scientific areas to the outside world. It is the center of 12 professional associations organized in Morocco, and maintains linkage programs with 55 universities and research institutions located in 15 countries. Many IAV professors have direct links to the private agribusiness sector through consulting on a regular basis.

IAV has wholeheartedly embraced Morocco's program of economic liberalization under the structural adjustment program. As a result, it is seeking new ways to orient its own programs toward market realities. One of these is its determination to establish the Program of Support to Agribusiness in Morocco (PSA). In effect this will serve to organize existing services to agribusiness and facilitate the development of new ones. IAV will be taking a market approach in developing PSA by including agribusiness leaders in its training programs and through interacting with the industry in establishing both training and research programs.

C. Etablissement Autonome de Control et de Conditionnement des Exportations (EACCE) Autonomous Establishment for Control and Inspection

EACCE was recently established as an agency to promote the export of Moroccan produce. It has two essential functions: (1) to certify Moroccan agribusiness exports to export markets as regards grade, quality, and pesticide residue standards; and, (2) to broadly promote the export of Moroccan products. In performing the first function, it closely resembles the Plant and Animal Health Protection Service of the United States Department of Agriculture as regards export sales. In fact, EACCE works closely with the Plant Protection Service of the Ministry of Agriculture and Agrarian Reform in fulfilling this function. In its second function it more closely resembles the Foreign Agricultural Service of USDA. To date, EACCE has established five representational offices in key export markets, all of which are in Europe.

In promoting Moroccan exports, EACCE provides market information services to both importers and exporters. In cases where Moroccan exporters are in non conformance with established standards for grades, quality, or pesticide residue, EACCE can penalize the exporter by denying him export market access for a specified period of time. EACCE has its own laboratory facilities for testing pesticide residues and disease conditions, and supplements these with private laboratory services.

The Moroccan Government has identified EACCE as a key agency promoting agribusiness exports. While recently established, its representation abroad is expected to grow. EACCE has a clear market orientation and MAP can provide invaluable assistance to it in its initial growth stages.

D. Ecole Nationale d'Agriculture (ENA) (National Agriculture College) and l'Institut Superieur de Commerce et des Affaires Economiques (ISCAE) (College of Commerce and Economic Affairs)

Known for its strong agricultural economics department, ENA also trains BS degree level students in a wide range of technical disciplines. There is close cooperation between ENA and IAV in a number of these with faculty serving both schools. ENA is located at Meknes, in the heart of one of Morocco's richest agricultural regions.

ISCAE, located in Casablanca is regarded as one of Morocco's

strongest business schools, is well positioned to add agribusiness curricula that would increase the flow of trained managers to the agribusiness sector. Such a program could be undertaken cooperatively with both ENA and IAV, to capitalize on the relative strengths of each institution in various disciplines.

E. Professional and Industry Associations and Chambers

Analyses to date have indicated that these institutions are generally underperforming in their role of industry representation in the political process and as conveyers of technological improvement and industry information. Reasons cited usually relate to the previous preeminence of parastatal organizations and heavily regulated status of most industries in Morocco, and the need for time in such organizations to mature in the new market environment.

While the above generalization may be factual, notable local exceptions also exist. One of the most important contributions MAP may make to agribusiness development may, in fact, be through accelerating the formation of independent forward looking industry associations that are both promoting their own commercial interests and in assuring that industry concerns are taken into account in the policy and regulatory process.

Approximately 20 Chambers of Commerce and Industry and a similar number of Chambers of Agriculture are organized throughout Morocco. These organizations are quasi governmental entities financed by the GOM and generally paying their staff civil service salaries. A notable exception is the Chamber of Industry and Commerce of Greater Casablanca which has its own financing from a fee levied on members and five staff having private sector experience.

Numerous formal and informal trade associations also exist. Many of these are just emerging from parastatal domination. MAP will play an active role in assisting these organizations in become private voluntary advocates of their respective industries, and in serving to promote industry standards, technology diffusion, information flow, investment and trade.

5.6 Environmental Analysis Summary

The MAP Project will seek to increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a variety of demand-driven, value-added agricultural commodities. If not conducted properly, expanded agribusiness activity in Morocco could result in significant adverse environmental impacts. For this reason, the MAP PID received a positive environmental threshold decision from the ENE Bureau Environmental Coordinator. These potential impacts can generally be classified as follows:

- "upstream" impacts associated with increased production of target agricultural commodities;

- "mid-stream" impacts associated with increased or expanded facilities for processing and/or packaging target agricultural commodities; and,

- "downstream" impacts associated with final product sampling, inspection and general quality control prior to release for export and/or domestic consumption.

To address these concerns and ensure that the project is carried out in an environmentally sound and effective manner, the project will employ a comprehensive set of "environmental" implementation procedures, agents and mechanisms. The project's environmental implementation procedures are patterned closely after the Agency's own Environmental Procedures, yet have been modified to properly accommodate the unique approach and Moroccan agribusiness focus of this project. Key project environmental implementation agents and their associated roles and implementation mechanisms include:

- the prime institutional contractor for the project, acting primarily as a coordinator of the short-term inputs provided by the other sources of environmental expertise;

- the U.S. Department of Agriculture's Office of International Cooperation and Development and affiliated agencies, e.g., FDA, APHIS, etc., and the U.S. Environmental Protection Agency, providing the bulk of the public sector environmental assistance required under this project, i.e., for the "upstream" and "downstream" areas of environmental concern noted above, through a project-specific PASA;

- an environmental consulting firm providing the bulk of the private sector environmental assistance for this project, i.e., for the "mid-stream" area of environmental concern noted above; and,

- the USAID project management staff, including particularly the Mission Environmental Officer, fulfilling their proper monitoring and oversight function to ensure that all project environmental procedures are adhered to and implementation recommendations are carried out in a timely and effective manner.

The environmental services to be provided to the project by these agents and mechanisms will generally include: short-term technical assistance and training activities, e.g., facility site visits and assessments, small-scale institutional strengthening activities, study tours and internships, and workshops, seminars and conferences; information development and dissemination activities, e.g., training and reference manuals and materials, publications, access to databases and computer software programs, etc.; and, small-scale commodity procurements in support of the above activities. Activities will take place in Morocco, the U.S. and in third countries, as deemed appropriate. Specific activities to be completed under the project will be approved by all concerned parties through the project's annual workplanning process, which will afford sufficient flexibility to properly accommodate unforeseen project events requiring more immediate attention.

The recommendations presented above are the result of careful consideration of the specific environmental issues associated with the MAP Project and of the most appropriate manner of addressing those

issues, consistent with Agency environmental requirements, the project's unique development approach and the Moroccan sectoral context. The environmental procedures promise all that can reasonably be expected to be accomplished under the project towards satisfying Agency environmental regulations. The type, amount and mix of environmental inputs are indeed appropriate for the task at hand, reflecting the unique private-public sector approach called for within the current agribusiness institutional framework in Morocco, while allowing sufficient flexibility to at least begin to effect more widespread and longer-term improvements in the environmental aspects of future sectoral operations. Finally, all of the environmental activities have been designed to integrate closely with the other activities to be pursued under the project for maximum ease of implementation, coordination and effective overall results. Accordingly, if implemented as described herein, these recommendations should ensure that the MAP Project is completed in an environmentally sound and successful manner.

CHAPTER SIX: CONDITIONS AND COVENANTS

The project shall be subject to the following essential terms and major conditions, together with other such terms and conditions as A.I.D. may deem appropriate.

6.1 Source and Origin of Commodities, Nationality of Services

Commodities financed by A.I.D. with grant funds shall have their source and origin in the United States except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services financed by grant funds shall have the Untied States as their place of nationality, except, as A.I.D. may otherwise agree in writing.

Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree in writing, be financed on flag vessels of the United states. The requirements of the Cargo Preference Act will be met with respect to all commodities financed by A.I.D. that are transported on ocean vessels.

6.2 Conditions Precedent to Initial Disbursement

a. Prior to the first disbursement under the Grant, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing and in addition to the standard opinion of counsel, furnish A.I.D. in form and in substance satisfactory to A.I.D.:

   A statement of the person holding or acting in the office of Project Manager for the Grantee, and of any additional representatives, together with the specimen signature of each person specified in such statement.

b. The Grantee will also furnish to A.I.D., in form and in substance satisfactory to A.I.D., evidence that a Project Steering Committee has been established.

When A.I.D. has determined that the conditions precedent have been met, it will promptly notify the Grantee.

6.3 Covenants

a. The Grantee shall covenant to budget sufficient funds on an annual basis for the maintenance, repair, and operating supplies necessary for the computers and other equipment financed by A.I.D. under this grant, and to ensure that any and all such equipment is properly maintained.

b. The Grantee shall covenant to encourage an increased role for the Moroccan private sector in the development of agribusiness in the country in accord with the objectives of this project.

c. The Grantee shall covenant to ensure that it will perform all necessary steps to develop the protocol agreement with USDA/APHIS International Services in Rome, and once the protocol is signed to continue to implement it.

6.4 Terminal Dates for Conditions Precedent

If the conditions precedent have not been met within ninety (90) days of the date of this agreement, or such later dates as A.I.D. may agree to in writing, A.I.D., at its option, may terminate all or any portion of this agreement by written notice to the Grantee.

ANNEX A:

MOROCCO AGRIBUSINESS PROMOTION PROJECT (NO. 608-0210) ENVIRONMENTAL ANALYSIS

I. INTRODUCTION

The purpose of the Morocco Agribusiness Promotion (MAP) Project is to increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a variety of demand-driven, value-added agricultural commodities. The project adopts the A.I.D. definition of agribusiness to include the full range of activities and actors upstream and downstream from the farm. Particular emphasis is placed on the vertical marketing channels from assembly of raw materials to delivery of final products in their fresh or processed state to consumers.

The MAP project will initially focus on the following eight horticultural subsectors:

- Fresh vegetables (particularly winter vegetables or primeurs);
- Fresh fruit;
- Processed fruits and vegetables;
- Cut flowers;
- Olives;
- Spices and essential oils;
- Grapes, raisins, and wine; and,
- Grain legumes.

However, once implementation begins, it is possible that this list of commodity subsectors may be modified as required in response to implementation feedback and/or changing market demands. Additional information regarding the project is available in the MAP Project Identification Document (PID) and in the other reports and analyses completed for the Project Paper (PP) design.

If not conducted properly, expanded agribusiness activity in Morocco could result in significant adverse environmental impacts. For this reason, the PID received a **positive environmental threshold decision** from the Europe and Near East Bureau (ENE) Environmental Coordinator (see cable 90 State 387277).

In response to this concern, the Mission has devoted considerable attention towards ensuring that environmental issues are properly addressed in the subsequent stages of

design and implementation of this project. The following sections present the results of this analysis, including a discussion of the potential environmental impacts resulting from project activities and recommended measures for addressing those impacts in a sound and appropriate manner.

II. ENVIRONMENTAL ANALYSIS

A. Discussion of Potential Environmental Impacts

In general, potential adverse environmental impacts resulting from expanded agribusiness activity in Morocco may be broadly categorized as follows:

- "upstream" impacts associated with increased production of target agricultural commodities;

- "mid-stream" impacts associated with increased or expanded facilities for processing and/or packaging target agricultural commodities; and,

- "downstream" impacts associated with final product sampling, inspection and general quality control prior to release for export and/or domestic consumption.

Each of these three capegories of potential environmental concern is briefly discussed below.

1. Upstream Impacts: This category of potential environmental impacts encompasses the multitude of on-farm activities associated with the production of raw agricultural commodities in Morocco. Such activities would typically include the development and use of the various agricultural inputs, e.g., seeds, pesticides, fertilizers, land and water, in accordance with the appropriate horticultural practices to produce a specific desired crop.

For this category of potential impacts, it is important to stress at the outset that this is an agribusiness promotion project. Thus, traditional agricultural production concerns are important only insofar as they may serve to improve Morocco's comparative or competitive advantage with respect to the various target commodities listed above. While seemingly trivial at face value, this distinction contains certain important environmental implications for this project.

First, the project does not seek to increase agricultural production in Morocco per se. Rather, the project will strive to improve the production of certain existing agricultural commodities and promote the production of new commodities identified as having the potential to improve Morocco's competitive position in the international agribusiness marketplace. Thus, project inputs will be strategically applied only to those commodities, and associated inputs and techniques, which can be expected to best promote the

achievement of these more specific market development objectives.

From an environmental perspective, this means that few, if any, project inputs will be devoted towards the development of new land and/or water delivery systems for agricultural production purposes. Rather, the project's upstream emphasis will be placed upon the development and dissemination of those inputs and techniques required to most effectively improve the production of identified target commodities on existing agricultural lands. Thus, the potential major environmental concerns associated with the development of new agricultural lands and/or irrigation systems are effectively eliminated from this project. Accordingly, upstream environmental considerations for this project can be limited to the development and application of new and/or modified agricultural inputs and techniques. Key concerns here would include the increased use of current agricultural pesticides and fertilizers, and the potential introduction and use of new agrochemicals and/or exotic agricultural germplasms.

The GOM Ministry of Agriculture's (MARA) Direction de la Production Vegetale, du Controle Technique et de la Repression des Fraudes (DPVCTRF) has primary responsibility for these areas of concern in Morocco. This agency registers new crop varieties and maintains the national crop variety catalogue, provides plant health inspection and quarantine services for imported plant materials, provides phyto-sanitary certificates for live plant exports, and enforces the regulations. In addition, the DPVCTRF is responsible for safeguarding the people and environment from agrochemical poisoning or contamination, through its mandated regulation of the licensing and use of plant fertilizers and pesticides in Morocco. When so warranted, this agency is also responsible for undertaking major agricultural pest control or eradication programs directly with its own resources.

USAID has had some direct experience in working with the DPVCTRF. Most recently, this agency has served as technical GOM counterpart for the Morocco Locust Control Project (No. 608-0196) aimed at responding to the recent desert locust outbreak. In general, the DPVCTRF's performance in this massive, conventional pest control and eradication effort was impressive, especially relative to the performance of other countries in the affected region. However, certain shortcomings were apparent, most notably in the areas of pesticide selection, management and use, and the use of non-conventional pest management techniques.

Moreover, the PP design team found that some of these same concerns regarding the proper management and use of pesticides existed in the private sector of Morocco as well. The consultants observed several instances during their travels which indicated a serious lack of understanding and/or regard for worker health and safety associated with the management and use of hazardous agrochemicals.

100

Although the requisite extension and regulatory infrastrucuture appears to be in place, the Mission has less information on Moroccan public and private sector capabilities in the management and use of fertilizers and agricultural germplasms. These input areas will need to be examined more closely during the early stages of project implementation, as required.

2. Mid-Stream Impacts: As mentioned above, this area of potential project impacts is associated with increased or expanded facilities for the processing and/or packaging of target agricultural commodities. Such facilities encompass the variety of steps required to transform raw agricultural produce into final consumer products. Depending on the commodity in question and the type of final product desired, i.e., fresh vs. processed produce, these steps might include: controlled climate storage facilities; washing, sorting, peeling, chopping, dicing, slicing, chemically treating, extracting and concentrating juices and/or oils, cooking, dehydrating, deaerating and seasoning facilities; and, freezing, canning and packaging facilities.

In general, there are three major types of potential environmental impacts associated with such facilities:

- **facility development impacts** associated with the expansion of existing facilities or the construction of new facilities and associated services, e.g., water, sewerage, roads, fuel, etc.

- **facility operation impacts** associated with the wastes generated by the facilities and noise and/or other emissions resulting from their normal operation; and,

- **plant worker and consumer health and safety concerns** arising from hazardous materials, contaminants and/or other unhygienic conditions within facility storage, processing and packaging areas.

Facility development impacts in this instance are no different than those associated with the development of any similar industrial enterprise and, therefore, require no special elaboration here. Suffice to state that such impacts can prove significant and warrant careful and deliberate consideration in the facility planning, design and construction process.

Facility operation impacts, on the other hand, are more specific to the particular type of industrial facility in question. In general, effluents from the processing of horticultural products can be both solid and liquid in nature, and the process waste streams are usually a mixture of the two. Gaseous effluents are minor or non-existent, and hence, will not be considered further here (World Bank, Environmental Guidelines, 1988, p. 97). Odors related to anaerobic ponds, which are sometimes used for waste treatment, can be significant in certain situations.

The waste parameters of major significance are the five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and hydrogen-ion concentration (pH). Fecal coliforms may be of concern, although they are not generally found in wastewaters from this industry as long as due care is given to ensuring that sanitary wastes are handled separately from process wastewaters. This concern becomes particularly critical in situations where in-plant re-use of process wastewaters is practiced.

Water is used extensively in all phases of the industry, principally as: (a) a cleaning agent to remove dirt and other foreign material from the product; (b) a heat transfer medium for heating and cooling; (c) a solvent for removal of undesirable ingredients from the product; (d) a carrier for the incorporation of additives into the product; and, (e) a method of transporting and handling the product. Accordingly, plant process wastewater treatment and disposal is a primary area of environmental concern for this industry and this aspect of project operations. Average flows and characteristics for waste effluents from this industry are presented in Table 1 for both screened and unscreened effluents.

Plant worker and consumer health and safety concerns for this industry relate primarily to the potential for deleterious exposure to chemical additives, contaminants and/or other hazardous or unhygienic substances both throughout the in-plant processing operations and through consumption of the final food products. Consumer health and safety concerns are covered in the next section of this analysis, i.e., downstream impacts. Plant worker health and safety, always a primary concern in any industrial enterprise, will need to be carefully considered in all sub-project activities dealing with this aspect of agribusiness in Morocco.

In 1988, there were 24 plants processing vegetables in Morocco, and 39 plants processing fruits and confits. The PP design team found that the vast majority of these plants utilize traditional food processing concepts and packaging methods. Thus, slow and/or quick freezing of fruits and vegetables were carried out in only 5 plants; only 12 plants were drying and dehydrating fruits and vegetables; and, only 4 plants were involved in preserving fruits and vegetable juices.

Information on spice processing facilities is more difficult to acquire; however, there appear to be some 15-20 large to mid-size operations devoted to this sector of agribusiness in Morocco.

In general, these facilities are concentrated in the urban centers of the country, e.g., Casablanca (by far the heaviest concentration), Marrakech, Safi, Agadir, Fez, Meknes, Larache and Kenitra. The industry is characterized by a few large and modern plants and many small, less efficient plants. Thus, in

1985, 52% of the plants accounted for only 7% of the total production, while the largest 11% of the plants processed 68% of the total. With a few notable exceptions, these plants are privately owned and operated, with little government interference. Additional information regarding the current status of this industry in Morocco and its prospects for future development are presented in the various analyses completed for the PP design (see especially Development Alternatives, Inc., Morocco Agribusiness Promotion Project Paper Team Report, January 1991).

Overall, these analyses indicate that: (1) there is great potential for expansion of industry plant operations; (2) there is a great variety of levels of sophistication and capability exhibited in plant operations throughout the industry; and, (3) there is significant and widespread room for improvement in plant operations, particularly with respect to plant operational efficiencies, use of new and/or "cleaner" product processing techniques, and worker health and safety concerns. These shortcomings are especially important considering that there appears to be little or no government regulation of this entire aspect of industry operations in Morocco.

3. Downstream Impacts: As previously described, this category of impacts deals largely with consumer and international health and safety concerns associated with final product sampling, inspection and quality control prior to release for export and/or domestic consumption. **Key concerns here include: establishing product grades and standards; product inspection, treatment and quarantine procedures; and, product sampling and laboratory analysis capabilities and procedures for pests, pesticides and/or other chemical additive residues and contaminants.**

MARA's DPVCTRF is also a primary agency responsible for ensuring that these downstream industry activities are properly carried out, principally for the areas of live product exports and product sampling and laboratory analysis for pests, pesticides, and/or other chemical residues and contaminants. They are assisted in these tasks by the **Etablissement Autonome de Controle et de Coordination des Exportations (EACCE)**, attached to the Ministry of Trade, which is responsible for establishing grades and standards for fresh and processed food products and their packaging, operating 11 export inspection and enforcement stations throughout the country, licensing all food exporters, and maintaining and monitoring food import standards and other regulatory features of Morocco's major food markets. In addition, when deemed warranted, the EACCE has the power to call together exporters to reduce exports, allocate export quotas, or modify minimum product grades and standards to maintain the competitiveness of Moroccan exports in international markets.

As a result of GOM regulatory requirements, there are currently few private sector entities involved in providing

these downstream agribusiness services in Morocco. One notable exception is SASMA, a major Moroccan agricultural service company for fruit and vegetable growers.. Originally established as an adjunct to the Moroccan citrus industry, SASMA now provides a variety of laboratory analysis, industrial research and development, and technical assistance services on a fee basis for producers, packers and processors of vegetables and non-citrus fruits as well.

While all of these requisite downstream concerns appear to be addressed in Morocco, the PP analysis found many gaps in the coverage provided, with respect to both regional disparities in available resources and an apparent lack of reliable, up-to-date technical information in all areas. These shortcomings will have to be addressed if Morocco is to become truly competitive in the international and, more particularly, the U.S. agribusiness marketplace and project objectives are to be realized.

III. RECOMMENDED ENVIRONMENTAL MITIGATION MEASURES

A. Project Approach

Prior to discussing the mitigative measures to be included in the project to address the above-mentioned environmental concerns, it is important to reiterate the overall approach of this project towards addressing Morocco's sector-specific needs. The project seeks to improve the country's agribusiness capabilities, performance and competitiveness through certain strategic interventions in certain target sectors of opportunity. These target sectors of opportunity will finally be determined on the basis of ongoing intensive study and analysis as well as the perceived level of interest and commitment on the part of prospective private sector participants. Therefore, to a certain extent, the degree of success of the project will depend on its ability to respond in a flexible, efficient and timely manner to a rapidly changing variety of international and domestic conditions, demands, interests and information. This "opportunistic" approach will also be adopted for the environmental measures to be included under the project, as this is considered to be the only realistic course of action in such a market-led and private sector-driven endeavor of this nature.

According to this approach, the project's environmental interventions will focus first on ensuring that the specific activities pursued under the project do not result in any significant adverse environmental impacts. Thus, for example, the project will be interested in pesticides only insofar as project activities result in the increased use of existing pesticides or the introduction of new pesticides to Morocco, and will not be attempting to reform the current national pesticide management and regulatory framework. Of course, it is also reasonable to assume that certain concerns will be so common and widespread as to warrant a more global project approach. In such cases, the project will endeavor to do what

it can to foster improved, environmentally sound approaches and procedures. However, it must be understood that any whole scale efforts in this behalf are beyond the scope of this project and, in many instances, will have to await assistance through some alternative mechanism.

B. Recommended Environmental Mitigation Measures

1. Overview: The Map Project will employ a comprehensive set of implementation procedures, agents and mechanisms to ensure that environmental concerns are addressed in a sound and effective manner. The project's environmental implementation procedures are patterned after the Agency's own Environmental Regulations (22 CFR 216), yet have been modified to properly accommodate the unique approach and agribusiness focus associated with this project. Key "environmental" implementation agents will include the institutional contractor, the USDA/OICD, an environmental consulting firm, and the USAID project management staff, including especially the Mission Environmental Officer (MEO). The environmental implementation mechanisms are generally the same as those to be employed for the other project components, i.e., technical assistance, training, study tours, workshops, etc. They have been designed to properly integrate with the other project activities for smoother coordination and effective overall execution. The net result of these various measures will be to ensure a successful and environmentally sound MAP Project intervention. Each of these implementation areas is discussed in more detail in the following sections.

2. Project Environmental Procedures: The project's environmental procedures are designed in accordance with the approach described above, i.e., they are aimed first at addressing potential adverse environmental impacts resulting from specific activities pursued under the project. As previously mentioned, they closely mirror the Agency's Environmental Procedures in that they generally classify individual sub-project activities into three different categories or levels of environmental concern and, hence, review requirements. However, these procedures are also quite unique in that they reflect certain project- and country-specific circumstances.

One major such distinction is that the project will only be providing financing of selected sub-project activities to the pre-feasibility level, i.e., **the project will not be providing financing for sub-project feasibility studies or actual sub-project implementation.** Consequently, the Mission and project will not enjoy the same degree of control as might normally be expected over ensuring that environmental recommendations are adhered to and carried out during the ensuing stages of sub-project development and implementation. Moreover, in Morocco, this limitation is compounded by the fact that the GOM exercises little, if any, environmental control of its own in several potentially significant areas of project intervention.

Nevertheless, despite these constraints, the procedures will assist the Mission and project in identifying priority subjects of environmental concern and, thereby, in steering project personnel and resources towards more environmentally sound and acceptable activities and participants. Focussing initially on the project's grant funding mechanism(s), the procedures will operate as follows:

a. As individual sub-project activities are identified and selected for grant funding under the project, they will be examined from an environmental perspective, as well as for their potential to contribute to the attainment of the project's agribusiness objectives. The initial environmental review will take place at the sub-project pre-feasibility stage, corresponding closely to the Initial Environmental Examination called for in the Agency's Environmental Procedures. At this stage, suitable USAID assistance will be provided to complete a preliminary environmental review of each sub-project activity based upon sub-project information available at that point in time.

b. Based upon this initial pre-feasibility environmental review, the MEO, acting in coordination with the institutional contractor and USAID project management staff, will determine whether or not a sub-project warrants additional environmental review, or whether it is of a sufficiently benign environmental nature to be exempted from further review at that point in time. This MEO determination will be made in accordance with the following sub-project categorical criteria designed specifically to address the environmental concerns associated with this project:

(1) The first category of sub-project, **Type 1**, includes **those activities judged to have no potentially significant environmental impacts**. This category is similar to AID's **categorical exclusion** classification under 22 CFR 216, and would include such activities as market investigations and other studies and analyses, training activities, promotional campaigns, workshops, etc. Activities determined to fall within this category will require no additional environmental review.

(2) The second category of sub-project, **Type 2**, includes **those activities judged to pose minimal environmental risk**, and which can be adequately addressed with a few simple, straightforward recommendations at the pre-feasibility stage, without requiring a full Environmental Assessment (EA). This category corresponds to a **negative environmental determination or threshold decision** under AID's 22 CFR 216 procedures. "Minimal environmental risk" here will be determined by the MEO and will generally apply to small-scale industry

development activities meeting the following criteria:

(a) an estimated construction cost of under $25,000;

(b) sub-projects that will not result in an increase in plant effluents;

(c) sub-projects that will not result in an increase in worker exposure to toxic or other hazardous chemicals or materials;

(d) sub-projects that will not result in an increased use of existing agrochemicals or in the introduction of new agrochemicals, e.g., pesticides, fertilizers, herbicides, etc., or crop germplasms; and,

(e) any other sub-projects deemed by the MEO to not warrant any additional environmental review.

Examples of the types of activities which might be included in this category of activities are: the addition of small-scale cold storage facilities to an existing processing or packaging plant; the incorporation of new, "cleaner" agro-processing technologies which will actually result in a net reduction in plant pollution potential; the introduction of new techniques which result in more efficient plant operations or improved plant housekeeping and manufacturing practices; and, activities that can be properly addressed through a previously completed EA due to their great environmental similarity, i.e., the "programmatic" type of environmental determination under 22 CFR 216.

(3) The third and final category of sub-project activities, Type 3, includes those activities judged to have the potential to cause significant environmental harm, requiring additional information for a final determination and/or completion of an EA. Sub-project activities falling within this environmental category will generally include those activities which do not meet the Type 2 criteria listed above, e.g., larger-scale agro-processing expansion or new plant development activities, activities involving the increased use of existing agrochemicals and/or the introduction of new agrochemicals and/or germplasms, activities resulting in significant increases in plant effluents and/or worker exposure to toxic or hazardous chemicals, etc.

c. Should a sub-project require additional environmental review and/or follow-up action based upon the results of this pre-feasibility examination, i.e., certain Type 2 and all Type 3 activities, this recommendation will be duly documented by the MEO and subsequently transmitted to any private sector parties concerned with that sub-project activity, along with an offer of project assistance, e.g., technical assistance and/or training, to properly implement said environmental recommendations. If this recommendation for additional environmental review is accepted by the concerned parties, the project will proceed as appropriate to assist said parties to implement said recommendations to the best of our joint abilities. If this recommendation is rejected by the concerned parties, the project will cease to provide any additional assistance for that sub-project or for those participating private sector firms from that point in time. In addition, the project will inform the appropriate GOM counterpart agencies of its concerns and recommendations regarding the environmental aspects of the activity, and of the negative response received from the participating firms to its offer of assistance in addressing those concerns and recommendations.

The MEO will retain primary responsibility for ensuring that these procedures are properly adhered to for all sub-project activities. With the assistance of the institutional contractor, USAID project management staff and any other environmental expertise required (see below), the MEO will also be responsible for ensuring that all actions and determinations resulting from the application of these procedures are duly documented. Copies of all such documentation, e.g., pre-feasibility reports, MEO determinations, associated correspondence, etc., will be forwarded to the appropriate ENE Bureau and GOM staff for their information. All EAs completed under these project procedures will be forwarded to the Bureau's environmental staff for review, comment and approval prior to finalization and implementation.

As previously mentioned, these procedures are intended to ensure that all project-funded activities are carried out in an environmentally sound and appropriate manner. This is considered to be the minimum AID environmental requirement, and will be the focus of project environmental activities during the initial stages of project implementation.

As the project progresses, however, it is anticipated that more common or widespread environmental concerns and priorities will emerge along with certain key non-governmental industry representatives. As this occurs, the project will expand its environmental activities to begin to address selected concerns through a more proactive and longer-term developmental approach. This approach will consist largely of the promotion of certain sector-wide environmental precepts, such as plant pollution prevention and good housekeeping

practices and general industrial health and safety. Implementation here will involve activities designed to reach wider audiences, such as in-country workshops and seminars and group study tours, which are organized and executed in close collaboration with selected Moroccan non-governmental entities for maximum technology transfer and capacity building impact.

3. Implementation Agents and Mechanisms: As mentioned above, the project will employ a variety of agents and mechanisms to ensure that environmental concerns are properly addressed. Key implementation agents will include: the institutional contractor; the USDA/OICD, through a new project-specific Participating Agency Services Agreement (PASA) including provision for the services of the USEPA; an agreement with an environmental consulting firm; and, the USAID project management staff acting in coordination with the MEO and Bureau environmental staff, as required. The respective "environmental" roles and responsibilities of each of these agents are described below, along with the various mechanisms each will be using to properly fulfill those roles and responsibilities during the course of project implementation.

a. Institutional Contractor

As "front-line" project implementing agent responsible for conducting most project studies and analyses, identifying and recommending promising activities and actors to be supported under the project and for coordinating the various inputs and actions to be pursued by the great variety of project participants and stakeholders, the institutional contractor will play a key role in ensuring that the project's environmental responsibilities are met in a timely and efficient manner. However, unlike his other contractual obligations, the institutional contractor's most important environmental role will be to properly coordinate the inputs of the other environmental implementation agents. Thus, this contractor will not have direct responsibility for completing the more substantive environmental actions required under the project. These actions will be the responsibility of the USDA PASA and the environmental expertise described below. Nevertheless, proper execution of this coordinative function will be crucial to the success of the environmental (and other) aspects of the project, and will require a certain level of knowledge of, sensitivity to and familiarity with environmental concerns and procedures on the part of the contractor's long-term, in-country staff.

In addition, in certain instances, the institutional contractor may be called upon to provide direct assistance in meeting project environmental requirements, principally through the provision of short-term consultancy services, training activities and/or small-value commodity procurements. Such instances might include: addressing more minor environmental concerns which do not require external expertise; addressing certain "environmental" issues which are

also intrinsic to the achievement of the project's agribusiness objectives, e.g., promotion of new, "cleaner" and/or more efficient agro-processing technologies; assistance in the preparation for visits by other project environmental experts, e.g., writing SOWs, procurement of local commodities, etc.; and, in other situations where it is deemed to be expedient or otherwise advantageous for the successful and timely achievement of project objectives.

b. USDA/OICD

Through a project-specific PASA, the U.S. Department of Agriculture's Office of International Cooperation and Development (USDA/OICD) will provide the primary project mechanism for addressing the public sector environmental (and other) concerns mentioned above. USDA's OICD is considered to be uniquely qualified to provide these services due to its parent agency's homologous responsibilities in the U.S. and its proven excellent capabilities in the areas of the project's intervention, its great experience in and knowledge of assisting foreign nations' agricultural development needs, and the fact that a primary project objective will be stimulation of Moroccan agricultural exports to the U.S. for which effective USDA collaboration is imperative.

The bulk of the PASA services will be provided by the USDA/OICD's Food Industries Division (FID). With a staff of about 30 persons, the FID is responsible for arranging and managing education and training programs in U.S. universities, at USDA and other government agencies, and with U.S. agribusinesses. FID also organizes marketing workshops, in-country technical team visits and trade and investment missions designed to link U.S. and foreign entrepreneurs to expand agribusiness opportunities. The FID will be assisted in this effort by the services of USDA's Food and Drug Administration (FDA) and Animal and Plant Health Inspection Service (APHIS), including APHIS's Plant Protection and Quarantine (PPQ) and Biological Assessment and Taxonomic Support (BATS) staff. Together, these latter agencies are responsible for regulating all food imports to the U.S. and for monitoring developments within the international agricultural marketplace which might impact on the effective execution of this regulatory function, e.g., pests, pest movements, pesticides and other agrochemicals, etc. Finally, the PASA will also provide for the services of the U.S. Environmental Protection Agency (USEPA), including its Offices of Training and Pesticide Regulation, to assist Moroccan personnel in the proper management and use of agrochemicals.

PASA services will primarily be used to address the potential "upstream" and "downstream" environmental concerns associated with the project described above. Key upstream issues include: agrochemical regulation, management and use; live plant and germplasm import inspection, quarantine, testing and regulation; and, pest management techniques and capabilities. Key downstream issues include: establishment of product grades

and standards; and, product inspection, sampling and laboratory analysis capabilities and procedures, and general quality control. At present, these areas of Moroccan agribusiness operations fall largely under the jurisdiction of the GOM. Accordingly, the PASA services will be targeted primarily at the staffs of the DPVCTRF and the EACCE under the project. However, wherever opportunities present themselves, these services will also be employed to assist Moroccan private sector capabilities as well. For example, these U.S. government services will be most beneficial for private Moroccan industry representatives interested in gaining a better understanding of U.S. market access information, procedural and regulatory requirements.

PASA implementation mechanisms will include **short-term technical assistance, training, site visits and study tours, information services and assistance, and small-scale commodity procurements** in support of these activities. Some examples of the types of activities to be completed through the PASA are:

- Short-term training for DPVCTRF staff at the APHIS Professional Development Center in Frederick, Maryland in such areas as phyto-sanitary certification requirements, import permit procedures, import inspection procedures, fumigation and other treatment procedures, and pest identification and control procedures. This training will include visits to U.S. airports, seaports, land border ports and PPQ domestic units.

- DPVCTRF staff study tours to the National Plant Germplasm Quarantine Station in Beltsville, MD., and other post-entry quarantine stations in the U.S.

- Short-term training for DPVCTRF and EACCE staff in agrochemical management, regulation and use, including up-to-date information on pests, pesticides and associated laboratory residue analysis equipment and procedures.

- Provision of up-to-date information and reference materials regarding pests, pest treatment techniques, and associated inspection, sampling and laboratory analysis equipment and procedures.

The PASA will be managed by the USAID's project management staff in close collaboration with the institutional contractor. Specific activities to be completed under the PASA will be approved by all concerned parties through an annual project workplanning process which will allow for exceptions in the case of unforeseen project events requiring more immediate attention.

c. Private Sector Consulting Firm

Through an agreement with USAID, an environmental consulting firm will provide **the primary project mechanism for addressing the private sector environmental concerns** described above.

Initially, this type of assistance will focus largely on addressing specific issues identified through the project's environmental procedures elaborated above. In addition to the more immediate environmental benefits resulting from this assistance, this initial exposure should provide environmental experts with valuable insights and experience regarding the more common and widespread environmental concerns associated with agribusiness activities in Morocco. As the project progresses, the consulting firm will then be expected to apply this experience towards the design of more proactive project environmental interventions intended to reach larger audiences, in close collaboration with selected Moroccan non-governmental organizations for more effective and longer-term development impact. Although targeted at private sector entities, the agreement will permit sufficient flexibility for the private consulting firm to provide assistance to concerned Moroccan public sector institutions as well, should this be considered to be appropriate for the successful attainment of the project's environmental objectives.

The agreement will provide for a variety of implementation mechanisms to accomplish the above tasks, including:

- **short-term internships** at appropriate U.S. and/or third-country offices, plants and laboratories;

- **study tours** of comparable U.S./third-country facilities to learn, compare procedures and results, and establish international contacts;

- **short-term training activities**, both in-country and overseas;

- **facility surveys** by U.S. and other country experts to assess conditions, procedures, equipment and specific problems, recommend improvements and train on-site staff;

- **small-scale institutional assessments and strengthening activities;**

- **in-country, U.S. and third-country workshops, seminars and conferences**, possibly co-sponsored with other concerned international organizations, e.g., U.N. Environment Program, International Solid Waste Association, International Program for Chemical Safety, etc.;

- **information development and dissemination programs**, such as publications, training and education materials, databases and computer software support; and,

- procurement of equipment and materials in support of the above activities, e.g., literature, audio-visual and other small-scale technical equipment, etc.

The agreement will be managed by the USAID project management staff in close coordination with the MEO and the institutional contractor. Proper coordination here will be of the utmost importance, in view of both the potentially significant nature of the activities in question and the need to allow for the effective and timely implementation of the project environmental procedures outlined above. As for the USDA/OICD PASA, specific activities to be completed under the agreement will be jointly approved by all concerned parties through the project's annual workplanning process. However, even greater forward planning flexibility will be required here to properly accommodate environmental issues arising from the sub-project procedural review process on a timely basis.

d. USAID Project Management Staff

As for all project activities, the USAID project management staff will be responsible for the provision of the necessary monitoring and oversight to ensure that all of the above environmental recommendations are properly carried out. Due to the specific procedural requirements associated with this aspect of the project, the effective performance of the MEO will be critical to the successful implementation of these recommendations. However, as a part-time project manager with only short-term assistance services at his/her disposal, the MEO will require timely and effective feedback from the other project management staff and, most importantly, the institutional contractor to properly execute this important project environmental role.

In accordance with their legislative mandate, the ENE Bureau environmental staff will retain final authority for the approval of all EAs required to be completed under the project.

III. CONCLUSIONS

The MAP Project will seek to increase the capacity of the private agribusiness sector in Morocco to produce, package, and market a variety of demand-driven, value-added agricultural commodities. If not conducted properly, expanded agribusiness activity in Morocco could result in significant adverse environmental impacts. For this reason, the MAP PID received a positive environmental threshold decision from the ENE Bureau Environmental Coordinator. These potential impacts can generally be classified as follows:

- "upstream" impacts associated with increased production of target agricultural commodities;

- "mid-stream" impacts associated with increased or expanded facilities for processing and/or packaging target agricultural commodities; and,

- "downstream" impacts associated with final product sampling, inspection and general quality control prior to release for export and/or domestic consumption.

To address these concerns and ensure that the project is carried out in an environmentally sound and effective manner, the project will employ a comprehensive set of "environmental" implementation procedures, agents and mechanisms. The project's environmental implementation procedures are patterned closely after the Agency's own Environmental Procedures, yet have been modified to properly accommodate the unique approach and Moroccan agribusiness focus of this project. Key project environmental implementation agents and their associated roles and implementation mechanisms include:

- the prime institutional contractor for the project, acting primarily as a coordinator of the short-term inputs provided by the other sources of environmental expertise;

- the U.S. Department of Agriculture's Office of International Cooperation and Development and affiliated agencies, e.g., FDA, APHIS, etc., and the U.S. Environmental Protection Agency, providing the bulk of the public sector environmental assistance required under this project, i.e., for the "upstream" and "downstream" areas of environmental concern noted above, through a project-specific PASA;

- an environmental consulting firm, providing the bulk of the private sector environmental assistance for this project, i.e., for the "mid-stream" area of environmental concern noted above, through an agreement with the USAID; and,

- the USAID project management staff, including particularly the Mission Environmental Officer, fulfilling their proper monitoring and oversight function to ensure that all project environmental procedures are adhered to and implementation recommendations are carried out in a timely and effective manner.

The environmental services to be provided to the project by these agents and mechanisms will generally include: short-term technical assistance and training activities, e.g., facility site visits and assessments, small-scale institutional strengthening activities, study tours and internships, and workshops, seminars and conferences; information development and dissemination activities, e.g., training and reference manuals and materials, publications, access to databases and computer software programs, etc.; and, small-scale commodity procurements in support of the above activities. Activities

will take place in Morocco, the U.S. and in third countries, as deemed appropriate. Specific activities to be completed under the project will be approved by all concerned parties through the project's annual workplanning process, which will afford sufficient flexibility to properly accommodate unforeseen project events requiring more immediate attention.

The recommendations presented above are the result of careful consideration of the specific environmental issues associated with the MAP Project and of the most appropriate manner of addressing those issues, consistent with Agency environmental requirements, the project's unique development approach and the Moroccan sectoral context. The environmental procedures promise all that can reasonably be expected to be accomplished under the project towards satisfying Agency environmental regulations. The type, amount and mix of environmental inputs are indeed appropriate for the task at hand, reflecting the unique private-public sector approach called for within the current agribusiness institutional framework in Morocco, while allowing sufficient flexibility to at least begin to effect more widespread and longer-term improvements in the environmental aspects of future sectoral operations. Finally, all of the environmental activities have been designed to integrate closely with the other activities to be pursued under the project for maximum ease of implementation, coordination and effective overall results. Accordingly, if implemented as described herein, these recommendations should ensure that the MAP Project is completed in an environmentally sound and successful manner.

Morocco Agribusiness Promotion Logical Framework

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal	**Measures of Goal Achievement**		
To increase the contribution that the private, commercial, agribusiness sector makes to the GDP, foreign exchange earnings, and employment and income.	-Increased permanent and seasonal employment opportunities -Increased percentage of household revenue derived from agribusiness Sector -Increased contribution of agribusiness sector to GDP -Increased foreign exchange earnings from agrbusiness exports	1.GOM and USAID monitoring 2. National employment statistics 3. Family income survey results 4. National trade statistics	Private sector agribusiness entities are responsive to market preferences Morocco suffers no major economic shock related to oil pricing, or drought Level of protection does not increase in potential agribusiness markets overseas

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose	**End-of-Project Status**		
To increase the capacity of the private agribisiness sector in Morocco to produce, package, and market, both domestically and internationally, a wide variety of agricultural commodities	-Increased investment in the agribusiness sector	USAID and GOM monitoring	Morocco and U.S. agribusiness respond to increased attractiveness of investment climate credit
	-Increase investment activity by U.S. agribusiness firms in Morocco	National employment statistics GOM import statistics	GOM continues economic liberalization policies
	-Increased human capital available to the agribusiness sector	Project monitoring reports	
	-A major re-oreintation of the Hassan II Agricultural Univeristy to private sector agricultural needs	GOM agric statistics	
	-A recognition by the public sector of its appropriate role in supporting private, commercial demand-driven agriculture	Socio-economic and technical studies	
	-A policy recommendations acted on by the GOM	Evaluation reports Project monitoring reports	

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs	**Magnitude of Outputs**		
1.Studies which target key administrative constraints in the marketing of agricultural products and services	Number of technical and socio-economic studies completed	GOM/MARA reports Evaluation reports Contractor reports	Timing and quality of inputs Relatively normal regional climate and rain-fall throughout life of project; irrigated areas receive adequate supplies of water
2.Proposals for privatizing government-owned agribusiness enterprises	Number of proposals completed		
3. Analyses of technical and processing improvements	Number of analyses completed		
4.Organizational improvement consultancies	No. of consultancies		
5.Trained participants in agribusiness management programs, both U.S. and Morocco-based	No. of participants completing training programs		
6.Moroccans participating in U.S. agribusiness internships	No. of Moroccan interns		
7.Agribusiness Management Program at IAV	Certification of agribusiness mangement program		
8.Pre-feasibility studies	No. of studies		
9.Increased agribusiness promotion activities	No. of promotional activities with Moroccan particpation		

ACTION AID2 INFO: DCM ECON AGR

OFFICIAL FILE

LOC: 525 851
01 NOV 90 0857
CN: 10858
CHRG: AID
DIST: AID 608-0210

VZCZCRA0747EA0176
PP RUFHRA
DE RUEHC #0822/01 3050324
ZNR UUUUU ZZH
P 0103222Z NOV 90
FM SECSTATE WASHDC
TO AMEMBASSY RABAT PRIORITY 0061
BT
UNCLAS SECTION 01 OF 02 STATE 370822

ACTION: ANR
DUE DATE: 11/05
INFO: PDR-DIDER
PROG-Econ-PDPE
RLA-RCO-EXO
OFM-CHRON-RF.

AIDAC

E.O. 12356: N/A
TAGS:
SUBJECT: MOROCCO AGRIBUSINESS PROMOTION PROJECT (608-0210) - PID REVIEW

1. SUMMARY: THE PROJECT REVIEW COMMITTEE (PRC) MET ON OCTOBER 9 TO REVIEW SUBJECT PROJECT. BASED ON THIS REVIEW, THE AA/ENE HEREBY APPROVES PID AND DELEGATES AUTHORITY TO THE MISSION TO DEVELOP AND APPROVE THE PROJECT PAPER FOR FY91 OBLIGATION. WE COMPLIMENT THE MISSION FOR DEVELOPING A PROJECT WHICH IS FULLY CONSISTENT WITH THE NEW STRATEGY DIRECTIONS OUTLINED IN THE MOROCCO STRATEGY CONCEPT PAPER RECENTLY SUBMITTED TO AID/WASHINGTON. THE PROPOSED PROJECT INCLUDES A BROAD RANGE OF INTERVENTIONS DESIGNED TO INCREASE EMPLOYMENT OPPORTUNITIES IN THE PRIVATE SECTOR. THREE IMPORTANT ISSUES RAISED IN THE REVIEW FOCUSED ON CONTRACTOR CONFLICT OF INTEREST, THE ECONOMIC AND FINANCIAL ANALYSIS REQUIRED FOR THE PP AND THE NEED FOR APPROPRIATE ENVIRONMENTAL POLICY. GUIDANCE ON THESE AND OTHER ISSUES DISCUSSED DURING THE PRC ARE OUTLINED BELOW. END SUMMARY.

ACTION TAKEN
No Action Necessary ✓
Replied by:
DM 11/02/9
Initials & Date

2. CONTRACTOR CONFLICT OF INTEREST: THE PID NOTES THE POTENTIAL FOR CONFLICT OF INTEREST IN SELECTING A PRIVATE QUOTE FOR PROFIT UNQUOTE AGRIBUSINESS FIRM TO HELP IMPLEMENT CERTAIN PROJECT COMPONENTS. AS EXPLAINED BY THE MISSION REPRESENTATIVE THERE ARE TWO CONCERNS (I) THE ABILITY OF A CONTRACTOR OR PERSONS RELATED TO IT TO PERFORM WORK IN THE COUNTRY INDEPENDENT OF THE CONTRACT OR PROJECT; AND (II) THE ABILITY OF A CONTRACTOR TO PARTICIPATE IN OPPORTUNITIES RELATED TO THE INVESTMENT AND TRADE PROGRAM.

THIS ISSUE CANNOT BE DEALT WITH AT THE PID STAGE BUT MUST BE RESOLVED IN THE DESIGN OF THE PROJECT AND THE PP. ACCORDINGLY, THE PROJECT SHOULD BE DESIGNED AND IMPLEMENTED IN A MANNER THAT NEITHER THE CONTRACTOR NOR ASSOCIATED INDIVIDUALS GAIN OR APPEAR TO HAVE UNFAIR OR IMPROPER ADVANTAGE VIS A VIS COMPETITORS OR POTENTIAL COMPETITORS BY VIRTUE OF THEIR CONTRACTUAL ROLE OR STATUS UNDER THE AID PROGRAM BILATERAL AGREEMENT AND THERE WILL BE NO LIKELIHOOD FOR CONTRACT PERFORMANCE TO

USAID AMBASSY RABAT C&R 01 NOV. 1990 RECEIVED

BE AFFECTED OR APPEAR TO BE AFFECTED BY EXTRANEOUS AND POSSIBLY CONFLICTING INTEREST. CARE MUST BE TAKEN TO ASSURE THAT U.S.G. FUNCTIONS, SPECIFICALLY, THE MAKING OF GRANTS, WILL BE PERFORMED BY GOVERNMENT OFFICIALS AND INDEPENDENT OFFICIAL JUDGMENTS AND DECISIONS WILL BE MADE ON MATTERS WHERE THE CONTRACTOR'S BEHAVIOR OR ADVICE COULD BE AFFECTED BY ITS PRIVATE INTEREST OR THOSE OF PERSONS ASSOCIATED WITH IT.

IF A WAIVER OF FAR SUBPART 9.5, QUOTE ORGANIZATIONAL CONFLICTS OF INTEREST UNQOTE, AS IMPLEMENTED IN AIDAR 729.5, IS REQUIRED, THE NECESSARY ACTION, WITH FULL JUSTIFICATION, CAN BE TAKEN AT THAT TIME. LEGAL ASSISTANCE IN THE DESIGN WILL BE PROVIDED BY THE REGIONAL LEGAL ADVISOR, AND M/SER/OP/ANE, IF REQUESTED.

3. ECONOMIC AND FINANCIAL ANALYSIS: THE PID INDICATES THAT STANDARD ECONOMIC PROJACT ANALYSIS IS NOT FEASIBLE. HOWEVER, THE PRC FELT THAT SUCH ANALYSIS IS NOT ONLY FEASIBLE BUT NECESSARY TO INSURE ADEQUATE INCENTIVES FOR PRIVATE SECTOR INVESTORS AND EXPORTERS. A RIGOROUS BENEFIT/COST ANALYSIS BASED ON ALTERNATIVE CROPPING PATTERNS AND SECTOR PRODUCTION AND VALUE-ADDED SHOULD BE DONE. ILLUSTRATIVE YET REALISTIC SCENARIOS COULD BE DEVELOPED WHICH USE SENSITIVITY ANALYSIS TO TEST PROJECT ASSUMPTIONS AND OVERALL VIABILITY. MOREOVER, THE RATIONALE FOR COST SHARING AND OTHER

MECHANISMS DESIGNED TO STIMULATE PRIVATE SECTOR PARTICIPATION SHOULD BE CLEARLY DESCRIBED IN THE ANALYSIS. IN ADDITION, THE PP SHOULD CLEARLY DEFINE THE TYPES OF MARKET FAILURE PREVAILING IN THE SECTOR AND EXPLAIN THE ECONOMIC RATIONALE FOR PROVIDING DIRECT ASSISTANCE TO FIRMS. SUCH RATIONALE SHOULD BUILD ON THE CONCEPTS OF EXTERNALITIES, PUBLIC GOODS, MERIT GOODS, NATURAL MONOPOLY, PROHIBITIVE TRANSACTION COSTS, ETC. PER A.I.D. POLICY PAPER, PRIVATE ENTERPRISE DEVELOPMENT, PG. 13, PARA. 2-4 DATED MARCH 1985. FINALLY, THE CRITERIA FOR APPROVING SUB-GRANTS TO PRIVATE FIRMS SHOULD BE CLEARLY OUTLINED IN THE PROJECT PAPER.

4. ENVIRONMENTAL: ENE/TR/ENV HAS REVIEWED THE PROJECT PID AND RECOMMENDED ENVIRONMENTAL THRESHOLD DECISION DATED SEPTEMBER 24, 1990. THE BUREAU ENVIRONMENTAL COORDINATOR AGREES THAT THE PROJECT INVOLVES ACTIVITIES THAT MAY HAVE A SIGNIFICANT EFFECT ON MOROCCO'S NATURAL AND PHYSICAL ENVIRONMENT. ACCORDINGLY, ENE/TR/ENV RECOMMENDS THAT FUNDING BE PROVIDED TO THE INSTITUTIONAL CONTRACTOR TO ACQUIRE THE NEEDED ENVIRONMENTAL
BT
#2822

NNNN

EXPERTISE, TRAINING AND ASSESSMENT FOR THE PROJECT. ENR/TR/ENV WILL BE SENDING COPIES OF THE COOPERATIVE AGREEMENT WITH THE WORLD ENVIRONMENT CENTER AS REQUESTED BY MISSION ENVIRONMENTAL OFFICER, ERIK LOKEN. SEPTEL WILL PROVIDE ADDITIONAL GUIDANCE FOR PREPARING A NEW IEE INCORPORATING APPROPRIATE SAFEGUARDS.

5. MARKET ABSORPTIVE CAPACITY: THE PROJECT FOCUSES ON SEASONAL EUROPEAN MARKETS FOR FRESH PRODUCE AND ON MARKETS FOR PROCESSED PRODUCTS. THE PP MIGHT IDENTIFY WHO MOROCCO'S COMPETITORS ARE AND WHETHER COUNTRIES ALSO SUPPORTED BY AID IN THESE MARKETS WOULD BE ADVERSELY AFFECTED. FINALLY, AS NOTED IN THE PID, ATTENTION MUST BE GIVEN TO COMPLIANCE WITH THE BUMPERS AMENDMENT. TO THE EXTENT THAT SPECIFIC AGRIBUSINESS PRODUCTS CAN BE IDENTIFIED, ADDITIONAL EXPORT MARKET ANALYSIS MAY BE REQUIRED.

6. PROJECT DIALOGUE: THE PID INDICATES THAT MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MARA) WILL BE THE FOCAL POINT FOR POLICY ANALYSIS AND THE MAIN INTERIOCUTOR WITH THE GOM REGARDING POLICY CHANGE. THE APPROPRIATENESS OF DEALING WITH MARA ON THE BROAD RANGE OF POLICY RELATED ISSUES AFFECTING THE AGRIBUSINESS SECTOR IS NOT CLEAR. GIVEN THAT THERE IS NO INTER-MINISTERIAL MECHANISM ENVISAGED, HOW SUCCESSFUL

HAS MARA BEEN IN THE PAST IN EFFECTING POSITIVE POLICY CHANGE/ TO WHAT EXTENT DOES POLICY REFORM HAVE TO PRECEDE NEW AGRIBUSINESS INVESTMENT/ THE PID DOES STATE THAT TA WILL BE USED TO UNDERTAKE POLICY ANALYSIS BUT THERE IS CONCERN THAT THIS MAY COME TOO LATE TO INSURE SUCCESS OF THE PROJECT TRADE AND INVESTMENT OBJECTIVES. MORE ATTENTION NEEDS TO BE GIVEN TO THESE ISSUES. THE PP SHOULD ALSO DEMONSTRATE THE TRADEOFFS IN TERMS OF FOOD SECURITY IMPLICIT IN THE SWITCH FROM CEREALS TO HIGH VALUE FRUITS AND VEGETABLES. ATTENTION SHOULD ALSO BE GIVEN TO THE LIKELY IMPACT ON SMALL FARMERS.

7. PROJECT DESIGN: THE PRC WAS CONCERNED THAT THE PROJECT, AS DESCRIBED IN THE PID, WAS TOO BROADLY CAST, INVOLVING FOUR VERY DISTINCT COMPONENTS. THE MISSION REPRESENTATIVE INDICATED THAT THE PROJECT WOULD BE NARROWED AT THE PP STAGE BUT NEVERTHELESS FELT IT NECESSARY TO BUILD-IN FLEXIBILITY IN ORDER TO ENGAGE EFFECTIVELY THE PRIVATE AGRIBUSINESS SECTOR. GIVEN THIS FOCUS, THE PRC URGED THAT PROJECT RESOURCES BE DIRECTED PRIMARILY TO THE PRIVATE SECTOR. THE AVAILABILITY OF FY91 PD AND S FUNDS FOR PROJECT DESIGN WILL BE DISCUSSED IN SEPTEL. AID/W STAFF IS AVAILABLE TO ASSIST MISSION. GIVEN WORKLOAD AND OTHER COMMITMENTS, WE URGE EARLY FISCAL YEAR PLANNING OF THE TYPES OF ASSISTANCE REQUIRED AND PROPOSED TIMING.

8. PROJECT PROCUREMENT: FURTHER GUIDANCE ON AID'S "BUY AMERICA" POLICY WILL BE PROVIDED SEPTEL. PROJECT AUTHORIZATION SHOULD BE CONSISTENT WITH THIS NEW GUIDANCE WHICH IS CURRENTLY UNDER AID/WASHINGTON REVIEW.

ANNEX C

9. LESSONS LEARNED: IT MAY BE USEFUL TO REVIEW PAST AID EXPERIENCE WITH SIMILAR PROJECTS, PARTICULARLY IN LATIN AMERICA, AND THE EXPERIENCES OF OTHER DONORS, SUCH AS THE IERD OFF-SEASON VEGETABLE MARKETING PROJECT.

10. BASED UPON REVIEW OF THE PID, AA/ENE APPROVES SUBJECT PID AND DELEGATES AUTHORITY TO THE MISSION TO DEVELOP AND APPROVE PP FOR FY 91 OBLIGATION. BAKER
BT
#0822

NNNN

SC(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable to the eligibility of countries to receive the following categories of assistance: (A) both Development Assistance and Economic Support Funds; (B) Development Assistance funds only; or (C) Economic Support Funds only.

A. COUNTRY ELIGIBILITY CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUND ASSISTANCE

1. Narcotics

a. Negative certification (FY 1991 Appropriations Act Sec. 559(b)): Has the President certified to the Congress that the government of the recipient country is failing to take adequate measures to prevent narcotic drugs or other controlled substances which are cultivated, produced or processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country to United States Government personnel or their dependents or from entering the United States unlawfully?

There has been no Presidential certification that the government is failing to take adequate measures to prevent illegal sale of narcotics.

b. Positive certification (FAA Sec. 481(h)). (This provision applies to assistance of any kind provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance from the Child Survival Fund or relating to international narcotics control, disaster and refugee relief, narcotics education and awareness, or the provision of food or medicine.) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct source of illicit drugs significantly

N/A

affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are laundered with the knowledge or complicity of the government):

(1) does the country have in place a bilateral narcotics agreement with the United States, or a multilateral narcotics agreement? N/A

(2) has the President in the March 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 days of continuous session, of a resolution disapproving such a certification), or has the President determined and certified to the Congress on any other date (with enactment by Congress of a resolution approving such certification), that (a) during the previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals agreed to in a bilateral narcotics agreement with the United States or in a multilateral agreement, to prevent illicit drugs produced or processed in or transported through such country from being transported into the United States, to prevent and punish drug profit laundering in the country, and to prevent and punish bribery and other forms of public corruption which facilitate production or shipment of illicit drugs or discourage prosecution of such acts, or that (b) the vital national interests of the United States require the provision of such assistance? N/A

C. Government Policy (1986 Anti-Drug Abuse Act of 1986 Sec. 2013(b)). (This section applies to the same categories of assistance subject to the restrictions in FAA Sec. 481(h), above.) If recipient country is a "major illicit drug producing country" or "major drug-transit country" (as defined for the purpose of FAA Sec 481(h)), has the President submitted a report to Congress listing such country as one: (a) which, as a matter of government policy, encourages or facilitates the production N/A

or distri on of illicit drugs; (b) in which any senior official of the government engages in, encourages, or facilitates the production or distribution of illegal drugs; (c) in which any member of a U.S. Government agency has suffered or been threatened with violence inflicted by or with the complicity of any government officer; or (d) which fails to provide reasonable cooperation to lawful activities of U.S. drug enforcement agents, unless the President has provided the required certification to Congress pertaining to U.S. national interests and the drug control and criminal prosecution efforts of that country?

2. Indebtedness to U.S. citizens (FAA Sec. 620(c): If assistance is to a government, is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity? NO

3. Seizure of U.S. Property (FAA Sec. 620(e)(1)): If assistance is to a government, has it (including any 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? NO

4. Communist countries (FAA Secs. 620(a), 620(f), 620D; FY 1991 Appropriations Act Secs. 512, 545): Is recipient country a Communist country? If so, has the President: (a) determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism, or (b) removed a country from applicable NO

restrictions on assistance to communist countries upon a determination and report to Congress that such action is important to the national interest of the United States? Will assistance be provided either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, Iran or Syria? Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan?

5. Mob Action (FAA Sec. 620(j)): Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U.S. property?

NO

6. OPIC Investment Guaranty (FAA Sec. 620(l)): Has the country failed to enter into an investment guaranty agreement with OPIC?

NO

7. Seizure of U.S. Fishing Vessels (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 vessel because of fishing activities in international waters? (b) If so, has any deduction required by the Fishermen's Protective Act been made?

NO

8. Loan Default (FAA Sec. 620(q); FY 1991 Appropriations Act Sec. 518 (Brooke Amendment)): (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA? (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 FY 1990 Appropriations Act appropriates funds?

NO

9. Military Equipment (FAA Sec. 620(s)): If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment?

YES, the Administrator has approved the country's OYB which takes into account amount of FX or other resources spent on military equipment.

(Reference may be made to the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at 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.)

10. Diplomatic Relations with U.S. (FAA Sec. 620(t)): Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? — NO

11. U.N. Obligations (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 A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo.) — The country carries no U.N. arrearages.

12. International Terrorism

a. Sanctuary and support (FY 1991 Appropriations Act Sec. 556; FAA Sec. 620A): Has the country been determined by the President to: (a) grant sanctuary from prosecution to any individual or group which has committed an act of international terrorism, or (b) otherwise support international terrorism, unless the President has waived this restriction on grounds of national security or for humanitarian reasons? — NO

b. Airport Security (ISDCA of 1985 Sec. 552(b). Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(e)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures? — NO

13. **Discrimi- ' ~ (FAA Sec. 666(b)):** Does the country object, on the basis of race, 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?	NO
14. **Nuclear Technology (FAA Secs. 669, 670):** Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? 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? If the country is a non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)	NO
15. **Algiers Meeting (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 Assembly of the U.N. on Sept. 25 and 28, 1981, and did it fail 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.)	Morocco was represented at the meeting and did dissociate itself from the community.
16. **Military Coup (FY 1991 Appropriations Act Sec. 513):** Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance?	NO

17. **Refugee Cooperation (FY 1991 Appropriations Act Sec. 539):** Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin? YES

18. **Exploitation of Children (FY 1991 Appropriations Act Sec. 599D, amending FAA Sec. 116):** Does the recipient government fail to take appropriate and adequate measures, within its means, to protect children from exploitation, abuse or forced conscription into military or paramilitary services? NO

B. COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE ("DA")

1. **Human Rights Violations (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? NO

2. **Abortions (FY 1991 Appropriations Act Sec. 535):** Has the President certified that use of DA funds by this country would violate any of the prohibitions against use of funds to pay for the performance of abortions as a method of family planning, to motivate or coerce any person to practice abortions, to pay for the performance of involuntary sterilization as a method of family planning, to coerce or provide any financial incentive to any person to undergo sterilizations, to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? NO

C. COUNTRY ELIGIBILITY TERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS ("ESF")

Human Rights Violations (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 President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U.S. national interest?	NO

5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE?	YES
A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS	
1. **Host Country Development Efforts** (FAA Sec. 601(a)): Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, 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.	1. The project is designed to assist Moroccan Agribusiness private sector promote its products abroad, liberalize the investment climate, strengthen public and private support institutions, thus, a) increase the flow of international trade, b) foster private initiative and competition, d) discourage monopolistic practises, and e) improve the efficiency of industry, agriculture, commerce. Assistance is not contemplated to encourage development and use of cooperatives, credit unions, and savings and loan associations or to strengthen free labor unions.
2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance 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).	2. U.S. private sector entities will be used as much as is practicable for technical assistance. Project is geared towards encouraging U.S. investment in Morocco agribusiness, through providing assistance to assist GOM and private agribusiness sector to increase agricultural exports.

3. Congressional Notification

a. General requirement (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?	Congressional notification sent on 09 July 1991.
b. Notice of new account obligation (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?	N/A
c. Cash transfers and nonproject sector assistance (FY 1991 Appropriations Act Sec. 575(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic poolicy reforms to be promoted?	N/A
4. Engineering and Financial Plans (FAA Sec. 611(a)): Prior to an obligation in excess of $500,000, 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) YES b) YES
5. Legislative Action (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?	N/A

6. **Water Resources (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501):** If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)	N/A
7. **Cash Transfer and Sector Assistance (FY 1991 Appropriations Act Sec. 575(b)):** Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?	N/A
8. **Capital Assistance (FAA Sec. 611(e)):** If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?	N/A
9. **Multiple Country Objectives (FAA Sec. 601(a)):** Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, 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.	9. The project is designed to assist Moroccan Agribusiness private sector promote its products abroad, liberalize the investment climate, strengthen public and private support institutions, thus, a) increase the flow of international trade, b) foste private initiative and competition, d) discourage monopolistic practises, and e) improve the efficiency of industry, agriculture, commerce. Assistance is not contemplated to encourage development and use of cooperatives, credit unions, and savings and loan associations or to strengthen free labor unions.
10. **U.S. Private Trade (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).	10. U.S. private sector entities will be used as much as is practicable for technical assistance. Project is geared towards encouraging U.S. investment in Morocco agribusiness, through providing assistance to assis GOM and private agribusiness sector to increase agricultural exports.

11. Local Currencies

a. Recipient Contributions (FAA Secs. 612(b), 636(h)): Describe steps taken to assure that, to the maximum extent possible, the country is 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.

PROAG will require appropriate host country contributions for those activities benefitting the host government directly; U.S. doest not own excess foreign currencies of Morocco.

b. U.S.-Owned Currency (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?

NO

c. Separate Account (FY 1991 Appropriations Act Sec. 575). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

N/A

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

N/A

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

N/A

(4) If assistance is terminated to a count 11 any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government?

N/A

12. Trade Restrictions

a. Surplus Commodities (FY 1991 Appropriations Act Sec. 521(a)): 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?

No, provisions of Bumpers amendment will be followed through close monitoring and evaluation of project activities.

b. Textiles (Lautenberg Amendment) (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

NO

13. Tropical Forests (FY 1991 Appropriations Act Sec. 533(c)(3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas?

a) b) NO

14. Sahel Accounting (FAA Sec. 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 (either dollars or local currency generated therefrom)? N/A

15. PVO Assistance

a. Auditing and registration (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? N/A

b. Funding sources (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? N/A

16. Project Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). Case-Zablocki Act will be complied with.

17. Metric System (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the YES

extent that such use is impractical or is likely to cause significant inefficiency or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?	YES
18. **Women in Development** (FY 1991 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased?	Project will take WID considerations into account. In so far as is possible percentage of women participants will be increased.
19. **Regional and Multilateral Assistance** (FAA Sec. 209): Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.	NO
20. **Abortions** (FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 525):	
a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?	NO
b. Will any funds be used to lobby for abortion?	NO
21. **Cooperatives** (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life?	NO

22. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act Secs. 507, 509): Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services.

U.S. does not own excess foreign currencies of Morocco.

b. Release of currencies (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?

NO

23. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?

YES

b. U.S. procurement (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him?

YES "Buy America" initiative will be followed.

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

N/A

d. Non-U.S. agricultural procurement (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

e. Construction or engineering services (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible

NO

under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

f. Cargo preference shipping (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?

NO

g. Technical assistance (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

YES
A PASA with USDA will be utilized in the project.

h. U.S. air carriers (International Air Transportation Fair Competitive Practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

YES

i. Termination for convenience of U.S. Government (FY 1991 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

YES

j. Consulting services (FY 1991 Appropriations Act, Sec. 524): If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? YES

k. Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage? YES

l. Competitive Selection Procedures (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES

24. Construction

a. Capital project (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used? N/A

b. Construction contract (FAA Sec. 611(c)): If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? N/A

c. **Large projects, Congressional approval** (FAA Sec. 620(k)): If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress? N/A

25. **U.S. Audit Rights** (FAA Sec. 301(d)): If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A

26. **Communist Assistance** (FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? YES

27. **Narcotics**

a. **Cash reimbursements** (FAA Sec. 483): Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? YES

b. **Assistance to narcotics traffickers** (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance?

1) YES

2) YES

28. **Expropriation and Land Reform** (FAA Sec. 620(g)): Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? YES

29. **Police and Prisons** (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? YES

30. **CIA Activities** (FAA Sec. 662): Will assistance preclude use of financing for CIA activities? YES

31. **Motor Vehicles** (FAA Sec. 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? YES

32. **Military Personnel** (FY 1991 Appropriations Act Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? YES

33. **Payment of U.N. Assessments** (FY 1991 Appropriations Act Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues? YES

34. **Multilateral Organization Lending** (FY 1991 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? YES

35. **Export of Nuclear Resources** (FY 1991 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology? YES

36. **Repression of Population** (FY 1991 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? YES

37. **Publicity or Propoganda** (FY 1991 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? NO

38. **Marine Insurance** (FY 1991 Appropriations Act Sec. 563): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate? YES

39. **Exchange for Prohibited Act** (FY 1991 Appropriations Act Sec. 569): Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law? NO

B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. **Agricultural Exports (Bumpers Amendment)** (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?	1) NO 2) NO
2. **Tied Aid Credits** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?	NO
3. **Appropriate Technology** (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	NO
4. **Indigenous Needs and Resources** (FAA Sec. 281(b)): Describe extent to which the activity 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 civic education and training in skills required for effective participation in governmental and political processes essential to self-government.	The project builds upon the GOM and peoples' needs, desires, and capacity for increased agribusiness efficiency, production and marketing. The project will utilize in-countr educational institutions to provide relevant reasearch, training, outreach, and formal high-level management education. Trade associations and chambers of commerce representative and lobbying functions will be strengthened.

5. **Economic Development** (FAA Sec 101(a)): 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?

YES

6. **Special Development Emphases** (FAA Secs. 102(b), 113, 281(a)): Describe 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, dispersing investment 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 appropriate U.S. institutions; (b) 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.

a) Project will endeavor to provide higher employment rates in rural and urban areas for all agribusiness sector, to provide training opportunities for workers, and to provide research equipment that will help solve agricultural production problems.

b) The project will assist strengthening of trade associations and chambers of commerce and assist them strengthen their lobbying function.

c) The project will assist Morocc in becoming a stronger partner on the world trade market.

d) training activities will have quotas for women and increased employment will include women.

e) to the extent possible cooperation in the form of increased exports to neighbor countries will result from projec activities.

7. **Recipient Country Contribution** (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent 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 requirement being waived for a "relatively least developed" country)?

7. YES

8. **Benefit to Poor Majority** (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

One of the primary objectives of the project is to increase employment rates through increased private sector efficiency, thus, benefitting the poor majority.

9. Abortions c. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?	NO
b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?	NO
c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?	NO
d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services?	NO
e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning?	N/A
f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?	NO
g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization?	NO

10. **Contract Awards** (FAA Sec. 601(e)): Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	YES
11. **Disadvantaged Enterprises** (FY 1991 Appropriations Act Sec. 567): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?	10 %
12. **Biological Diversity** (FAA Sec. 119(g): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?	NO
13. **Tropical Forests** (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):	
a. **A.I.D. Regulation 16:** Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?	YES
b. **Conservation:** Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent	No - This project does not involve forest areas

feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

c. **Forest degradation:** Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

1) NO

2) NO

3) NO

4) NO

5) NO

6) NO

d. **Sustainable forestry:** If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?

N/A

e. **Environmental impact statements:** Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment?

NO

14. Energy (FY 1991 Appropriations Act Sec. 533(c)): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases? N/A

15. Sub-Saharan Africa Assistance (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)): If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) to be used to promote sustained economic growth, encourage private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private sector; (c) being provided in accordance with the policies contained in FAA section 102; (d) being provided in close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (e) being used to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (f) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, N/A

to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

16. Debt-for-Nature Exchange (FAA Sec. 463): If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management. N/A

17. Deobligation/Reobligation (FY 1991 Appropriations Act Sec. 515): If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified? YES - on June 14, 1991

18. Loans

a. Repayment capacity (FAA Sec. 122(b)): Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest. N/A

b. Long-range plans (FAA Sec. 122(b)): Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?	N/A
c. Interest rate (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?	N/A
d. Exports to United States (FAA Sec. 620(d)): If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?	N/A
19. Development Objectives (FAA Secs. 102(a), 111, 113, 281(a)): Extent to which activity will: (1) effectively involve the poor in development, by expanding 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; (2) 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; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?	a) Project will endeavor to provide higher employment rates in rural and urban areas for all agribusinesss sector, to provide training opportunities for workers, and to provide research equipment that will help solve agricultural production problems. b) The project will assist strengthening of trade associations and chambers of commerce and assist them strengthen their lobbying function. c) The project will assist Morocco in becoming a stronger partner on the world trade market d) Training activities will have quotas for women and increased employment will include women. e) To the extent possible cooperation in the form of increased exports to neighbor countries will result from project activities.

20. Agriculture, Rural Development and Nutrition, and Agricultural Research (FAA Secs. 103 and 103A):

a. Rural poor and small farmers: If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor; or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made.

Through technical assistance, agri business will become more efficient, thus, more productive. As all parts of agribusiness are targetted, rural poor will benefit from increased employment rates. Any research will be responsive to needs of any interested farmer as will outreach of results.

b. Nutrition: Describe extent to which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people.

Project assistance is not specifically addressed to nutritional problems. However, through increased attention to international vegetable and fruit standards quality of domestic production will increase.

c. Food security: Describe extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

National food security will be increased by strengthening agribusiness sector efficiency which includes higher production, better delivery systems, increasing private sector storage facilities and decreasing waste.

21. Population and Health (FAA Secs. 104(b) and (c)): If assistance is being made available for population or health activities, describe extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of

N/A

mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

22. **Education and Human Resources Development (FAA Sec. 105):** If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

a) Activities will be aimed at making formal education more relevant by providing degree courses in state-of-the-art agribusiness management.

b) Assistance is not targetted directly at training people for planning and implementation of public and private development activities, but project activities will help create a sustainable educational institution capable of planning, reasearch, training and outreach activities to benefit Morocco's entire agribusiness sector.

23. **Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106):** If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

N/A

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

N/A

c. research into, and evaluation of economic development processes and techniques; N/A

d. reconstruction after natural or manmade disaster and programs of disaster preparedness; N/A

e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance; N/A

f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development. N/A

24. Sahel Development (FAA Secs. 120-21). If assistance is being made available for the Sahelian region, describe: (a) extent to which there is international coordination in planning and implementation; participation and support by African countries and organizations in determining development priorities; and a long-term, multidonor development plan which calls for equitable burden-sharing with other donors; (b) whether a determination has been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of projects funds (dollars or local currency generated therefrom). N/A

C. CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1. **Economic and Political Stability** (FAA Sec. 531(a)): Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?	To the extent practicable YES
2. **Military Purposes** (FAA Sec. 531(e)): Will this assistance be used for military or paramilitary purposes?	NO
3. **Commodity Grants/Separate Accounts** (FAA Sec. 609): If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?	N/A
4. **Generation and Use of Local Currencies** (FAA Sec. 531(d)): Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?	NO
5. **Cash Transfer Requirements** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 575(b)). If assistance is in the form of a cash transfer:	
a. **Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds?	N/A

b. **Local currencies:** Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements? N/A

c. **U.S. Government use of local currencies:** Will all such local currencies also be used in accordance with FAA Section 609, which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available? N/A

d. **Congressional notice:** Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance? N/A

AFTER:GC/LP:EHonnold:4/11/91:2169J

OFFICIAL FILE

- 8 JUIL. 1991

ROYAUME DU MAROC

MINISTÈRE DE L'AGRICULTURE
ET DE LA REFORME AGRAIRE

DIVISION DE LA COOPERATION

LE MINISTRE DE L'AGRICULTURE
ET DE LA REFORME AGRAIRE

608-0210

N° 766../DCT

ACTION : ANR
DUE DATE: 07/16
INFO : DIR - DIDIR - PROG - PDPE - TRNG - RLAPHR - CHRON - RF

Monsieur le Directeur,

Les efforts soutenus faits par le Gouvernement du Royaume du Maroc dans le secteur agricole ont permis d'obtenir des résultats tangibles en matière de modernisation du secteur et de diversification de la production de sorte qu'il est aujourd'hui possible de promouvoir le secteur de l'agro-entreprise.

Ce nouveau créneau s'inscrit d'ailleurs dans le cadre plus général de la libéralisation de la politique économique et de la promotion des investissements étrangers au Maroc.

Comme par le passé pour d'autres secteurs essentiels tels que la formation des cadres et l'aridoculture , le Ministère de l'Agriculture et de la Réforme Agraire souhaite que votre agence puisse apporter son appui technique et financier pour le développement du secteur de l'agro-entreprise et le renforcement des relations économiques entre les partenaires américains et marocains.

Aussi, ai-je l'honneur de vous proposer de réaliser en commun un projet dont les objectifs seraient les suivants:

Promotion des investissements dans les secteurs de conservation conditionnement et transformation des produits agricoles, ainsi que les produits horticoles frais, essentiellement destinés aux marchés à l'export.

Assistance technique pour soutenir le secteur privé à entreprendre des actions d'investissement et de

- Développement des ressources humaines à travers la formation des techniciens qui encadrent le secteur privé et des entrepreneurs.

En souhaitant qu'il vous soit possible de donner suite à cette requête, je vous prie d'agréer, Monsieur le Directeur, l'assurance de ma haute considération.

MONSIEUR LE DIRECTEUR DE L'USAID
A RABAT

Le Ministre de l'Agriculture
et de la Réforme Agraire

B
2

Signé : Othman DEMNATI

ANNEX F

TECHNICAL ANNEX

Annex F is divided into six sections. The first five treat the production, postharvest handling, processing, and packaging of vegetables, fruits, spices and herbs, olives, and cut flowers. The last section discusses the marketing and promotion of the subsectors studied as part of the PP design.

PRODUCTION, POSTHARVEST HANDLING, PRIMEURS, QUATRIÈME GAMME OF VEGETABLES

Resource Base for Fresh Vegetables

Morocco has a subtropical climate conducive to the production of high quality vegetables for export and domestic consumption. The climate is similar to the central valleys in California and Chile. The Atlantic coastal regions from Tarfaya/Agadir in the south to Casablanca/Rabat in the north rarely experience a frost. Frost may occur in the Agadir area about once in four years. The favorable climate is such that many vegetables can be grown year-round in open fields or plastic greenhouses. Recent increases in oil prices should make open-field production of winter vegetables in Morocco very competitive with greenhouse production in Europe.

Mild winter temperatures, good fall and winter rainfall, and irrigation give Morocco advantages in producing open-field, cool season vegetable crops, and warm season crops such as tomatoes, grown under protective cover or greenhouses. Vegetable producers use black plastic mulches to insure earlier harvests and plastic greenhouses to produce high quality vegetables during the cooler season in the late fall and winter. Morocco produces approximately 3 million tons of fresh vegetables on about 190,000 hectares (Table F-1). Of the total area, about 22,000 hectares produce vegetables during the winter season. The major greenhouse vegetable crop is tomato. Crops grown for domestic markets and for processing from open-field production include tomatoes, potatoes, carrots, egg plant, beans, peas, zucchini, and onions. Seasonal vegetables for local consumption are produced in all agricultural zones.

TABLE F-1

APPROXIMATE VEGETABLE CROP PRODUCTION AREAS, 1988/89

Crop	Area (Hectares)
Potato	42,000
Melon	28,000
Watermelon	25,000
Tomato	20,000
Onion	17,000
Peas	5,000
Zucchini	5,000
Snap Bean	4,000
Sweet Pepper	2,500
Others[1]	41,000

[1]Artichokes, beets, broccoli, cabbage, carrots, cucumber, cauliflower, chinese cabbage, eggplant, fennel, lettuce, okra, pumpkin, squash, sweet potato, turnips, parsley.

Source: Lasheen, 1989

Export Industry Structure

Vegetable exporting before 1986 was a monopoly of the government export marketing board, the Office de Commercialisation et d'Exportation (OCE). Now the GOM has eliminated the export monopoly of the OCE but OCE still has a 50 percent share of vegetable exports and about 20 percent involvement in fresh citrus exports. OCE quality control and standard functions were split off and given to a new public sector enterprise known as the Etablissement Autonome de Contrôle et Coordination des Exportations (EACCE). Its functions include export quality certification and coordination of production through consultation with major producers/exporters.

Constraints and Opportunities

The Moroccan government's elimination of OCE's monopoly and formation of EACCE has started to provide new opportunities to the vegetable industry. It appears that EACCE has not yet been able to get its regulations into the hands of all producers and processors; however, EACCE sees its regulation and certification program as being very successful.

Vegetable crop production problems such as nematode infestation and poor cultural practices have tended to lower crop yields. There is a need to introduce pest and disease resistant cultivars and cultivars that will extend the harvest season.

There is a great need to study raw product maturity in

Moroccan produce. More attention needs to be paid to plant components such as sugars, acids, polysaccharides, proteins, fats, and the like, which have evolving international standards. When nutritional labeling of produce becomes a reality, component analyses will become very important in the marketing of Moroccan vegetables.

Postharvest handling - for example, field cooling, quality grading, packaging, and refrigerated storage - presents opportunities to improve the quality of fresh market vegetables. Transportation is mentioned as one of the most important problems in export, either by sea, air, or trucks through Spain. A study should be made of the transportation sector as it affects the fresh vegetable industry.

There is an opportunity to integrate the production for fresh market, domestic or export, into the industries of canning, freezing, dried or dehydrated, and the quatrième gamme. The quatrième gamme or minimally processed refrigerated (MPR) vegetables may present new opportunities to vegetable producers by providing new and higher value markets for their products.

An important constraint to the export of fresh vegetables to the United States is the very short list of commodities that are currently allowed entry. For example, the only vegetables that are permitted into all U.S. ports are onion species (except garlic), green beans (pod or shelled), peas (pod or shelled), and tomatoes (green only). The Cipollino (wild onion bulb), garlic (bulb), and yams are allowed in all U.S. ports if they have a pest control treatment. Some vegetables are allowed only in the North Atlantic ports. Baltimore, MD, is the southernmost allowable seaport for most products while Dulles International serves the same role for air shipments. The only vegetables allowed in the North Atlantic ports are asparagus and Jerusalem artichoke. A request can be made by the Moroccan government to the USDA, APHIS-PPQ permit unit in Hyattsville, MD, to determine if entry of unlisted fresh vegetable produce can be allowed. USDA may take from 9-12 months to study and respond to such an inquiry.

Possible USAID Interventions

Marketing Organization Development and Promotion

Conduct feasibility and market studies for expanding export possibilities of early vegetables. Promote small farmer organization to facilitate marketing and development of improved production techniques, postharvest handling, packaging, cold storage, modified atmosphere storage, controlled ripening and quality control technology. Promote use of Moroccan brand names for recognition and establishment of high quality control standards.

Technical Assistance

Research and extension in the public and private sector in irrigation technology for greenhouses and open field production, introduction and evaluation of improved varieties, introduction of improved cultural practices, introduction and development of greenhouse soilless mixes and propagation media for production of seedlings for early planting in open field and greenhouses. Develop and strengthen use of new technology in open field production of early vegetables during winter months by expanding use of plastic tunnels, floating covers and plastic mulch technology. Diversify exports from tomato and potatoes to include other warm season crops such as pepper, eggplant and melons.

Studies of New Crops for Diversification Based on Market Demand

New crops could fill out the spectrum of about 50 or more vegetables that could be export marketed. The current range of the most common vegetables in Morocco is shown in Table F-1. Other vegetables that have global demand include Brussels sprouts, celery, chicory, sweet corn, escarole, leeks, many lettuce types (including romaine), assorted mushrooms, snow peas, water cress, broccoli, and Belgian endive. The above list would have to be considered in terms of the many possible quality, style, and size factors operating in different markets. One of the new items receiving considerable attention is miniature or baby vegetables. In a recent U.S. survey, miniature carrots sold for $0.64 per lb. while regular carrots sold for $0.16 per lb. These mini vegetables need to be investigated for the primeur market. The full range of vegetables with diversification potential should be a part of the New Product Development Conferences designed by this project.

Improved Quality Standards

The project could help develop new quality standards and postharvest handling techniques and transport of vegetables for export. Harvesting at optimal maturity, reducing injury due to handling, reducing microbial infection through proper sanitation and maintaining optimum temperature and humidity of the harvested crop are extremely important parameters in maintaining post harvest quality. Once these primary factors have been satisfied further maintenance of produce quality can be achieved through control atmosphere (CA) or modified atmosphere (MA) packaging.[1]

---

[1]The high degree of atmosphere regulation associated with CA is capital intensive. In Morocco, CA is more suitable for long term storage of fruit crops such as apples and pears. Modified atmosphere storage (MA) requires a lower degree of gas concentration control. Normally, initial atmosphere conditions are established for a transient period and the physical environment maintains conditions within broad limits. New

Studies on postharvest handling to improve quality standards. Better postharvest techniques and the development of new raw maturity and quality standards could improve the quality of exports. Important areas include reducing injury due to handling, reducing pathogens and pests, and improved sanitation. Field cooling studies could be used to show how to reduce decay and overmaturation caused by warm or hot conditions during the period immediately after harvest. Probably the greatest benefits of improved postharvest handling will come from expansion of the refrigerated cold chain and the use of plastic films to provide either a modified or controlled atmosphere of 02 and CO2 around the product in question. Modified atmosphere conditions are developed when the respiration of the raw vegetable and the selective permeation of the gases through the film create a modified atmosphere in the package. The influence of storage atmosphere and temperature are very important in the rate of respiration. In general, higher CO2 levels and lower 02 levels reduce respiration and extend shelf life of produce. A conference on Alternate Packaging is suggested as a way to acquaint the primeur fresh vegetable sector with this packaging technology.

Promote Moroccan private sector involvement in the transport sector. The purpose would be to stimulate the use of refrigerated trucking of early vegetables from Morocco to Europe, and better and more efficient use of air and sea shipment space for export of vegetables.

Special studies

Prefeasibility studies in such areas as private investment in cold storage facilities; full privatization of air and sea transport; private sector service laboratories for soil and plant tissue and for nutriclean certification labs for pesticide residues; introduction of fertigation equipment and related fertilizer formulation and control instrumentation; markets for packaged prepared salads in European markets; and markets for new crops such as Chinese vegetables, beans for sprouting, and baby vegetables, and the expansion of crops such as asparagus, artichokes, and lettuce. The comparative advantage of the industry is based on the mild winter climate and new irrigation, plastic greenhouse, and row cover technology.

Studies of the use of quatrième gamme for primeur and other fresh vegetables. The quatrième gamme should be investigated as a way to increase the markets for vegetables in Morocco. The market requirements of this gamme will determine which species

---

technology in the design and manufacture of polymer films with a wide range of gas permeability characteristics have stimulated the creation and maintenance of modified atmospheres within film packages. Such modified atmosphere packaging could be applied to shipping containers of vegetable produce from Moroccan ports.

and cultivars would be suitable. Production practices and inputs, including irrigation water quality, must be carefully controlled. It is essential to keep the products in the cold chain from harvest to consumer. The minimal processing that takes place to maintain the product in a fresh-like condition has to be carefully managed. These steps include washing, cutting, centrifugation, short heat treatments, proper chlorination, and packaging, which usually is modified atmosphere packaging. The microbiological quality of the product has to be carefully controlled since these products receive no preservation treatment. The main safety factors are controlled by the chlorination and refrigeration practices. Microbes and other pests are kept from entering the product by the packaging used. A conference on quatrième gamme is planned to introduce this processing system to a larger number of Moroccan producers and processors. The marketing aspects of quatrième gamme will be included in the conference.

PRODUCTION, POSTHARVEST HANDLING, QUATRIÈME GAMME OF FRUITS

Resource Base for Fresh Fruit

Morocco's climate and geographical location provide a favorable environment for both deciduous and citrus fruits. The total tree fruit production utilizes 576,000 hectares or approximately 7 percent of the total land cultivated in Morocco. Some of the deciduous fruits, such as apple, pear, and peach, which have chilling requirements, are restricted to the cooler and higher elevations. Small fruit culture is limited mainly to strawberries. Table F-2 gives an estimate for production of fruit in Morocco in 1988.

Citrus Fruit

TABLE F-2

AREAS OF FRUIT CROPS, 1988

Fruit	Hectares/1000	% of Total
Olives	332	58
Citrus	70	12
Grapes	56	10
Almonds	34	6
Dates	20	3
Apricots	14	2
Apple	10	2
Prune/Plum	5	1
Pear	2	1
Peach	1	1
Quince/Nectarine	2	1
Cherry	1	1
Banana	2	1
Others—	27	5
Totals	576	100%

Citrus are the second most important fruit crop grown in Morocco. There are three main citrus production areas. They are the Souss-Massa valley (30 percent), the Gharb (30 percent) and the central valleys of Marrakech and Fez-Meknes (40 percent). The data on production and utilization of citrus is found in Table F-3.

TABLE F-3

PRODUCTION AND UTILIZATION OF CITRUS FRUIT, 1982/83 TO 1986/87
(000 tons)

	1982/83	1983/84	1984/85	1985/86	1986/87
Production	968	1017	960	1185	960
Local consumption sumption	286	348	274	393	442
To juice production	81	148	144	178	48
Fresh export	601	522	542	607	470

Source: Annuaire Statistique du Maroc, Ministry of Plan, 1988

The data show that about 15 percent of the production goes into juice in a normal year, 50 percent for export, and 35 percent for domestic consumption. As the standard of living goes

up in Morocco, more domestic demand can be expected. Fresh exports take precedence over juice manufacture when there is a low production. Even in good production years, the FRUMAT juice plants get many of their fruit as small sizes and substandard fruit culled from fresh fruit packing houses.

TABLE F-4

EXPORTS OF VARIOUS CITRUS CULTIVARS, 1988/89 AND 1989/90 (tons)

Cultivar	1988-89	1989-90
Clementine	185,000	108,800
Kekeria	1,390	960
Mandarine Temple	1,300	1,580
Sunerine	800	1,700
Ortanique	1,650	2,300
Montreal	-	500
Navel	150,900	70,300
Salustianaa	22,200	20,950
Washington	32,580	32,140
Oranges fines	-	5,900
Morocco Late	244,640	186,800
Total	640,620	431,930

Source: Lasheen, 1989

The data in Table F-4 show the exports of the various citrus cultivars and the fluctuations of export volumes which have continued to occur through 1989/1990. The main cultivars are Morocco Late, Clementine, and Navel. The fresh production and thus exports are characterized by large fluctuations. This in turn causes prices to vary greatly from year to year.

There are many deciduous fruits grown in Morocco, including apple, cherry, peach, pear, plum, prune, quince and apricot, with the latter getting renewed attention as a dried fruit, besides its traditional use in jams and preserves. Red Delicious and Golden Delicious apples are grown in the Meknes area, but the size is generally small, and the Goldens show a great deal of skin rust which greatly detracts from their appearance. New varieties such as Granny Smith have been introduced and planted. There seems to be little incentive to improve the quality of the apples on the market, because the Moroccan consumers are willing to buy what is currently available and few apples are exported.

There is considerable cold storage space with 1,035,000 cubic

meters space in 1987 able to hold 195,200 tons (BNED Jan, 1990). According to the 1990 report, 76.3 percent of total capacity, or 149,000 tons of fruits and vegetables were stored in these facilities. Several large growers have installed cold storage capacity with modified or controlled atmosphere storage.

Plums have been seen in the market in December and were of good quality. This crop should have good potential for market development. Avocado are produced with local demand increasing and good prospects for export in the next 10 years, particularly for the Hass variety. The limited quantities of strawberries for export to France or Germany have faced stiff competition from Italy, a large exporter of early strawberries. Strawberries for export to the United States would face great competition from Mexico.

Bananas are produced in plastic greenhouses. Their introduction as a result of restriction of banana imports to save foreign exchange. In 1989, 1,500 hectares of plastic greenhouse production of bananas sold for about 7 DH/kg. This price and the restricted production of bananas do not make them a good candidate for export.

Industry Structure

Most fruit, with the exception of grapes, are grown on privately owned farms varying in size from less than 1 hectare to over 500 hectares. Except for citrus and olives most fruit is produced for domestic consumption. Melons (Cucumis melo) are produced and are exportable to the U.S. North Atlantic ports.

Other fruits allowed into the United States with or without treatment are banana (fruit or leaves), pineapple (except to Hawaii), apricot, clementine, grape, grapefruit, orange, peach, pear, plum, and tangerine.

Morocco's fresh fruit production industry is based primarily on citrus. The industry is international in scope and relatively well organized from the standpoint of production techniques, use of irrigation, transport, postharvest handling, packaging, processing of juices and exporting. As indicated under the fresh vegetable section, the export monopoly, OCE, no longer controls fruit exports. Now, fruit producers and wholesalers may export directly by obtaining an export permit and by meeting export regulations and norms enforced by EACCE.

Morocco has a comparative advantage in the quality of early clementines and late Moroccan oranges. As is the case for vegetables, transportation for fruit needs to be improved as well. A large portion of citrus is imported to EEC countries, but because of the entry of Spain and Portugal into the EEC Morocco can expect increasing tariffs and regulations that will limit citrus exports to the EEC.

Project Paper investigations have disclosed that there is only a tiny quatrième gamme industry in Morocco. This partial

processing of fruits such as dicing, treatment with ascorbic acid in a light sugar solution, packaging, and refrigerated transportation to the vendor or ultimate consumer is receiving increased attention in many parts of the world. An example of this type of product is chilled grapefruit sections. Morocco's relatively low labor costs is an important advantage for the quatrième gamme, because considerable hand labor is required to prepare the product. Food safety problems would be minimal, allowing reorganization of existing plants to produce this new product.

Constraints and Opportunities

The expansion of the EEC into Greece, Spain, and Portugal means that the it can become self-sufficient in fruit crops in a few years. However, the overwhelming demand for fresh fruit in the United States, even though we are relatively self-sufficient in many items, soon stimulated large production and exports of fruit from Mexico, Central and South America, and other areas. The same scenario could develop for Morocco in relation to the EEC. Seasonal advantages and industrial development of Spain and Portugal may hasten the early relaxing of barriers in the EEC. For the time being, it appears that citrus would be the first fruit to benefit from any future liberalization in EEC restrictions.

Production of fruit crops other than citrus and olives is very small and offers opportunities for increased output. Avocados, early peaches and strawberries, melons, cherries, kiwi, and plums should be investigated to obtain a better fix on their market potential. The window of opportunity for these products would have to be studied for target markets such as the European Economic Community, United States, and Japan.

Constraints for export to the U.S. markets would include various PPQ (USDA/APHIS/ Plant Protection and Quarantine Service) treatments that are required for entry. At present these include methyl bromide and cold treatments, with the former being less frequently applied due to fumigation hazards and residue toxicity. The use of low dose irradiation might solve these problems, but the U.S. consumer is generally reluctant to the idea of irradiation of fresh fruit.

There should be the opportunity to introduce new and unique cultivars of certain commodities such as sweet limes, orange-fleshed melons, new seedless grapes, and nectarines. In addition to increased markets, the quatrième gamme opportunities should be studied for fruit products. For example, many pears and apples with surface blemishes could be minimally processed into fruit cocktail along with other subtropical fruits. It could also be introduced into the cold chain as a bulk packaged item or packaged for the retail consumer. Consumer oriented products should have good markets.

In packaging, a specifically modified and controlled atmosphere is needed to increase the shelf life of fruits. This

area of development, while recognized as important in Morocco, does not seem to be receiving enough attention. Constraints to greater use of these techniques are the availability of appropriate plastics to maintain the proper carbon dioxide/oxygen ratio. Advantages of these packaging systems are that they can reduce the reliance on full-scale, controlled atmosphere refrigerated storage for short periods of time. The modified-atmosphere, controlled packaging systems are not a replacement for long-term CA storage but would be used during transport and distribution in the refrigerated cold chain to increase shelf-life and quality.

Given the possibility of new packaging technology and development of the quatrième gamme, there should be opportunity to integrate the production of fresh market domestic and export of citrus for canning, preserves, freezing, dried or dehydrated fruits.

Possible USAID Interventions

Studies of New Crops or Cultivars for Diversification Based on Market Demand

Other than citrus to the EEC, only small amounts of fresh fruit are exported. Review of USDA entry data shows only one shipment of apricots, probably dried, that entered the Los Angeles International Airport in the fourth quarter of 1988. More unusual fruits such as kiwi, avocados, orange-fleshed melons, seedless red and purple grapes, sweet limes, and berries should have potential markets. The small fruit industry is not well developed. New product development conferences are recommended, if market studies show promise for fruit crop diversification.

- Help establish a fruit germplasm center to introduce and screen improved fruit varieties and rootstocks;
- Help stimulate investment in a tissue-culture laboratory to produce disease and virus-free plant materials, grapes, strawberries, and bananas; and
- Examine the establishment of a plant genetics biotechnology laboratory at a nationally recognized research center to conduct ONA experiments, gene isolation, and RFLP analysis. Techniques could be used to isolate date Bayoud-resistant and fruit quality genes.

Studies on Postharvest Handling to Improve Quality Standards

The postharvest handling of citrus in Morocco is good. Other targeted fruit will need improved postharvesting techniques and development of higher maturity and quality standards. This should reduce injury during harvest, reduce pathogens and pests and improve sanitation. Placement of more fruit into CA and MA storage, if there is market demand and linking of these types of storage with CA and MA packaging, would extend the shelf life and shelf quality of the fruit. A packaging conference is planned as a way of acquainting the fresh fruit sector with improved packaging technology. Follow-up workshops are planned if the conference is successful and if industry sees good potential for this technology.

- Controlled atmosphere storage. Expand use and help establish several controlled atmosphere and modified atmosphere cold storage units in major fruit production areas. Set up demonstration units and conduct workshops and seminars on how reduced O2 and elevated CO2 in modified atmospheres delay fruit ripening, reduce respiration and ethylene production rates, retard softening and slow down compositional changes associated with ripening. Introduce and conduct demonstration of polymeric films that can be used to create or maintain modified atmospheres within flexible film packages that can be applied to shipping

containers and retail packages of sliced commodity;

Packaging development for export of fresh fruit with IMEC.

Studies on the Use of Quatrième Gamme for Fresh Fruits

The quatrième gamme should be investigated as a way to increase the export marketing of fruit. Production and cultivar aspects will be examined. The cold chain will have to be strengthened along the marketing process from harvest to consumption. Minimal processing will be used to maintain the fresh-like quality of the product. The minimal processes for fruit include, but are not limited to washing, slicing or cutting, antioxidant or mild heat treatment, and the use of CA or MA packaging. The main technologies to reduce spoilage are refrigeration, application of preservatives, and packaging. Distribution to the final markets has to be carefully temperature controlled. Many of the lower quality fruits could be prepared by hand labor to make very marketable quatrième gamme products. A quatrième gamme conference is planned for fresh fruit producers and processors to update the Moroccan industry on this technology. Follow up workshops are planned if the first conference is successful.

Industry Organization and Services

- Marketing organization and promotion of fresh fruit for exports. Conduct prefeasibility studies to determine market potential for export of several fruit crops, i.e. strawberries and table grapes;

- Help further privatize SASMA's service laboratory for soil, plant tissue and water analysis that is managed by the private sectors through a cooperative or farmer organization;

- Institutional strengthening. Sponsor and provide research and extension activities at national agricultural institutions to meet needs of the industry. Priorities should include improved cultural practices, irrigation technology, post harvest handling, packaging, storage and marketing.

PROCESSING TECHNOLOGY OF FRUITS, VEGETABLES, SPICES AND HERBS

Structure of the Industries

The industries covered in this section process horticultural crops, spices, and herbs. The processing technologies for these crops can be similar and, for the most part, utilize traditional food processing concepts and packaging methods.

In 1988 there were 24 manufacturing plants handling the processing of vegetables, while there were 39 plants processing fruits and confits. The slow freezing and quick freezing of fruits and vegetables was carried out in only 5 plants in Morocco. There were 12 plants drying and dehydrating fruits and

vegetables, while 4 plants were involved in the preserving of fruit and vegetable juices. (MARA/DPV,1988). The information on spice processing plants is more difficult to acquire but it appears there were 15-20 large to midsize operations in Morocco.

The 1988 information on fruit and vegetable processing showed that the 84 enterprises were in the provinces of Casablanca (the heaviest concentration), Marrakech, Safi, Agadir, Fez, Meknes, Larache, and Kenitra. The industry is characterized by a few large modern plants and many small and less efficient plants. In 1985, 52 percent of the plants accounted for only 7 percent of the production, while the largest 11 plants processed 68 percent of the total. These are privately-owned plants for the most part, free of government control. The two outstanding exceptions to this rule are the large state-owned orange juice processor FRUMAT and the state/privately-owned LUKOUS firm in Larache producing dried tomato flakes and powder or flour which is being shipped to the United States in fairly large quantities.

According to 1985 figures, the industry breakdown by volume of production is as follows:

- Fruit juice (almost all orange juice) - 37%;
- Condiments (olives, capers, gherkins) - 35%;
- Vegetables (tomatoes, green beans, peas, peppers, etc.) - 12%;
- Fruit (mainly apricots) - 8%;
- Dried, dehydrated, evaporated or crushed products (tomatoes, prunes, figs, raisins) - 4%;
- Jams and jellies - 3.5%; and
- Frozen fruit and vegetables - 1%.

Production figures for the main categories of processed fruit and vegetables over the 1980-1985 period appear below in Table F-5. The dominant position of the orange juice industry is readily apparent. Tomato paste production (and a small amount of canned whole and crushed tomatoes) is second in importance. Canned apricots (and apricot jam) are in third position, though we understand that there has been contraction in apricot canning production (less than half of the number of canners in 1988 compared to 1987). Green beans (haricot verts) is fourth, though here also the picture may have changed based on reports of increased output. There is also very limited production of processed celery, cauliflower, spinach, white beans, lentils, sweet corn, peas, chickpeas, strawberries, figs, peaches, prunes, and raisins. There was a general upward trend in production for all categories except green beans.

TABLE F-5

AMOUNTS OF FRUIT AND VEGETABLES PROCESSED,
1980/81 to 1984/85
(000 tons)

	1980/81	1981/82	1982/83	1983/84	1984/85
Orange juice	121	169	137	246	258
Tomato (paste, canned)	35	44	46	47	52
Apricots	20	23	21	26	27
Green beans	21	12	11	11	18
Gherkins	6	6	6	9	13

Source: MARA/DPV, 1988

Figures for output of final product for three recent years, provided by the CMPE, reveal an upward trend for canned fruit (mainly apricots) and for fruit juice (almost all orange juice), but no substantial growth in canned and frozen vegetables.

The three large orange juice operations are single-purpose plants, while most of the others handle a variety of products. Many process tomato paste and canned green beans and smaller amounts of other products. In the Marrakech area, plants canning or bottling olives, gherkins, and capers, together with canned apricots, are common. Dried prunes and raisin production is concentrated in the Meknes area.

According to a 1988 study by the Ministry of Agriculture and Agrarian Reform (MARA 1988), processing plants obtain up to 90 percent of their raw materials by direct purchase, of which approximately one-third is through intermediaries, and only 10 percent from integrated production (company-owned farms). Direct purchases are for the most part through contracts between processor and grower, though it seems that contracts are often not respected by one or the other party. There are great variations in purchasing practices between provinces and products. For example, plants in the Casablanca and Fez areas rely heavily on purchases through intermediaries, while other areas buy almost exclusively directly from growers. Another notable point is that integrated production is much more common with tomatoes than with other crops (to the extent of about 40 percent of production).

The IESC representative reports that most processors pre-sell their output and, therefore, make whatever arrangements are necessary to assure the availability of supplies. This is somewhat at variance with what the team observed at several locations, where processors cited continuing problems obtaining raw material, particularly in the case of tomato paste processors. It does seem clear that a recurring problem for processors who do not control their own production is competition on the local market for fresh produce during the main growing

season. Local demand is sufficiently strong that market prices are at levels such that processors who do not have reliable contract suppliers have difficulty competing for supplies.

Many Moroccan processors are anxious to modernize their facilities and improve quality and in fact, several new plants are currently under construction. Examples are the French/Moroccan firm SITRACO in Marrakech which is building a vegetable dehydration and aseptic fruit pulp plant, and the Moroccan firm TOPAGRO which has a modern olive, caper, gherkin, and apricot processing plant under construction in Marrakech. Companies with freezing facilities are also becoming more common. An interesting development is the trend toward production of higher quality crushed and whole peeled tomatoes and away from tomato paste.

State of Current Manufacturing Practices and Apparent Trends

There is great divergence in the size and appropriate location of the various fruit and vegetable plants on Morocco. For example, a processing company near Agadir is located in an industrial complex and in the direct path of fumes from a cement plant. In another instance, a canning and freezing plant had drainage and runoff problems because of its location below a housing development. Many times, roads are not paved into food processing plants, potentially causing dust and safety problems. On the other hand, the FRUMAT plant near Taroudant is on a good site.

There is great variance in zoning for food processing plants. The buildings and structures that contain fruit and vegetable processing plants vary. Many times the windows and doors are not screened and little provision has been made to control insect and rodent populations. The ceilings are made of wooden materials that may shed and drop into the food. Bird droppings were noticed in several plants on otherwise clean surfaces and packaging materials. The larger plants have done a much better job in providing safe and sanitary structures.

Labor in the plants visited was about 90 percent women and 10 percent men. The work force seemed to be of good quality and interested in performance to improve the operation. There was little control of jewelry and other objects which might inadvertently fall into the food.

Processing Technologies

Canning of Fruits and Vegetables

The receipt of the raw products seen were either in lug boxes or in large bulk boxes. In the case of citrus, trucks were being emptied directly onto a conveyor or a flume conveyor, which is the state of the art. Apparently there is very little raw product control or raw product testing for pesticides or the various molds, yeasts, or bacteria. In 1989, for example, the USFDA reported that tomato powder from Morocco was detained because of high mold counts. The citrus juice plant at Taroudant, however, was doing a satisfactory job in the raw product quality area.

In other plants, flood type and rotary spray washers were seen, but much of the equipment was old and the water pressure not well controlled. This causes problems with sand and grit on such products as asparagus and mushrooms that are exported.

There is in most cases some sorting equipment available with which quality separations could be made by workers on the line. Sizing of products needs considerable work to improve the appearance of the glass-packed and frozen products. This was very noticeable in the cornichons where uniformity of size was a major problem in appearance quality.

Blanching equipment was adequate but the question of product cooling and the quality of the water used is questionable. It was not clear if correct water reuse was followed except in the citrus juice plant.

For closure, a study of the double seaming operations gave indication that some of the closure heads were old and in need of replacement. There was no evidence of regular tear-down to check end seam integrity in the canning plants. The team had little opportunity to see the retorting systems which we were told were of French design. The operational processes were not visible. There was little evidence that cooling and post-process handling of the containers was being taken as a serious matter to preserve both side and end seams integrity. Many cans inspected in supermarkets and at the 1st International Food Expo in Casablanca appeared to be badly damaged, dented, and showed distorted side and end seams that could render these products unsafe. Warehouses contained both processed and empty containers, generally considered an unwise practice. The labels on the cans were in need of redesign and a better type of glue. However, state-of-the-art containers with bright lithograph designs were also seen. For those plants close to the ocean, there seemed to be no attempt made to protect the bright tin plate from the ravages of the salt water atmosphere.

Most of the manufacturing plants visited appeared to have adequate or surplus floor space for processing. This was very evident near Agadir, where it was understood the fish catch has moved south, freeing space for expansion in fruit and vegetable processing. The operator in that area would like to diversify into sweet corn or other crops to utilize some of the irrigated land not used in the warmer months.

Metal Container Manufacture

There are two major metal can manufacturing plants in Morocco. The one visited was Etabalissements Gourvenec, which seems to be state of the art in welded side-seam technology. The company buys its steel base plate from Europe and manufactures cans of various sizes and enamel at the demand of their customers. They have a good lithographing line purchased in the United Kingdom.

Sardine cans for the African market had soldered side seams, while the mackerel cans were two-piece units. The Sub-Saharan African market regulations require the outmoded seams. The capacity of the plant is large and could be run in two or three shifts if necessary.

While still relatively inexpensive, the three labor unions have been able to increase the basic wage to 6Dh/hour. The length of the work day varies from 8-12 hours, depending on the season.

The price estimate for the 5-kg container was 6-7Dh, which is on the high side. The high cost of cans is one of the chief complaints of processing companies, whose managers believe that there is insufficient competition among the two can manufacturers. The Gouvernec is fully equal to the typical American National Can manufacturing plant in the United States. The pelletized loading operations lead one to the conclusion that the great amount of damage seen in canned goods in Morocco occurs after leaving the can manufacturing plant.

Other Containers for the Canner-Glass, Retort Pouches

The manufacture of glass containers was not seen but they were inspected by the PP team in several supermarkets and smaller markets. The quality of the glass was good, but apparently the surfaces or the metal caps used in closure are not being handled in a proper manner. Many of the closures were leaking. This could be due to improper overpressurization during and after the process, or during the cooling operation. The labels of the glass-canned product were of poor quality. They need redesign and a better quality adhesive. This is the same problem that was noticed on nonlithographed can labels.

The retort pouch was not seen in Morocco. It is a thin profile retortable, thermally processed pouch which may be appropriate for Morocco. For export, a microwaveable, flexible pouch might be the technology of choice.

Freezing of Fruits and Vegetables

The freezing industry for fruits and vegetables represents only about 2 percent of food manufacturing. Much of the space has been made available for fruit and vegetable freezing

operations and storage due to the loss of local fish resources. The plants visited in Agadir and Casablanca are generally of good quality. The unit operations covered in the canned food section are very similar to that for freezing. For vegetables, blanching is a key operation to inactivate enzymes, remove respiratory gases, and set the color of the frozen product. The blanching equipment at a plant in Mohammedia seemed satisfactory but the blancher was running at 100C. This temperature is too high for good-quality green beans. The freezer is a Samfri-Babcock Individual Quantity Freezer with the capacity of 30 tons/hr. and takes between 30 and 35 minutes to freeze the beans. The product was poured into kraft paper boxes lined with what appeared to be low density polyethylene and sealed. The freezer bags were moved to freezer storage. The operations were state of the art with a few exceptions, such as snipping. It appeared the that the beans were being hand-snipped at the farm level. The cost of electricity is said to be high in Morocco making the production of frozen food disproportionally high.

Spice and Herb Processing

The spice and herb business in Morocco is oriented primarily towards collection of materials from the wild or small specialized plantings in the foothills of the Atlas and some coastal areas. Primary products of opportunity in the food spice line are paprika, oregano, bay leaves, sesame seed, thyme, caraway seed, coriander seed, sage, rosemary, and saffron. (I.E.S.C. Survey by K. Gelletly, 11/26/90). The Gelletly report covers interviews with 17 spice-related businesses and exporters. Five companies have the right accounts in place to export to the United States. They are Agrex in Fez, CEGEDEP, BENCHAIB, VEGOREX, and BERNOU, all based in Casablanca. A second list of five will need assistance to get established in exporting. The main fear of the second group is the USFDA safety and sanitary regulations. The data in Table F-6 show that thyme, mixed spices, coriander, capers, and paprika oleoresins are the largest spice imports into the United States from Morocco. The 1989 USFDA worldwide detention summary does not reveal any problems with Moroccan food spices.

TABLE F-6

U.S. IMPORTS OF SPICE OLEORESINS, SEASONING, AND FLAVORING MATERIALS FROM MOROCCO 1986-1988.*

	1986		1987		1988	
	KG.	$ 1000	KG.	$ 1000	KG.	$ 1000
Paprika Oleoresin	62,304	1,324.0	79,129	1,43.9	9,947	2,272.4

	Quantity metric tons			Value in $1,000		
	1986	1987	1988	1986	1987	1988
Capers	225.69	36.16	232.94	540.44	1,298.70	1,093.13
Red pep.	9.43	4.32	7.76	5.92	3.30	19.36
celery seeds			3.57			7.76
Cloves ung			15.61			55.23
Coriander	1,324.00	669.29	70.75	575.43	356.27	442.59
Curry pdr			0.72			2.56
Fennel			20.00			10.36
Laurel lea.		4.99	10.00		16.72	21.47
Oreg. crude	53.90	72.70	30.00	71.53	106.90	51.59
Paprika		13.24	19.80		27.20	64.65
Pepper ung.			15.00			74.74
Rosemary			14.00			10.55
Sage ung.		9.10	9.12	22.70		33.09
Sesame sd.		18.14			12.76	
Thyme crude	17.50	36.61	2.62	98.70	209.40	193.10
Mxed spice	237.17	202.15	254.51	241.96	215.10	145.60
Sp.&sp.seed			1.09			2.31

* Source: U.S. Department of Commerce

There is a small industry related to the reduction of moisture in fruits and vegetables. LOUKOS near Larache has a large modern plant for producing tomato powders and tomato flakes. This organization has been shipping to Europe, but is well situated to ship into other markets such as the United States. The United States imported 21,183.33 lbs. of tomato flour from Morocco in 1988 and in 1989. One lot of it was placed on detention because of a high mold count (USFDA Import Operations Branch).

Packaging is one of the most important aspects of food processing. Moisture-vapor transmission causing sticky dried fruit was one problem noticed in Moroccan consumer packages. There was also the problem of fogging, making it difficult to see the fruit. There has been interest expressed in developing the dried apricot business in Morocco, which would have to contend with strong competition from Turkey. However, Turkey has its own problems because of the very high sulfur dioxide levels used during drying of their apricots. Tightening EEC sulphur dioxide residue standards may result in higher costs of production in Turkey. With the introduction of proper technology, other vegetable powders and dried fruit could be developed.

Packaging Support Organizations

The Institut Marocain de l'Emballage et du Conditionnement (IMEC) is a well-equipped packaging institute that can handle glass, plastics, metal, craft paper, and wooden boxes. The Institute provides technical, design, and instruction services. out by the Institute. The organization is currently funded by the EACCE (60 percent), OCE (30 percent), and the remaining 10 percent by direct industry support. While the Institute was being visited, a training course for MARA inspectors was in progress.

From a technical standpoint IMEC has efficient chambers for testing plastics and other packaging materials resistance to heat, cold, and humidity and heat, cold, and vacuum. There are impact testers, vibration testers, drop resistance test systems, puncture resistance (Instron) equipment and many other state of the art systems. A special laboratory had been set up by the EEC to work on plastics and rubber.

Unfortunately, there have not been many requests for special work by the industry in spite of IMEC's being a first class organization that could handle most of Morocco's R&D needs in the packaging technology and testing area. The equipment in their pilot plants compares favorably with the facilities at Michigan State University, which has one of the best packaging programs in the United States. The Institute's computerized information retrieval system is of commendably high quality. One area which could be upgraded is package design, which probably would be better placed in the private sector.

Constraints and Opportunities

One of the major constraints to the expansion in processing of fruits, vegetables, spices, and herbs is uncertain supply of raw materials to the processor. Financial incentives for producers to sell to processors are lacking. The lack of vertical integration of production and processing makes it difficult to control raw product quality and the quality of the processed product. Frequently, special quality characteristics and yields are important to the processing industries. For example, in the United States and Turkey special cultivars are grown for the tomato products or paste industries. Raw material quality is also enhanced by special handling at harvest. For example, field cooling (hydrocooling) to remove heat from raw products could greatly improve the export markets for such frozen products as green beans, sweet corn, and peas.

Steps should be taken to assist the small and medium-sized processors in new product development. An example could be a new tomato pizza sauce using local high-quality spices or condiments. Completely new products might be considered in the prepared food or meal component lines. In expansion of the available commodity base, mini vegetables and fruits would be developed from a horticulture stand point. These products would then need to be test-marketed.

In the area of modernization of equipment all unit operations such as size reduction or slicing, dicing, cutting, and grinding; washing; blanching; grading; conveying; extracting; quality separation; and many others, are critical operations for upgrading. This is true even though the equipment in many small and mid-sized companies in Morocco appears to be adequate. Many functions that would be mechanized elsewhere are done by hand. This does provide many jobs, but it may be a better medium term strategy to put the hand labor into products which have a high profit margin, such as asparagus-style green beans, or certain frozen foods which require human selection and arranging for best quality appearance.

Sanitation and environmental problems will pose important difficulties in bringing outside food and spice companies to Morocco to form joint ventures. Most companies consider environmental and infrastructure problems up front because they have been facing controls in their own countries. Regulatory assurance in a host country like Morocco wanting to develop further the food industry is very important. The internal support and development of good manufacturing practices (GMPs) as well as Hazard Analysis and Critical Control Point System (HACCP) by the Etablissment Autonome could be very helpful for local industry and foster confidence from outside industry that the food and spice industries are well regulated. This would greatly enhance the confidence of joint venture companies.

The packaging industry, using the research and development facility at IMEC, should be able to explore the many opportunities to develop flexible, retortable, microvaveable pouches for export markets. These markets are growing rapidly in developed countries.

Two global industries that might be interested in the Moroccan food and spice industries are those producing fruit and vegetable juices and drinks including "sports" drinks and those in the natural colorant business. In the first case, there is a rapidly expanding fruit juice market for both new products and new packaging such as Tetra Pac and others with aseptic processing and packaging capability. In the second case, the consumer dynamics in most of the developed countries are slowing the use of synthetic colorants. This opens the window of opportunity for Moroccan companies to explore the extraction and concentration of natural plant colorants. Examples are purples from grape wastes and reds from table beets.

For color extraction counter or co-current diffusers, ultrafiltration for purification and reverse osmosis for pre-concentration would be the technologies of choice. The membrane technologies such as ultrafiltration and reverse osmosis are of particular value because of their energy requirements. Reverse osmosis can concentrate many food fluids to 25 percent solids and higher with about 10 percent of the energy required for most types of evaporation. Reverse osmosis has been developed to concentrate sugar liquor, desalinate brackish and sea waters, take salt out of waste waters and treat effluents to reduce mineral ions. This technology would have the added advantage of providing a small quantity potable water for the Moroccan population in times of water shortages.

Potential USAID Interventions

Technical assistance to Processors in Quality Control and Packaging

After marketing studies show promise in the Moroccan and the export markets for specific food products, technical assistance could be provided by the project for food plant sanitation; environmental problems; unit operations in canning, freezing, drying and dehydration, and spice processing; more energy efficient food preservation operations; packaging technologies; membrane and extraction systems container handling systems post process; and quality assurance and control including HACCP for each of the industries. Experts from the United States and Europe should assist the Moroccan industry to establish regulations and standards that they will have to contend with for exports. The whole area of new product development including methods of development could be introduced at conferences and workshops by industry experts. Technical assistance would be needed to aid industries or groups in complying with many technical and analytical specifications of buyers.

One of the technical problems facing the canning industry is the need for a process authority to assist low and acidified food registration and compliance with the USFDA. The first step would be for FDA through the PASA agreement to meet in Morocco with governmental agencies including EACCE and others to determine if such expertise is currently available in Morocco. If so, the FDA

would study the organization and its past and current programs. If such expertise is not available in Morocco, the Food Science and Quality Control Department in IAV, Hassan II may wish to develop a program for thermal process calculations (Fo values) for all Moroccan low acid and acidified foods including canned seafoods. Once this program becomes successful and proves to be valid, the USFDA could accept the GOM certification that specific canners have a safe product from a microbiological and a commercially sterile standpoint. This service, which seems to be lacking in Morocco, might be instrumental in removing the 35 or so Moroccan firms which were on the 1989 USFDA import alert list updated on August 31, 1990. One other avenue could be the use of a process authority supplied by the U.S. importer. This person or organization would have to be recognized by the USFDA.

Studies of the Feasibility of Linking Producer Groups, Shippers, and Food Processors

A mechanism to assure the flow of high or at least known quality to the processor should be set up. Moroccan processors have tended to take rejected fruits and vegetables from the farmer or shipper. This practice needs to be modified to improve the quality of the processed products. This is certainly a marketing related problem as well. Raw product quality control appears to be an area for much improvement. Perhaps a study could be made to find the regions of best production so that the processing industries could be concentrated to their best advantage. The constraints and opportunities for contract growing should be analyzed in detail.

Studies of the Benefits of Extending the Processing Season by Introducing new Cultivars and by Improving Transportation

One of the problems noted in the processing plants was raw material handling and a lack of cold storage equipment. Studies should be made to extend the processing season through cultivar introduction and upgrading of transportation to give processors the advantage of the varied and diverse microclimates in Morocco.

Studies of Oleoresin Manufacture

The technology need mentioned by the spice and herb processors most frequently was acquisition of the expertise and equipment to manufacture oleoresins. New technology would start to move the industry away from current practices of shipping crude products to market and should also increase profit margins.

OLIVES AND OLIVE PRODUCTS

Resource Base and Natural Comparative Advantage

Morocco has been a producer of olives since ancient times. The climate and calcareous soils provide good growing conditions. Olives occupied 332,000 hectares of land in 1988. This was 58 percent of the fruit tree land use and about 4 percent of the total cultivated land use in Morocco. Olives are produced in two main areas, the north central interior region, where olives are grown under somewhat variable rainfall conditions, and the dry interior valleys (Tadla, Haouz) where the olives must be irrigated. The latter area accounts for about 75 percent of the countries' production. The olive yield in Morocco is slightly lower than those in Spain, Portugal, and Italy because of shorter overall day lengths.

Industry Structure and Technology

Olive yields in Morocco on average are about one mt/ha. Over 70 percent of the olive trees are the dual purpose(oil and canning olives variety Picholine Marocaine, a mutant discovered in a grove established from Picoline de Languedoc, or Française, which covers about 18 percent of the surface area. Much of the olive production is done on smallholdings of under 10 hectares. Although there a few large private groves, the largest single holdings are in the hands of the state with about 3,700 ha under SODEA management. Olive production has lagged behind national demand for oil. The Moroccan government seeks to promote production at 400,000 ha of olives by the year 2010.

Processing

All olives are processed in one form or another before being consumed. Most producers belong to the Association de Producteurs et Exportateurs des Olives while processors belong to the Association des Huileries des Olives.

From the approximately 370,000 mt of olives produced each year,

- 37,000 mt of olive oil are produced;
- 48,000 mt of processed olives, consumed nationally; and
- 32,000 mt of processed olives are exported.

Much of the existing olive processing and oil milling capacity is very old. At the artisanal level there are an estimated 16,000 Maasras or traditional oil crushing operations. These produce a low quality, high acid oil for domestic consumption. Semimodern mills, about 16 in number, also produce a small quantity of virgin oil, which has about 3 percent acid. A few plants are undergoing significant modernization to permit continuous processing and a major increase of the extra virgin oils of very high quality with an acid content of 2 percent. Raw

product quality, collection, and delivery are important issues facing the plants. Maasras may extract 14 percent of the available oil, and the semimodern plants 16-18 percent. Most of the canned olives are processed in caustic soda before canning. A small segment of the industry produces preserved olives with salt creating a natural or organic olive. A few plants have stuffing equipment but many of the older plants need new stuffing equipment, new slicers, and closing equipment that can provide for vacuum sealing of the plastic bags.

One small plant seen had the following unit operations. The fruit are received from many small growers and placed in piles salt – about 4 kg of salt for every 20 kg of olives. The product is allowed to salt down at ambient temperatures. After salting, the fruit are flood washed and then passed through a type of crude fluidized bed washer to get sand and grit off the product. The washed olives are allowed to dry in the sun for about 24 hours. Next the fruit are size graded into six sizes: mammoth, extra large, large, medium, small, and bullet. The fruit are color graded on a conveyor belt by the workers to get ebony black and the slightly lighter grades. Finally the fruit are treated with extra virgin oil and packaged in 5 kg high density polyethylene bags. The operation was able to process 5,000-6,000 tons per year. There were environmental, structural, sanitary, equipment, and packaging problems in the small plant. However, there were attempts at new product development and real needs for technical and marketing assistance.

Constraints and Opportunities

The small holdings and collection problems make olive processing one of the less efficient industry operations. The small and medium processing plants need substantial improvement in structures and building materials. The processing lines need modernization to produce high quality products for exports. There is little good packaging equipment available. More plastic packaging would be helpful in reaching the consumer.

Extra virgin oil with the lower acid levels should be marketed in glass in newly designed containers. Such containers were not seen in the supermarkets or at the Food Expo in Casablanca.

Olive oils that have a large percentage of mono unsaturated fatty acids are receiving more support from the nutritional community for good nutrition. This should bode well for future sales of the olive oils.

The new plantings will take time to reach bearing. This provides an opportunity to rethink production approaches and perhaps, to include intercrops of annual species to improve farmer cash flow and rate of return to investment.

Export markets present the best opportunities for high quality oils, sliced, stuffed, and dried,salted olives. For example, the USFDA reported that 17,250 lb. of olives plus about 20 unweighed

shipments of the fruit were shipped into the United States from Morocco in 1988. Preliminary indications are that this number will be much higher in 1990.

Potential USAID Interventions

Studies on Modernization of the Various Olive Industries

- Attention should be paid to the strong need to modernize the unit operations in processing oils, olives for canning, stuffing, slicing and the natural dried fruit. A conference to acquaint the industry with new and up-to-date olive processing is planned as part of project activities;

- The A.I.D. Commodity Import Program (CIP) could be used to import U.S. machinery for continuous batch processing of olives for canning, stuffing and slicing, and oil extraction. Proceeds from the local sale of machinery could be placed into a trust fund for industry development and research; and

- Consulting assistance to fit or retrofit larger mills for electricity generation from steam turbines using waste heat produced by mill grindings (grignants).

Studies on New Packaging Materials and Packaging Technology

The use of new glass containers, lithographed cans, new plastics and the like, as well as new packaging equipment should open new export markets to olive processors. Label and package design is important to the marketing of the Moroccan products on the global scene. Conferences will be presented to introduce new packaging materials and packaging technologies. If successful, regional and industry specific workshops will be presented.

Studies on New Product Development

Processors visited indicated that they were very interested in new olive products. Several were attempting to develop new products in hopes of opening favorable markets. New types of fermented olive products should be very fruitful areas for new product development. The project will support a number of new product development conferences.

A demonstration project to share risks of new variety plantings at a scale needed to provide 50 mt lots, the size needed to convince processors to take the new crop.

Research on intercropping with annual plants (such as cornichons) and improving apricot varieties and drying practices;

Industry Organization

Substantial opportunities exist in the promotion of cooperatives or associations for olive collection and processing. In addition, to line up incentives to promote efficiency, grower associations could be given the opportunity to buy into

processing plants as shareholders or part owners.

CUT FLOWER INDUSTRY

Resource Base and Industry Structure

Morocco's favorable climate allows for the production of high-quality flowers during the off-season relative to the production periods in Europe and the United States. The industry is small, but high in value. It is composed of small family businesses and larger groups that link together 30 or 40 growers. The production is primarily for export with about 90 percent of the flowers handled in this manner.

There are 300 ha involved in floriculture with 200 ha in the plains and 100 ha in the mountain areas. The principal production is roses of the large types and the petite or mini-sizes. Other flower production of importance include carnations, iris, gladiola, dahlias, daisy, anemones, violets, and others.

In 1985, the total flower production was about 2,000 tons of which 500 tons was roses. The principle market for cut flower export has been France.

The main production areas are Marrakech, Tadla, Agadir and El Jadida. Yields under open- field conditions are 90,000 flowers/ha while production in unheated greenhouses are 260,000-300,000 flowers/ha. Up to 500,000 flowers can be obtained in greenhouses where the environment is controlled.

Current export standards are not well established and no clear marketing policies have been developed. Farm labor is readily available at comparatively low cost, but lack technical skills and experience in greenhouse management, improved cultural practices, irrigation, quality control, grading, and grading standards, and postharvest handling techniques to meet the market demands of the EEC, Canada, and the United States. The lacks the infrastructure from production, packaging, storage, transport, and marketing to advance the market rapidly.

Discussions with some of the leaders of the industry indicate they would like to enter the U.S. market. However, they have not been successful in several of their contacts with U.S. brokers. They also do not understand the current USDA-APHIS-PPQ regulations for the export of flowers to the United States.

The industry needs new technology in production and postharvest handling and assistance in transport and marketing.

Possible USAID Interventions

Studies of Production and Postharvest Technologies:

- Build some production assistance into this industry dominated by small producers, and therefore somewhat risky. One of the major thrusts should be in postharvest improvements including packaging techniques and packaging materials. The project will support a packaging conference;

- Conduct prefeasibility studies to expand production areas and diversify crop mix to include other cut flower crops such as Carnation, Gerbera, Lily, Alstroemeria, Freesia and Phlox;

- Develop soilless and artificial soil mixes for propagation of cut-flower seedling and crop production in greenhouses. Explore CO2 enrichment to improve plant growth, flower quality, and water use efficiency;

- Develop biological pest management practices for insect control in greenhouse crop production and field production; and

- Develop infrastructure that can provide production technology, market promotion, transportation and post-harvest handling and packaging.

Promotion of Investment and Marketing:

- Help the industry establish grades and standards that meet market expectations;

- Promote and develop export marketing opportunities by establishing contacts with brokers or wholesalers in major European, Canadian, and U.S. cities serviced by Royal Air Maroc. Explore Gulf state market opportunities;

- Promote the establishment of working relationships between broker, flower organizations or individual growers to insure good product mix and quality standards; and

- Develop joint ventures between Moroccan and foreign firms to stimulate technology transfer and marketing development opportunities.

MARKETING AND PROMOTION

Market Structure and Organization, Marketing, and Promotion

The removal of governmental policy and regulatory constraints on Moroccan agriculture and agribusiness has created new opportunities, especially in the horticultural sector. Rapid growth is apparent in domestic markets; however, export marketing of horticultural products does not appear to have grown apace. This is true for some industry sectors, where exports have either

flattened, have diminished, or are subject to wide swings from one year to another. Thus the general mood of optimism and confidence in the agribusiness sector that followed as a result of liberalization has not as yet been translated into aggressive export marketing and promotional campaigns.

In examining the likely causes and the remaining constraints, especially in the export segment of the industry, it appears that marketing and promotion are two areas in which the opportunity window offered by demonopolization and liberalization has not been fully explored. On the contrary, the Maroc generic identity campaign, for instance, which was managed by OCE on behalf of the horticultural industry through a checkoff system, has been discontinued. The only remaining activity is the use by the industry of the Maroc logo on an ad hoc basis. Thus the promotional impact of this campaign, generated over the years, has been diluted and its advertising and promotional tools are no longer being renewed. Only the logo itself is still used, mainly by the citrus sector. The promotional slogan Naturel (natural, or no chemicals used), has been abandoned as it no longer corresponds to production practice.

Following liberalization, OCE ceased to be a monopoly, which has opened up other export channels. OCE now acts solely as an exporter and service organization for those industry members who stayed with the organization. According to an OCE source, in 1989 14 percent of the citrus production, and 38 percent of the fresh vegetable production was exported through OCE. They have since tried to regain producer membership and reportedly now handle 20 percent of the citrus and 50-55 percent of the fresh vegetable exports. But the largest citrus producer, SODEA, a government-owned, but privately managed, concern with 30 percent of total production, remains outside OCE and holds the remaining 45-50 percent of the production in the fresh vegetable sector.

OCE continues as originally established under state law, but no longer receives subsidies from the government. It receives checkoff funds (1.0-1.5 centimes per kg depending on the exported product) and a commission of up to 4.5 percent. based on the FOB price. According to OCE their services are worth more, especially in securing maritime shipping space. They also own two large ships but can no longer fill them economically because of the reduced membership tie-in. The shipping division and other OCE subsidiaries may be sold off as part of the privatization drive.

OCE now hopes to promote individual brands of those remaining members who wish to participate in promoting products through the organization. A "Gold" tomato brand may be promoted if volume warrants. OCE has recently begun activities in the Souss-Massa area having brought "Long Life" tomato seeds from the Netherlands. This variety has good ambient storage and shipping characteristics. OCE has formed a pilot group of 70 producer-members and will export and promote their production.

OCE used to be active in studying markets and transportation costs, but no longer pursues this activity. Studies were mostly done of the EC market. OCE had at one time a number of offices

in major cities such as Montreal, Oslo, Moscow, Bonn, and Hamburg, but now maintains only an office in Paris. It therefore still has good contacts in the French market, but has lost day-to-day contact in others.

It would appear that the reluctance of the rest of the citrus and vegetable industry to rejoin OCE is based on OCE's past performance as a state organization. On the other hand it is not as yet clear if promotion efforts by individual exporters such as SODEA or by newly formed regional groups will result in higher export activity. Smaller producers have to join up with larger regional or sectoral organization if they want to export.

The Centre Marocain de Promotion des Exportations (CMPE), the government agency charged with responsibility for export promotion, does not appear to be especially active. It publishes a monthly Bulletin d'Informations Economiques et Commerciales, which gives statistics, regulatory updates and information of interest to exporters. CMPE also publishes Maroc Export, a guide listing industry exporters, that has not been updated since 1986. A visit by the project team to the 1st Moroccan Food Exposition revealed that the CMPE stand, although strategically placed, consisted of only a sign and a table and was not staffed. A study of CMPE structure and activities should be undertaken as part of the institutional evaluation, to determine if they are capable of promoting the horticultural sector.

Market information and research reports are available from the Moroccan Ministry of Agriculture international agencies and donor entities, foreign chambers of commerce, Moroccan banks, institutions and universities, and other sources. Yet it seems that this information does not percolate to individual export producers and processors. An exception are some well-managed, large companies that have direct links with export markets.

Other entities promote Moroccan horticultural products — among them the USAID-supported International Executive Service Corps, which conducts matchmaking activity on behalf of the Moroccan industry through the Trade and Investment Support Project.

Export Markets

The traditional export market for Moroccan horticultural products has been the EC. Historically, France was Morocco's first export market dating back to the days of the French Protectorate, which lasted from 1912 until independence in 1956. Despite the expropriation of French farmers (colons), French influence in Moroccan agriculture is still felt. Loans, business ties, as well as technical and educational assistance maintain the link to that country.

Since the creation of the EEC, these links were widened to include other EC countries. The countries close enough to export horticultural products by truck are, besides France, Spain, Belgium, the Netherlands, Luxembourg, Germany and Switzerland.

Spain and Italy are two major destinations, although often for bulk shipments of products which are then transformed or repackaged for re-export. The United Kingdom and the Scandinavian countries are the next targets for Moroccan exports, especially for oranges and clementines.

Markets exploited only sporadically or to a minor extent are Eastern Europe and the USSR, the United States and Canada, and the Maghreb states.

The Soviet Union and East Europe have traditionally taken Moroccan citrus fruit in exchange for petroleum products (from the USSR and Romania) or metals, machinery and wood products. It is quite common for instance to see Soviet Belarus tractors in Morocco. While the centralized trade system was still in effect in those countries, barter agreements were concluded with Morocco, usually on an annual basis. Since the dismantling of centralized state export/import agencies in the East, the trade is in disarray and Moroccan citrus exports have nearly ceased, with the exception of Poland and Hungary which have renewed some import activity.

Scandinavia continues as a profitable market for Morocco, especially in clementines, but also some vegetables, spices, cucumbers, olives and capers.

The United States has so far not become a major market for Moroccan horticultural products. There are a number of reasons for this status. The distance makes transportation more expensive and requires refrigerated transport for some products. Sanitary regulations for importation into the United States are somewhat stricter and also different from EC regulations. Furthermore, the United State market demands not only a high quality and uniformity of product, but also higher quantities, which Moroccan exporters are not always able to fill. Packaging has to be adequate and attractive. Thus some Moroccan products such as olive oil and also processed vegetables packed in glass, like green olives, capers, and palm hearts, are packed in Spain, France or Italy and reexported to the United States the same goes for black salted olives, which are shipped in 5-kg bulk packages to those countries and repackaged for the U.S. (and other) markets.

A general comment heard during the team's visits to processors and exporters in several sectors was that they were not familiar with the American market or with U.S. regulations and therefore have not attempted to pursue exports aggressively. Sometimes rejected shipments, for instance test shipments of clementines held up in quarantine, are rerouted to Canada. Attempts to sell to Canada have been more successful especially for clementines and cut flowers, but quantities exported are still small. Another reason for lack of interest in the American market may be psychological. Long ties with the EC and frequent visits by EC business people in Morocco have in the words of one exporter created "an atmosphere of familiarity and trust," while contacts with U.S. importers or brokers have sometimes resulted in broken contracts and litigation. Certainly this is an area in which

project action could vector on regulatory information. MAP project marketing and promotional and matchmaking activities will help establish the bridges between Morocco and the United States.

The export market towards the Maghreb countries (UMA) is just opening and is limited mainly to cross-border trade with Algeria. Until 1987, the principal reason for lack of exports was due to political differences with Algeria and also the lack of interest in Moroccan horticultural products by Tunis, Libya, and Mauritania. But in the last two years, the situation has improved and trade between Morocco and the Maghreb countries amounted to 1,200 million DH in 1988, a growth of 20 percent over 1987. However, agricultural exports from Morocco amounted to less that 3 percent of total exports to the Maghreb. There are now indications that horticultural exports, at least to Algeria, may grow in the future.

One of the major constraints in supplying the Maghrebian market is transportation. There is a rail link but service is infrequent and unreliable. Refrigerated truck transport is either unavailable or too expensive.

Algeria buys mainly grain from Morocco, but could be interested in fruits and legumes and to a lesser degree fresh vegetables. The liberalization of the state controls that is gradually taking place in Algeria may be a spur to increased trade between the two countries. The so-called interregional trade between Morocco's Eastern provinces and Algeria would be the first to benefit. For the rest of Algeria, much will depend on Algerian demand. Some regulatory and commerce barriers remain, but efforts are in progress to remove them as evidenced by meetings between Maghreb Union entities, such as the Banque Islamique de Développement (BID) and the Centre Islamique pour le Développement et du Commerce (CIDC). These (and other agencies) are trying to bring about closer cooperation between Islamic states. This also affects Morocco's trade with Saudi Arabia and the Gulf States, a market for Moroccan citrus fruits.

Among other likely markets for Moroccan horticultural products is Japan, but it remains essentially unexplored as to demand, regulatory control, and transportation constraints. The African market, especially Francophone Africa, may present some possibilities. The latter is currently a market for Moroccan canned fish products, mainly sardines. But little has been done in recent years to explore horticultural exports. Demand is unknown, as is information about purchasing power.

MARKET SITUATION BY SECTOR

Fresh Vegetables

In the mid-1960s and continuing through the 1970s and 1980s, Morocco has become an important supplier of fresh vegetables to the EC, taking advantage of the EC market windows for primeur varieties. Primeur exports from Morocco to the EC have

oscillated between 200-240,000 mt annually, reaching 275,000 mt between 1972-1973. Lowest export level was in 1978/79 with only 138,000 mt shipped.

The lack of growth of primeur exports is due in part to competition from other countries, and also those within the EC, such as Spain. Another negative factor is the EC-imposed quota system on non-EC suppliers initiated in 1976 on primeur exports to the EC in the winter period, starting in November and extended by a system of increased reference prices until EC production begins in late spring. Primeur exports to the EC have improved in years in which EC or competitive country production was low. This permitted Morocco to take advantage of unfilled quotas in certain sectors. This was the case in years when Spanish production diminished because of drought.

To help Morocco primeurs reestablish their place in the EC market, the World Bank launched a project for the marketing of primeurs. It was named Projet Primeurs and utilized $58 million set aside for the purpose, ending in 1985. It aimed to improve hard currency receipts, create employment, and double exports. Credits were extended for increased installation of greenhouses, increasing open field production, improvement of hybrid varieties, better production methods, helping to improve infrastructure, as well as training of farmers.

As a result of this and other activities, tomato acreage in covered production farms increased from 45 ha in 1978/79 to 1,445 ha in 1987/85. Tomato exports from greenhouse production grew from 2130 mt in 1978/79 to 47,715 mt in 1987/88. A peak was reached in the 1985/86 crop year with 60,580 tons exported, apparently because of diminished Spanish production. But despite the growth of acreage and production over the entire decade, exports have not shown the same growth for the period of 1984-1988, with the exception of the peak year mentioned. Tomatoes represent 99 percent of all greenhouse produce exported.

Acreage and production of primeurs from open-field operations has diminished substantially, while tunnel acreage and production increased. Total acreage dropped from 21,355 ha in 1978/79 to 13,570 ha in 1987/88 and total production in the same decade fell from 418,440 mt to 284,000 mt.

The evolution of exports from open-field production shows the same trend with some minor exceptions, as shown in Table F-7). Potato exports show a steady increase to a peak of 69.300 tons in 1985/86, but have decreased since then to 47,050 tons in 1987/88. Only peas show a substantial export growth for the decade from 100 to 1,116 tons. Green bean exports increased only from 1,700 to 1,815 tons during the decade, but experienced a number of lean export years between 1980/81 - 1985/86. In 1983/84 and 1984/85 only 373 and 300 tons respectively were exported. The export trend for all small vegetables, which include zucchini, peppers, hot peppers, egg plant, green peas and green beans, is up from slightly from 6,100 tons in 1978/79 to

7,370 tons in 1987/88.

In 1987/88, the volume of primeurs from open-field production represented 67 percent of all exported tonnage, while in 1978/79 that figure stood at 97 percent. Clearly the export trend is a diminishing one versus export shipments from greenhouse operations (see Table F-8).

Tomatoes and potatoes are the mainstay of the export market. While in the field, the team heard from two different sources that Spanish tomato exports to the EC may be declining. This seems to be caused by higher labor costs, now that Spain is harmonizing its labor laws with those of the EC. One producer shipped two truckloads of tomatoes for the first time to Spain. This trend, if confirmed, would create a new export market for the Moroccan industry. Spanish (and French) interest is further evident by the fact that Spanish and French businesses are increasingly buying stakes in Moroccan producer companies.

TABLE F-7

EXPORTS OF OPEN FIELD-PRODUCED VEGETABLES

CROPS	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
OPEN FIELD	133640	142115	107638	99922	87207	109700	96642	112920	97955	96300
Tomatoes	95850	91594	75642	75938	45507	55864	45268	39660	39930	41880
Fall	19480	36957	33015	37072	22494	24530	25750	27400	30480	30400
Winter	26250	21362	19191	11476	9673	16138	10124	8200	6850	10354
Spring	50120	34290	23436	27390	13340	15196	9394	4060	2600	1126
Potatoes	31690	42910	27690	20890	38966	51112	49255	69300	52590	47050
Other Vegetables	6100	7611	4306	3095	2734	3724	2119	3960	5435	7370
Squash	2800	2026	1640	1308	650	277	478	720	523	1245
Bell Pepper	-	303	430	53	-	-	114	-	-	-
Hot Pepper	900	578	703	503	612	703	552	560	909	1446
Eggplant	200	105	246	31	2	4	13	-	100	48
Snow Peas	100	345	324	373	130	533	632	800	842	1116
Snap Beans	1700	1671	872	454	795	373	300	850	1648	1815
Miscellaneous	400	2583	91	372	545	2844	-	1030	1413	1700

TABLE F-8

EXPORTS OF WINTER VEGETABLES PRODUCED IN GREENHOUSES (TONS)

CROPS	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Greenhouse Production	4500	7526	10999	15244	19294	33166	48650	60580	55760	47715
Tomatoes	2130	4974	9156	14484	18732	32843	48367	60150	54895	46815
Bell Peppers	2370	2552	1823	760	562	323	284	430	865	900
Other Vegetables	-	-	20	-	-	-	-	-	-	-

In 1989/90 Morocco exported 90,000 tons of fresh tomatoes, 65,000 tons of potatoes and 9,000 tons of miscellaneous vegetables (Lasheen 1989). It would appear that seed potatoes offer good export opportunities if efforts to produce certified potato seed locally will succeed. Other opportunities seem to exist in vegetables such as zucchini, egg plant, asparagus, lettuce and celery, but there is as yet little diversification into this type of production.

In summary, it can be seen that the World Bank Project had a positive effect on expanding greenhouse vegetable production and also resulted in substantial product quality improvements. However, it did not help remove some of the constraints which still impede the export of primeurs and vegetables, especially the constraint resulting from EC import regulation. In view of this factor it would appear that the Morocco primeur and fresh vegetable sector must improve its efforts to improve market penetration of non-EC countries. It must also find ways to export some other vegetables besides tomatoes and potatoes, both to the EC and to other markets in which special niches for such products can be found. An increased marketing effort and better promotion methods are called for.

Fresh Fruit

The total area under fruit cultivation, excluding olives, is 424,000 hectares, representing approximately 5 percent of all cultivated land. Morocco's favorable climate allows production of most fruits, however the country's mild winters limit the production for export of some deciduous fruits with high chilling requirements, especially apples and pears. Estimated production acreage is shown in the following table:

TABLE F-9

FRESH FRUIT

Fruit	Hectares/1000	Percent of total
Citrus	70	29
Grapes	56	23
Almond	34	15
Dates	20	8
Apricots	14	6
Apples	10	4
Prune/Plum	5	2
Pear	2	0.5
Peach	1	0.25
Quince/Nefarine	2	0.5
Cherry	1	0.25
Banana	2	0.5
Others	27	11
Total	244	% 100

Citrus fruits, especially oranges and clementines are the most important fruit category not only for export, but also for the domestic market. Most often fruit qualities unacceptable for export move into the domestic market. On a visit to a clementine producer in the Taroudant area (Souss-Massa), we saw the fruit being graded, with the three top categories packed for export, while the other category, plus extra-large (uneven-sized) clementines were segregated for the local market. Nearly 70 percent of the total Moroccan agricultural export crop consists of citrus fruit. Exports go to Europe and East Europe and the Middle East. Exporters have been shipping small (test) amounts of clementines to Canada, but not to the United States

Of the total citrus production of 960,000 tons (1986/87), 470,000 fresh fruit was exported. Local consumption has been growing and now roughly equals the amount exported. About 15 percent goes to juice production, but in low production years exports take precedent over juice production. Nevertheless juice consumption is growing and quality seems to be excellent. FRUMAT, the largest producer packs both pure juice and fruit drinks in modern, good looking tetrapacks.

Much of the Moroccan fresh fruit is consumed locally. Strong local demand and some export constraints have tended to limit exports. Peaches, cherries and strawberries have been exported to Europe. The yields of avocados and strawberries are increasing and some strawberries have been exported to France and Germany, however they face competition from Italy, a large producer of early strawberries. Melons may offer an export opportunity because of their extended transport life versus other fruits.

Exports of fresh fruits are limited because of lack of cold storage capability, transportation constraints and also the lack of some of the varieties demanded in export markets. Nevertheless, producers are increasingly adding cold storage capacity and improving varietals. Among new apple varieties, for instance, Granny Smith is now being introduced.

Dried fruit exports, especially prunes, have increased but much needs to be done to improve appearance and uniformity as well as packaging. Because of poor packaging (or lack of proper packaging equipment and plastics), much of the dried fruit moves in bulk for repackaging in Europe, again, depriving Moroccan producers of the added value. There is also strong competition from other countries producing dried fruit, for example, Turkey. Almonds are produced in low-density plantings for local consumption. Exports are hampered by poor quality and lack of uniformity from this type of small-farm production. Morocco exported 1,100 mt of almonds in calendar year 1989 (Source: AEMB/AGR), with a total value of $4.3 million. Exports to the United States amounted to less than 0.1 mt, with a value of $100,000.

Dates are an important export item. In 1983, date production peaked at 66,000 mt, while exports were 1,285 tons. Since that time a soil fusarium (Bayoud disease) has decimated date palms

but production has recovered and now averages 95,000 tons. The government objective is to plant 3 million date plants in the next 13-15 years to produce plants for the replanting effort. But export opportunities are limited unless a high-quality, Bayoud resistant clone can be found. U.S biotech firms may be interested in assisting R&D and production efforts for resistant and high quality varieties.

Restriction on banana imports to save foreign exchange and also the increased availability of greenhouse space has stimulated banana production, from practically negligible acreage in 1980 to over 1,500 ha of greenhouse production in 1989. Production is concentrated in the flat deltas of the major rivers emptying into the Atlantic in the El Jadida, Safi, and Essaouira areas as well as in the Souss-Massa Valley. The Souss-Massa area is the largest producer, aided by the ready availability of water and long daylight hours.

Prices have dropped from 18DH/kg to 7 DH/kg. It is possible that bananas could find an export market in the Maghreb countries, especially Algeria, if better transportation can be developed. Europe could represent a market for Moroccan production, but the price of Moroccan-grown bananas is still too high to compete in the European markets against bananas from Central American and Africa. According to the initial Agricultural Sector Assessment Survey, farmers should be able to grow bananas with a reasonable return at 5-6 DH/kg wholesale price providing they develop better greenhouse technology.

The expansion of the EC to incorporate Greece, Spain and Portugal has made the EC relatively self-sufficient in fruit crops. However, seasonal and climatic advantages may offer export opportunities for fruit exports. Careful study of market demand, as well as costing and pricing may reveal some niches for Moroccan producers.

Proccessed Fruits and Vegetables

Due to the limited purchasing power of the Moroccan consumer and the availability of fresh produce throughout much of the year, most processed fruits and vegetables are moving into export markets. Data on export until 1988 is presented in the Table F-10.

TABLE F-10

EXPORTS OF PROCESSED FRUITS AND VEGETABLES 1984-1988
(Millions of Dirhams)

	1984	1985	1986	1987	1988
Canned vegetables	377	494	483	505	564
Fruit and veg. juice	161	251	144	84	368
Canned fruit and jams	59	80	123	112	103
Dried vegetables	52	85	117	48	164

Source: GATT, 1989

AEMB/AGRIC. figures for the calendar year 1989 show the following Moroccan exports of processed vegetables and canned fruits:

TABLE F-11

PROCESSED VEGETABLES
(000 mt, millions Dollars)

	TOTAL		U.S. SHARE	
	QTY	VALUE	QTY	VALUE
Total	14.0	30.5	0.4	2.3
In brine	5.1	15.3	0.3	1.8
Frozen	6.8	10.1	0.0	0.0
Dehydrated	2.1	5.1	0.1	0.5
CANNED FRUITS AND VEGETABLES				
Total	115.0	139.5	3.0	6.3
Citrus juice	34.6	47.3	0.0	0.0
Olives	41.1	43.1	2.2	3.3
Pickles	13.1	17.7	0.0	0.0
Apricots	13.7	12.1	0.0	0.1
Tomatoes	4.8	9.7	0.8	2.8
Green beans	7.7	9.7	0.0	0.0

Source: AEMB/AGR. 1990

Moroccan processed fruits and vegetables have been traditionally going to the EC, mainly to France and Germany. However with the help of the IESC office in Casablanca, Moroccan exporters of olives, anchovies, capers and whole peeled tomatoes exported over $ 2million of products to the United States in the first half of 1990.

There are a number of serious constraints in the processing industry. A major problem is lack of control over raw material supplies, a weak contracting and legal system, credit abuses, and lack of price stability. Moroccan processing industries are purchasing surplus production not absorbed by the domestic market. With the exception of the state- owned FRUMAT and the large privately owned LOKOUS, the industry needs new investments to build larger and more modern plants in order to be able to compete in international markets. There are too many small processing plants with uncertain sources of supply and inadequate process capacity.

The latest available information (MARA/DPV, 1988) lists 80 enterprises, with the heaviest concentration in the province of Casablanca, but also in Marrakech, Safi, Agadir, Meknes, Larache and Kenitra. The industry is characterized by a few large plants and many small ones. 52 percent of the plants accounted for only 7 percent of production, while 11 major plants processed 68 percent of the total production. Data for 1985 reveal that 85 plants produced about 460,000 tons of product, which, however, represented only 60 percent installed capacity for these plants as a whole.

Another problem that will arise in the long term stems from the diminishing consumption of processed vegetables, especially canned products, in European markets. Canned products now constitute only about 4.5 percent of the total vegetable and fruit market. Europe is consuming more troisième gamme products and is moving rapidly in the direction of increased quatrième gamme product consumption.

The Food Spice Industry

Morocco grows a wide variety of spice plants and herbs. The main products are paprika, oregano, thyme, mint, coriander seed, sage rosemary, thyme and bay (laurel). Lesser production is in sesame seed, carob seed, celery seed, tomato seed and caraway (cumin) seed, as well as poppy seed. There is also production of saffron, fenugreek, fennel, chili and cayenne pepper (capsicum); black and white pepper; and wild onions (cipolina), rose hips, anise, cloves and nutmeg. Mixed seed, such as canary seed, is also produced. In the essential oils sector, geraniol, bergamot rose, lavender, bitter orange and lemon peel, and also sorrel and wormwood oils are produced. Since many small producers have primitive equipment, it can assumed that no pure product is made; instead the concentrates are shipped to Europe for further refining.

Morocco has an important carob industry, with at least 11 companies actively involved in the primary processing of carob gum. Carob beans are collected from forest preserves much in the same way as are wild-growing herbs and spices. Processors and traders buy the beans from primary collectors. Currently, the carob industry appears to be undergoing consolidation under the leadership of the Biosciences Division of the French concern SANOFI. Sanofi owns a majority stake in at least four of the larger companies in the carob trade. The market orientation for the export of carob gum is towards the American continent.

Domestic and export markets for food spices are well developed and structured, with export products moving almost exclusively through the trade rather than from producer/exporter to the packer/processor. Customarily, export standards are tightly defined, based on variety, chemo-physical and sensory characteristics, yields, comparison with standards of classic countries of origin, as well as on freshness, uniformity and appearance.

Most of the international spice and herb trade is dominated by European firms and therefore Moroccan exports tend to move in bulk to European processors or traders/reexporters. Therefore, as in the cases for some other horticultural exports, Moroccan producers are largely deprived of the added value benefits. For instance, there is (supposedly) no oleoresin paprika extraction capacity in Morocco. Dry (unground) paprika is shipped to Spain and France in 25 kg burlap bags for processing and reexport. We were told that in some cases Moroccan exporters have even brought oleoresin back from Spain to be able to offer it to their foreign clients. On the other hand, one source reports oleoresin production, but this has not been verified.

Lack of good sorting, cleaning and grinding technology hampers Moroccan exports, not to mention extraction and distilling equipment which seems to be rudimentary, except in the medicinal herb, and cosmetics industry. A survey of the spice industry conducted in November 1989 by the International Executive Service Corps mentions several producers who would like to take up contacts with U.S investors to upgrade their technology and buy more advanced equipment.

Food spices are exported to the United States, although in far smaller quantities than to Europe, and in lesser quantities than spices going to the United States from competing countries. The northern Mediterranean countries are the major European competitors plus Turkey. For other parts of the world, competition comes mainly from Asia – Pakistan, India, Indonesia, China, and Taiwan. There is also competition from Mexico and from Central and South American countries, depending on the type of product.

Sales to the United States are made through importer/brokers, not much product goes directly to the major U.S. packers, except

to McCormick, which tends to buy directly. There are only five major packers in the United States supplying the requirements of American supermarkets, which should present a good opportunity for Moroccan shippers to sell directly. Importers and brokers are also the main conduits to botanical packers, especially those packing health food herbs and herb teas, as well as products for aromatic satchels. This segment constitutes a fast growing market in the United States (as in Europe and in the Far East) and may offer opportunities for Moroccan producers. As for the extraction or production of food flavors, essential oils, medicinal herb extracts, and intermediates and colorants, German, Swiss, Dutch and U.K. processors have the lion's share of world production. However, little is known about how much Moroccan product moves indirectly into that market. The IESC survey does not mention this sector. Our project team, however, was told by two producers that they had contracts with IFF (International Fragrances and Flavors), Harmann & Reimer, Givaudan, and other European processors. IFF is the world's largest processor. Unilever, the parent company of IFF, had a stand at the Casablanca Food Exposition.

Some Moroccan exporters have no problems exporting spices to the United States, and seem to be familiar with the market. Some are even members of the American Spice Trade Association (ASTA). On the other hand, others seem to stay away from the U.S. market, partly because of fear of the FDA finding their products unacceptable, but also because of lack of commercial contacts or faith in the honesty of some brokers. Some who had product rejected at ports of entry, supposedly managed to reship their spices via France without any problems. This however, has not been verified, since it is possible that products were cleaned up, or mixed further in France prior to reexport to the United States.

In the calendar year 1989, a total of 14,300 mt of food spices were exported from Morocco with a value of $11 million (Source: AEMB/Agric.). Of this amount, 1.6 mt were shipped to the United States with a value of $990,000. Morocco shipped 0.3 mt of essential oils and extract abroad with a value of $5.9 million. No product was exported that year to the United States; however in past years small quantities were shipped averaging $100,000 in value annually.

The IESC report cites five Moroccan exporters who are ready to expand or else start exports to the United States and five others who would like some assistance. A general list of Moroccan exporters contained in the report, however, omitted some larger producers like SONEMAG, SUDEX, IPHIM, LAVAUD, and CAROUBEX. The spice export trade consists of 24 firms concentrated mostly in the Casablanca area, while production is scattered over the center and northern parts of the country, with much of it located in the Marrakech area. At this writing, not many statistics were available to the Project Team on the production and export of spices. Verbal claims of some producers and exporters seem highly exaggerated. One exporter, for example, claimed to have shipped 30,000 tons of paprika in 1990.

Opportunities for increased exports to the United States exist, but will require increasing involvement of the Moroccan industry with U.S. buyers, as well as investments, joint venture participation, and technical assistance from the American side.

Legumes

Legumes form an important part of the Moroccan farming sector and domestic consumption. They provide an excellent source of protein and fiber in addition to staple cereal crops.

There are four major varieties of legumes grown in Morocco as shown in Table F-12.

TABLE F-12

AVERAGES 1972-1988

Type	Area Planted (000 ha)	Total Yield Qx/ha	Production (000 mt)
Fava beans	200	8.6	171
Chick Peas	74	7.3	54
Green Peas	75	6.6	50
Lentils	53	5.3	28

Source: Mara/DPAE, "Series Historiques," 1990.

Both legumes and legume seeds are exported in substantial quantities, but most of the production goes to the domestic market. Nevertheless, legumes are considered inferior food by consumers. As is often the case in other countries, the higher the standard of living of the consumer the fewer grain legumes consumed. A psychological taint is attached to them because of consumer belief that they are the fare of the farmer and working man. This is a pity, because Morocco is well suited to legume production, and increased production could benefit dryland and small farmers.

In the United States, for instance, the health conscious consumer has rediscovered the nutritional benefits of legumes, and perhaps Europe will follow. This could result in higher legume exports. One contacted producer expressed confidence that the market will grow. Greater domestic use of legumes could also be stimulated through promotion, such as borrowing food recipes from neighboring countries, and so forth.

Cut Flowers

As with the food spice industry, the cut flower industry is highly structured. It is a small industry, with high value product, of which 90 percent moves into the export market. The export market lasts from approximately October until May, with the EC, especially France, being the principal market. Other markets are Scandinavia and to a smaller extent Canada. About 90 percent of exports are roses.

Shipping into the U.S. market has been attempted on one or two occasions, but the lack of good agents/importers has prevented further expansion. Apparently shippers had some bad experiences and are hesitant to renew test shipments.

The main rose varieties grown in Morocco are Visa, Sonia, Samantha, Omega, Coctel, Vega, Jacavanda, Champagne, and Frisco, all medium- or long-stem varieties. Some areas grow rose hips and also roses for rose oil distillation. Roses that do not meet export standards are sold on the local markets, but even those are generally of high quality.

The industry consists of many small producers that lack the organization and power to export. Thus, exports move through a number of major trading houses, some of which are also producers. They are joined in the Association Marocaine des Producteurs et Exportateurs des Fleurs (AMPEX-FLEURS). Product moves by air directly to wholesalers or end users abroad. Air time limits are six hours, or eight hours maximum, before the product becomes unacceptable. Thus, exporting is a precarious undertaking and relations with shipping companies and airlines of paramount importance. The limit on shipping time also makes shipping to the United States a difficult proposition because of poor air freight links between Morocco and the United States. Transshipping via Europe, usually Paris or Amsterdam, adds to the shipping time. Nevertheless the U.S. east coast and major U.S. city terminals that have good freight links with Europe (Chicago, Detroit,

Cleveland, and Dallas) could be entry ports for Moroccan flowers.

The Amsterdam international flower market is a major factor in brokering flower exports, and it appears that the Moroccan industry must rely on that market to a great extent. Moroccan attempts to ship independently into markets with which they have feeble contacts, are usually unsuccessful, as was the case with initial shipments to the United States.

A number of activities should be undertaken to assist the cut flower sector to increase export and improve marketing:

- Prefeasibility studies to help expand production and diversification into other flower crops, such as Carnations, Gerbera, Lilly, Alstroemeria, Freesia, and Phlox;

- Promotion of the establishment of working relations between U.S. and Canadian brokers and trade organizations in markets served by Air Maroc;

- Development of joint ventures to help bring about investments in the Moroccan cut flower industry by U.S. and foreign firms; and

- Help to develop an industry export promotion program, utilizing both the generic Maroc identity as well as individual brands.

Olives

Morocco has been a grower and exporter of olives and olive oil for two millennia. The Mediterranean climate and calcareous soil provide good growing conditions for this tree crop. The country has two main growing areas, the first being located in the north central part of the country, the so called bour favorable where trees grow in rainfed conditions. Rainfed olive production accounts for 30 percent of production. The other areas extend into the interior valleys of the country (such as Tadla, Haouz) where trees must be irrigated. Production from this type of culture accounts for 75 percent of olives harvested. Olive production takes place slightly earlier than in the North Mediterranean countries, but this does not translate into an economic advantage, because longer day length in the north Mediterranean provides for higher yields.

Olive and olive oil production has lagged behind national demand. Tree stands have aged, while investments in other crops have slowed investments needed for production improvements in the olive sector. In the mid-1980s, drought also slowed production and exports. The government has recognized that and has launched the so called Plan Olivier to renew old groves, provide for new trees, and improve production technology. By 2010, the plan is intended to result in a total olive acreage of 400,000 ha.

Much olive oil production is in small holdings of under 10 ha.

Although there are some large private groves, the largest is in the hands of the state (about 3,700 ha under SODEA management).

TABLE F-13

OLIVE OIL PRODUCTION AND EXPORTS
FROM 1981/82 UNTIL 1987/88 EVOLVED AS FOLLOWS:

Crop year	81/82	82/83	83/84	84/85	85/86	86/87	87/88
Production (1000 mt)	30	41.6	23	28	30	40	38
Export (mt)	1261	584	1312	160	97	133	75

Source: Min. du Comm., 1989

As can be seen from this table, while production has remained relatively constant, olive exports have dramatically declined from a peak in the decade before 1980 of 37,000 mt to less than 100 mt in 1987/88. The peak statistical figure of 37,000 mt exported prior to 1980 was taken from the Ministry of Commerce statistics and remains to be verified, as it appears extremely large.

Moroccan olive and olive oil processing capacity is very old. At the artisanal level there are 16,000 Maasras or traditional olive crushing operators, which produce a low-quality, high acid oil for domestic consumption. Semimodern mills of which there are 16 in operation produce a small quantity of virgin oil with a 3 percent acidity. Several plants are undergoing modernization to permit continuous flow processing of a high quality virgin oil with an acidity of 2 percent.

In general the future looks bright for the olive and olive oil industry, due to greatly increased GOM support. The Plan Olivier undoubtedly will help to ameliorate conditions and overcome production and technical processing constraints. On the other hand production and processing constraints must first be removed or ameliorated, before the industry can proceed with aggressive marketing and promotion.

Project Olivier sees the constraints in the marketing area as follows:

For olives: a) Better organization of producers and processors.

b) better, more attractive packaging.

c) better publicity (promotion) and consumer information.

d) Need for a more dynamic organization of exporters.

For olive oil: a) better packaging

b) better export marketing

In terms of exports, lower relative labor costs have improved Morocco's competitive position. This may even become more beneficial, if Spanish labor costs continue to rise due to the harmonization with EC social contracts and laws, as seems to be developing in the tomato export area.

Private Moroccan mills feel that exports are the main market despite the shortfall in the domestic market. In the growing U.S. market there is strong competition from Northern Mediterranean producers, especially Italy. Italian and Spanish olive oils have developed strong brand name recognition. Some Moroccan production goes to Spain and Italy for repackaging and reexport to the United States.

For the U.S market, the export potential, besides in olive oil, is first in stuffed and sliced olives. There may also be considerable potential for salt-treated black olives, which could be marketed as natural (not processed) from groves which do not use pesticides or fertilizer. Whether designated natural or not, this type of olive is practically unknown in the U.S, except in ethnic stores. Being much milder, less salty and more moist than the traditional greek olive, it could quickly catch on. Moroccan producers are well equipped to sell this olive. It is now exported to the EC, mainly to Spain and France in 5kg plastic pouches that are in turn packed in 20 kg cartons. One producer in Marrakech told the team that he is already selling to the United States. Nevertheless, for this type of olive to penetrate the market, a considerable amount of promotion would be required from the Moroccan processor and exporter side, as well as the packers in the United States

Project activities could have a substantial influence on improving Moroccan olive and olive oil marketing, both domestically and in the export sector. Given the favorable export demand, the domestic shortfall, and the Project Olivier plans, project activities may be able to show faster gains for the industry in the short term, than for any other horticultural sector. Specifically, activities should aim at the following:

- Help strengthen domestic and export marketing through assisting olive processor and export organization improve marketing and promotional operations;

- Help design and develop promotional programs for the export sector, not only for the United States, but also for other markets, for both processed and natural olives and also for olive oil. Programs to be both part of the Maroc generic campaign as well as designed for individual brand promotion; and

- Promote U.S investment and inputs in the Moroccan olive industry. As part of this activity, investigate if to see the A.I.D. Commodity Import Program (CIP) could be used to

import U.S. olive processing machinery.

Grapes, Raisins, and Wine

The grape industry produces wine grapes, table grapes and raisins. A large portion of the grapes is produced by the state owned company SODEA. In the 1988/89 crop year 48,100 ha of grapes were cultivated, of which 14,000 were utilized for wine grapes. As with almonds, the quality of raisins and lack of seedless varieties limits exportation.

TABLE F-8

EXPORTS OF WINTER VEGETABLES PRODUCED IN GREENHOUSES (TONS)

CROPS	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Greenhouse Production	4500	7526	10999	15244	19294	33166	48650	60580	55760	47715
Tomatoes	2130	4974	9156	14484	18732	32843	48367	60150	54895	46815
Bell Peppers	2370	2552	1823	760	562	323	284	430	865	900
Other Vegetables	-	-	20	-	-	-	-	-	-	-

ANNEX G

BASELINE DATA REQUIREMENTS
EXAMPLES
WINTER EXPORT VEGETABLES

Products

Tomatoes
Potatoes
Peppers
Eggplants
Other fresh winter export vegetables.

Production

Structure: Number, gender, and size distribution of producers
Areas, yields, and production, by region
Technology: varieties, irrigation, green house, timing, pest and disease control
Employment generation by gender
Costs and Returns
Priority issues:
- Main Season and off-season production

Sources of data:
- DPAE: annual agricultural surveys
- Trade Association: ASPRIM
- Mini survey: sample of farmers in subsector (gender-desegregated)

Marketing

Assembly
- Product Collectors by gender
- Transporters by gender
- Storage by gender

Packing
- Number, gender, and size distribution of packers packers
- Regional distribution
- Private, State and cooperative ownership.
- Technology: type of packing, product treatment
- Employment generation by gender
- Storage capacity by type of storage
- Links to processing, production, and domestic market Cost and Returns
- Sources of data:
  - Regional O.R.M.V.A. or D.P.A.,
  - Regional Chambers of Commerce
  - Trade association: ASPRIM
  - Ministry of Commerce and Industry
  - Direction de la Statistique, Ministry of Plan.
  - Mini survey: sample of packers (gender-

desegregated)

Processing:
- Number, gender, and size distribution of exporters
- Volumes and values by country of destination
- Regional Distribution of Exports
- Product differentiation: grades, varieties, brands
- Seasonality and market shares
- Transport means and alternatives
- Price Series, main destination markets:
  - Reference prices in EEC for Moroccan produce
  - Wholesale prices, retail prices in main markets
- Breakdown of export market costs for main destinations:
  - FOB, insurance, transport, commissions, taxes.
- Sources of data:
  - Etablissement Autonome de Controle et de Coordination des Exportations (EACCE)
  - OCE, AFB, EEC.
  - Trade Association: ASSPRIM

Domestic market:
- Main season and off-season supply and consumption
- Prices in main urban centers, wholesale and retail.
- Employment generation by gender, in distribution trade.
- Distribution channels
- Consumption and expenditure by income category

Monitoring and Evaluation

Baseline data collection:
- Coverage of the 1990/91 export season
- Carry out in conjunction with subsector diagnostic study

Annual updates following the end of the export season

Evaluations:
- Mid-term evaluation: 3
- Final Evaluation: Year 6

Fresh Fruit for Export

Products
- Citrus
- Melons
- Apples and Pears
- Stone Fruits: apricots, plums, peaches, almonds
- Dates, Figs, and other dry fruits

Production
- Structure: Number, gender, and size distribution of producers
- Areas, yields, and production, by region
- Technology: varieties, irrigation, green house, timing, pest and disease control
- Employment generation by gender
- Costs and returns
- Priority issues:

Main Season and off-season production

Sources of data:

DPAE: annual agricultural surveys

Trade Association: ASPAM

Minisurvey: sample of farmers in subsector (gender-desegregated).

Marketing

Assembly

Product Collectors by gender

Transporters by gender

Storage operators by gender

Packing

Number, gender, and size distribution of packers

Regional distribution

Private, State and cooperative ownership.

Technology: type of packing, product treatment

Employment generation by gender

Storage capacity by type of storage

Links to processing, production, and domestic market Costs and Returns

Sources of data:

Regional O.R.M.V.A.,

Regional Chambers of Commerce

Trade association: ASPAM.

Ministry of Commerce and Industry

Direction de la Statistique, Ministry of Plan.

Mini Survey: sample of packers (gender-desegregated)

Processing:

See: processing of fruits and vegetables 4eme Game:

Number, gender, and size of current producers

Regional Distribution

Type of products and volume of business

Employment generation by gender

Costs and Returns

Exports:

Number, gender, and size distribution of exporters

Volumes and values by country of destination

Regional Distribution of Exports

Products differentiation: grades, varieties, brands

Seasonality and market shares

Transport means, and alternatives

Price Series, main destination markets:

Reference prices in EEC for Moroccan produce

Wholesale prices, retail prices in main markets

Breakdown of export market costs for main destinations:

FOB, insurance, transport, commissions,

taxes.

Sources of data:

Establissement Autonome de Controle et de Coordination des Exportations (EACCE)
OCE, AFB, EEC.
Trade Association: ASPAM

Domestic market:

Main season and off-season supply and consumption
Prices in main urban centers, wholesale and retail.
Employment generation by gender, in distribution trade.
Distribution channels
Consumption and expenditures by income category.

Monitoring and Evaluation

Baseline data collection:

Coverage of the 1990/91 export season
Coverage of the 1991 main season
Carry out in conjunction with subsector diagnostic study
Annual updates following the end of the export season
Annual updates from the DPAE main agricultural survey
Evaluations:
Mid-term evaluation: year 3
Final Evaluation: Year 6

Processed Fruits and Vegetables

Products

Fruit Juices
Cornichons
Vegetable concentrates (catchup,...)
Fruit Preserves (apricot,...)
Dehydrated fruits
Jams and Jellies
Frozen fruits and vegetables

Production

Structure: Number, gender, and size distribution of processors
Distribution by region and product type
Private, State and cooperative ownership.
Storage capacity by type of storage
Links to farm production, and domestic market
Technology:
Field production: varieties, seasonality, contract farming, pre-cooling facilities
2eme Game: canning technology, product types

3eme Game: freezing technology and equipment,
4eme Game techniques and products.
Employment generation by gender
Costs and Returns
Priority issues:
Main Season and off-season production for processing
4eme Game: main growth potential for exports
2eme and 3eme Game: limited export potential
Sources of data:
Ministry of Commerce and Industry
Agribusiness Database
Kompass (yellow pages)
Trade Associations
Regional O.R.M.V.A. or D.P.A.,
Regional Chambers of Commerce
Direction de la Statistique, Ministry of Plan.
Mini survey: sample of processors in subsector (gender desegregated)

Marketing

Raw Material Assembly
Product Collectors by gender
Affiliated farmers by gender
Transport and Storage, by gender

Exports:
Number, gender, and size distribution of exporters
Volumes and values by country of destination
Regional Distribution of Exports
Product differentiation: grades, varieties, brands
Seasonality and market shares
Transport means, and alternatives
Price Series, main destination markets:
Breakdown of export market costs for main destinations: FOB, insurance, transport, commissions, taxes.
Sources of data:
Etablissement Autonome de Controle et de Coordination des Exportations (EACCE)
OCE, AFB, EEC.
Trade Association

Domestic market:
Domestic Supply, imports and consumption
Seasonality in consumption of processed products
Prices in main urban centers, wholesale and retail.
Employment generation by gender, in distribution trade.
Distribution channels
consumption and expenditures by income category.
Advertising and Brand loyalty

Monitoring and Evaluation

Baseline data collection:
Coverage of the 1990 and 1991 export and production
Carry out in conjunction with subsector diagnostic

study
Annual updates following the end of the export and production seasons, for different products.
Evaluations:
Mid-term evaluation: Year 3
Final Evaluation: Year 6

Flowers for Export

Products

Roses
Carnations
Other Flowers

Production
Structure: Number, gender, and size distribution of producers
Areas, yields, and production, by region
Technology: species, varieties, irrigation, green house, timing, pest and disease control, type of packing, product treatment
Storage capacity by type of storage
Links to domestic market
Employment generation by gender
Costs and Returns
Priority issues:
Main Season and off-season production
Export and Domestic market
Market prospects for ornamental (export and domestic)
Sources of data:
DPAE: annual agricultural surveys
Trade Association: AMPEXFLEURS
Regional O.R.M.V.A. or D.P.A.,
Regional Chambers of Commerce
Mini survey of export flower farmers in subsector

Marketing

Assembly
Collectors by gender
Transporters by gender
Storage operators by gender
Packing and Packaging, by gender

Exports:
Number, gender, and size distribution of exporters
Volumes and values by country of destination
Regional Distribution of Exports
Product differentiation: species, varieties, brands, grades
Seasonality and market shares
Transport means, and alternatives
Price Series, main destination markets:
Wholesale prices, retail prices in main markets
Breakdown of export market costs for main destinations:

FOB, insurance, transport, commissions, taxes.
Sources of data:
Etablissement Autonome de Controle et de Coordination des Exportations (EACCE)
EEC.
Trade Association: AMPEXFLEURS

Domestic market:
Main season and off-season supply and consumption
Prices in main urban centers, wholesale and retail.
Employment generation by gender, in distribution trade.
Distribution channels

Monitoring and Evaluation

Baseline data collection:
Coverage of the 1990/91 export season
Coverage of the 1991 main season
Carry out in conjunction with subsector diagnostic study
Annual updates following the end of the export season
Evaluations:
Mid-term evaluation: Year 3
Final Evaluation: Year 6

Olives

Products

Olives:
Green
Black
Spiced
Stuffed
Sliced
Olive oil

Production
Structure: Number, gender, and size distribution of producers
Areas, yields, and production, by region
Technology: varieties, irrigation, pests, age of trees
Employment generation by gender
Costs and Returns
Priority issues
Irrigated vs. Dryland olive production
Sources of data:
ORMVAs and DPAs
DPAE: annual agricultural surveys
Trade Association

Marketing

Assembly
Product Collectors by gender
Transporters by gender

Storage operators by gender

Processing
- Number, gender, and size distribution of processor and pressers
- Regional distribution
- Private, State and cooperative ownership.
- Technology: type of press, product treatment
- Employment generation by gender
- Storage capacity by type of storage
- Links to processing, production, and domestic market
- Costs and Returns
- Sources of data:
  - Regional O.R.M.V.A. or D.P.A.,
  - Regional Chambers of Commerce
  - Trade association.
  - Ministry of Commerce and Industry
  - Direction de la Statistique, Ministry of Plan.

Exports:
- Number, gender, and size distribution of exporters
- Volumes and values by country of destination
- Regional Distribution of Exports
- Product differentiation: grades, varieties, brands
- Seasonality and market shares
- Transport means and alternatives
- Price Series, main destination markets:
  - Reference prices in EEC for Moroccan olives and olive oil
  - Wholesale prices, retail prices in main markets
- Breakdown of export market costs for main distentions:
  - FOB, insurance, transport, commissions, taxes.
- Sources of data:
  - Etablissement Autonome de Controle et de Coordination des Exportations (EACCE)
  - OCE, EEC.
  - Trade Association
- Domestic market:
  - Main season and off-season supply and consumption
  - Prices in main urban centers, wholesale and retail.
  - Employment generation by gender, in distribution trade.
  - Distribution channels
  - Consumption and expenditure by income category

Monitoring and Evaluation

Baseline data collection:
- Coverage of the 1990/91 season
- Carry out in conjunction with subsector diagnostic study

Annual updates following the end of the season

Evaluations:
- Mid-term evaluation: Year 3
- Final Evaluation: Year 6

MAP ANNEX H: ECONOMIC AND FINANCIAL ANALYSIS

Approach to the Economic Analysis of the MAP Project

Challenges in the Economic Analysis

The MAP project is complex, with a relatively large number of activities that will contribute to meeting project goals over different time periods and in very different ways. Since a substantial amount of project funding will be devoted to technical assistance, it is critical to project success that those TA resources be used in ways which will leverage their impact as broadly as possible. As with many projects of this type, it is relatively easy to estimate the costs associated with project actions, but quite complicated to estimate future benefit streams. Difficulty in benefit stream estimation is due to the fact that:

- MAP is not directly financing production or productive infrastructure. Instead, it is undertaking a broad range of facilitating activities designed to help the private sector increase its production of existing and new products for the domestic and export markets;

- The production-increasing impacts of MAP activities will occur over varying time horizons. For example, some of the training actions will have indirect impacts on increasing Moroccan GDP over a much longer time horizon than product promotion or industry partnership promotion actions which may directly contribute to increased employment and earnings in the space of just a couple of years;

- There will be very specific changes in the production and marketing patterns of Moroccan horticultural subsectors that will be partially attributable to the use of MAP project resources. The use of those resources will be more precisely planned in each commodity action plan once the project is underway. Therefore, benefit streams are necessarily hypothetical in this economic analysis, however likely or reasonable those hypotheses may be; [1]

The degree to which benefit streams are hypothetical is greater here than it might be in a more traditional

- The tangible benefits from MAP will come from an increased volume of business activities, measured most easily by sales in domestic and foreign markets. Since the project may contribute a very small part of the seed capital (but may play a larger role in other dimensions such as business contacts, information on markets and technology, etc.) required for a new or expanded enterprise, the question of attribution of impact will be difficult. For example, project promotional efforts may help a group of Moroccan olive canners open up a new market in the US for sliced olives worth $5 million a year in gross sales, producing $500,000 in new foreign exchange earnigs per year for Morocco. What portion of that new profit should be attributed to the project? ;

- Most of the eight commodity subsectors chosen for MAP focus are ones for which data on production, costs and returns, prices and volumes marketed are very sketchy at best, when compared to those for the "grandes cultures". This lack of industry information will be met over the life of the MAP project by special efforts under the monitoring and evaluation component of the project;

- The project will be operating in a very volatile and unpredictable business world over its life in the 1990s. While the general outlook for growth in the Moroccan horticultural industries looks very bright (due to natural comparative advantage and low labor costs), a looming world economic recession, and many politically-determined changes likely to affect the ease of Moroccan penetration into key markets (EEC, US, UMA), will strongly interact with this generally favorable climate for agribuisness growth. These are factors that are largely exogenous to MAP project design, but which represent potential risks to achievement of project objectives.

---

production-oriented project which, for example, might be designed to produce an increase in irrigated cotton. There, the level of benefits (yields, prices) might be open to discussion but not the fact that the project will contribute to expanding cotton acreage. Here, not only the level but the nature of increased production and marketing remains speculative since it is up to private industry decision-makers to decide what their growth strategies will be, albeit with some assistance from MAP.

Implications for the Analytical Approach Employed

There are a number of implications for the approach to doing the economic analysis which stem from the above-enumerated difficulties in estimating MAP project benefit streams:

- Potential tangible benefits derivable from the project need to be spelled out for each commodity subsector so that they can be monitored and evaluated over time;

- These potential benefits must be cast in growth scenarios for each commodity subsector which are believeable and conservative. In general, the project must be economically justifiable under conditions for growth that many observers would agree could be exceeded. Across all commodity groups, the overall viability of the project must be intuitively and plausible;

- The potential benefits will be described largely in terms of growth in sales and employment in horticultural industries. This implies that the more direct, short-term promotional activities of the project will be "carrying" the economic viability of MAP more than the longer-term, more indirect benefits stemming from training and institutional strengthening activities; and

- Given the hypothetical nature of the a priori benefits, once action plans are developed for each industry, actual projected benefit streams and measures need to be worked out for activities to be undertaken with each commodity group.

This analysis will estimate the overall economic viability of the MAP project through indicators chosen to be as easy to monitor as possbile.

The goal of the MAP project is to contribute to the growth of its GDP through the promotion of its agribusiness sector. Overall estimates of contribution to GDP growth will be measured through a combination of the following:

- Growth in the value of commodity-specific agribusiness exports;

- Growth in the value of specific agribusiness products sold on Moroccan markets (or equivalent gains in

production or marketing efficiency);

- Growth in employment in agribusiness jobs adjusted for growth and levels of unemployment in the overall workforce; and

- Increases in the efficiency of domestic resource use as measured by changes in the proportions of irrigated land planted to crops with low or negative economic rates of return to those with higher rates of return. (This could also be visualized by reducing levels of subsidy to crops such as sugar beets while increasing foreign exchange earned through greater export of winter vegetables.)

Project Costs by Component

The following is an approximate breakdown of project costs for the purpose of estimating economic returns, including USAID funds, private industry funds where project activities call for matching contributions, and estimated GOM contributions in kind to the execution of MAP (here presented in terms of an undifferentiated block).

TABLE H-1: ESTIMATED COST OF THE MAP PROJECT ($ MILLIONS)

INPUT	AID	GOM	Private Sector	TOTAL
Tech Assistance	4,876	775	-	5,651
Promo Travel	1,322	550	500	2,372
P&I Fund	2,000	-	2,000	4,000
Trn/Wkshops/Confr	1,804	290	1,000	3,094
Equip & Supplies	314	25	-	339
PASA (USDA)	1,061	25	-	1,086
IAV CAAB Program	2,500	2,536	-	5,036
Env Conslt Firm	150	-	-	150
Evaluation	330	45	-	375
Audit	37	-	-	37
Indirect Costs	5,605	1,016	838	7,459
TOTAL COSTS	20,000	5,262	4,338	29,600

For purposes of the cost/benefit assessment it is assumed that these costs are distributed across the seven year length of life of the project as follows:

TABLE H-2: ESTIMATED MAP COSTS BY PROJECT YEAR ($US Mill)

	YEAR						
	1	2	3	4	5	6	Total
USAID Funds	9.3	3.6	3.4	2.3	1.2	0.2	20.0
Morocco Funds	3.8	1.7	1.7	0.9	0.9	0.6	9.6
Total Costs	13.1	5.2	5.2	3.3	2.1	0.8	29.6

Narrative Description of Project Benefit Streams

In the paragraphs that follow are summary descriptions of potential benefit streams organized by commodity subsector. These represent the potential development of new products or the expansion of markets for existing products. In the judgement of the PP team these are representative of commercial goals which should easily be attained or surpassed during the life of the project. Once industry development plans are developed for the different commodity subsectors, other equally specific indicators of project-connected accomplishment should be developed and monitored over the balance of the life of the project.

There three types of benefit stream described below and entered into the internal rate of return analysis in Table H-3. These are:

- Increased sales of horticultural products to domestic and foreign markets;
- Net increases in employment in Morocco through expanded agribusiness activity, particularly in exported products generating foreign exchange; and
- Economic savings stemming from a conversion of some amount of irrigated land to higher value horticultural crops from crops with low economic value.

Increased Sales of Horticultural Products to Domestic and Foreign Markets

(1) Fresh Vegetables (Primeurs) Two tenative benefit streams are estimated to result from project work with this subsector: (a) increased shipments (to the EEC market) of high-quality tomatoes; and (b) increased shipments of fresh vegetable ingredients into the very rapidly growing European "Quatrieme Gamme" industry.

(a) From year 3 exports of high quality fresh tomatoes getting $1/kg premium price over regular tomatoes will increase from 100 tons to 500 tons/year (in year 7-15) due to project efforts. An estimated 20 % of net profits will be attributed to MAP. This produces net benefit stream of $20K (Yr 3) to 100K (Yr 7 through year 15).

(b) Quatrieme Gamme: increases in exports from 1000 tons (yr 3) to 10,000 tons (years 12 thru 15) into the European market. Project claims 10% credit for increases in net profits (10% of gross returns) of $5 million (5mill x 10% x 10% = 50K --->500 K).

(2) Fresh Fruit There are two benefit streams estimated for fresh fruit which are estimated, one dealing with the domestic Moroccan market for fresh temperate fruit, and the second involving increased sales into European markets of "quatrieme gamme" production. It should also be noted that there are many other possible areas of commercial growth discussed by the team, including shipment of clementine concentrate and increased amounts of fresh strawberries into the US market.

(a) In the area of pomme and stone fruit, the MAP project will contribute to increased value from better storage and handling on domestic market by season extension. This will result in an increased net $0.10/kg on on fruit stored in newly designed, lower-cost 300 ton storage modules. The number of modules will begin with two in year three, doubling each year to 16 in year 6. One percent of this increased value will be due to MAP.

(b) Quatrieme Gamme: There will be an increase in semi-processed, fresh fruit sales into the European market. Benefits will be derived from an initial increase of 100 tons in year 5 to 5,000 tons in year 15. A 10 percent credit to MAP from increased profits (15 percent of gross of $20/kg CAF EEC markets).

(3) Processed Fruits and Vegetables The MAP project has substantial possibilities to contribute to improved efficiency and sales in processed fruits and vegetables, across all the "gammes" or major types of fruit and vegetable product:

- First: fresh products (see above);
- Second: canned, see (a) below;
- Third: Frozen and Quick-Frozen, see (b) below; and
- Fourth: minimally-processed, refrigerated products (see above)

(a) Canning: Technological assistance from MAP could reduced unit package cots by 10% on one million units starting in year 5 and building to these reduced unit costs applied to 100 million units by year 15 costs of building to 100 x 10x6 units in year 15. Half of the cost reductions are attributed to the project (Costs are reduced from 4 Dh a can to 3.6 dh/can in real terms over this period.)

(b) Freezing: MAP R&D Fund contributions will contribute to the development of several new microwavable products, packed in retort pouches. In year five, 100 tons are produced with a wholesale value of $0.8/kg, 10% of which gets project attribution. This volume grows by ten fold to 1000 tons by year 15.

(4) Cut Flowers One of the most likely contributions the MAP project could make would be concrete assistance to help Moroccan cut flower growers penetrate the US market. As a result of MAP promotional efforts, this market penetration begins in year four of the project. Starting with 100 tons of exports to the US, this would grow to 500 tons in year 7 and stay at that level for years 8 through 15. The MAP project claims credit for five percent of gross at approximately $30,000/ton (@ $0.5 bloom CAF NY).

(5) Grain Legumes Likely scenarios: increased exports; orobranche-resistance research leads changes in production efficiency which lower unit costs; as a follow-up to a multi-year german research project, the MAP project contributes TA to the development of new preparations of nutritious legume food preparation which lead to a doubling of sales of legume products over 10 years. The project's contribution leads to an aggregate benefit stream of $7.5 over 15 years.

(6) Olives Project assistance in promotion and some technical improvements in processing in Morocco, lead to a growing market share for Moroccan olive products and virgin olive oil in the US market. Fifteen years after project inception this has resulted in $17.5 million in increased sales for which the project "receives" five percent as an attributed net benefit stream.

(7) Spices and Essential Oils Across the entire range of spices and essential oils, project promotional work leads (by year seven) to aggregate increases in Moroccan exports to the US with an annual value of $65 Million CAF New York. Of this amount, the project claims two percent as attribution or about ten percent of estimated increased net earnings.

(8) Wine There are a number of major changes which could lead to a revolution in the Moroccan wine industry (and there are signs that some of these changes are beginning to take place):

- Privitization of holdings (particularly those by SODEA) both reduce unit costs of production through greater efficiency of management and begin to improve quality as more appropriate wine grape varietals are planted;

- Similarly, there are new wine-making and bottling partnerships formed which increase exports substantially.

We anticipate that fairly modest but well-directed assistance by MAp will allow some of these new exporting partnerships to greatly increase quality wine shipments to the US, adding approximately $26 million in gross revenues, for which the projects influence is attributed 5 percent of the value.

Net Increases in Wage Employment

Net employment generation, represented by a portion of the labor costs required for the production of raw products and processing for increased Moroccan agribusiness sales can be considered a legitimate part of the benefit stream of the MAP project.

Labor costs constitute a major share of total cost in both production and packing operations. For tomatoes grown under

plastic for example, labor costs amount to about 12 percent of total gross revenue per hectare of 132,000 (data from budget prepared by the ORMVA in the Souss-Massa.) For tomatoes grown under open field conditions, labor represents a slightly lower proportion of gross revenues. Packing is an even more labor-intensive operation and we would expect that the total labor bill represents at least 25 percent of the FOB value of production. Thus this amount of the gross value of exports could be considered as a reasonable net income contribution to Moroccan labor.

In the internal rate of return analysis which follows in Table H-3, we have used very conservative assumptions concerning increases in labor due to the actions of the MAP project. Seventy-five percent of the subtotal of benefit streams from the eight commodity groups (not including increased economic value from irrigated land) is considered in this analysis to be a "domestic employment multiplier" which represents less than four percent of the estimated wholesale value of increases in sales partially attributed to the project. It should also be noted that this analysis does not assume any other secondary multiplier effects (which are often calulated to be 200 to 400 percent of total direct benefits in some project analyses).

Improved Economic Efficiency in Use of Irrigated Land

The MAP project, concentrating on higher-value horticultural crops destined for export in many cases, will have the effect of improving the economic efficiency of agricultural resource use, particularly for irrigated land. As is pointed out in the AID-financed "Prices and Incentives Study II" (1989) much of Morocco's irrigated land is devoted to the production of cereals and sugar crops which is not the highest use to which these domestic resources can be put. In fact, when GOM subsidies in sugar price supports and subsidies to the costs of irrigation water are taken into account, it is easy to calculate some very significant increases in per hectare net economic returns if land is put to production of high value horticultural crops per hectare.

Unfortunately, the farm crop budget information is not available for irrigated areas which would permit a precise calculation of the potential impacts of these changes in crop mix on the economic efficiency of using irrigated land. In this situation, we have made some very conservative estimates of the types of improvements in economic efficiency of resource use which could be attributable to the MAP project through induced changes in cropping patterns. To do so, we have assumed the following scenario:

Beginning in year two of the project, and for the following thirteen years, each year the cropping pattern on 400 hectares of irrigated land is changed in such a way that it results in $500/hectare in total increased value in economic terms (for example: $100/hectare in total subsidy reduction and $400/hectare increased net farm revenue). This results in a $200,000 increase in resource use efficiency in economic terms. By year fifteen this escalated to cover approximately 5,000 hectares of irrigated land or about one half of one percent of the total irrigated area in the country.

Similar arguments can be made for greater economic rationality in resource use for production from Moroccan drylands, although the magnitude of the potential savings would probably be much les per hectare. As is shown in Table H-3, this benefit stream represents only about 10 percent of the total benefits attributed to the project over fifteen years (as the sensitivity analysis below indicates, deletion of this benefit stream from the overall IRR calculation only reduces the return by approximately x percent). Given the intensive nature of much of horticultural production, switching crop use patterns is not going to make a dramatic impact in the overall land use pattern of the country. Nevertheless, the point is still very valid that there are substantial "reserves" of land in Morocco which can be put to much higher value use with the evolution of market opportunities over time.

Economic Cost/Benefit Analysis

Internal Rate of Return

The costs and benefits described above are arrayed in Table H-3. Benefit streams were carried out over 15 years which, in many cases, only takes into account about 10 years of benefits since many of the streams begin in year 5 or 6 of the project.

This analysis produced an <u>internal rate of return of approximately 24 percent</u> which should be considered adequate for approval of the project. Since many of the assumed benefits are very conservative, this team is convinced that the actual benefits of the MAP could be substantially higher. Even given the numerous caveats mentioned in the initial part of this analysis, we are convinced that the benefit streams described are very plausible.

TABLE H-3

MAP PROJECT INTERNAL RATE OF RETURN ANALSIS

(Figures in $ Millions)

Years	COSTS	Benefit Streams: Fresh Veg's	Fresh Fruit	Proces F & V	Cut Flow's	Grain Legume	Olives	Spices & Oils	Wine	Higher Value Irrig	Sub-T Ben's	Employ Multip	Total Ben's	MAP NET BEN'S
1	13.09	0	0	0	0	0	0	0	0	0	0	0	0	-13.09
2	5.21	0	0	0	0	0	0	0	0	0.20	0.20	0.00	0.20	-5.01
3	5.17	0.07	0.15	0.03	0	0	0	0.01	0	0.40	0.66	0.20	0.86	-4.32
4	3.26	0.14	0.30	0.27	0.15	0	0	0.05	0.10	0.60	1.61	0.76	2.37	-0.89
5	2.06	0.21	0.90	0.52	0.21	0.25	0.08	0.25	0.30	0.80	3.52	2.04	5.56	3.50
6	0.82	0.28	1.35	0.78	0.27	0.50	0.16	0.40	0.70	0.90	5.34	3.33	8.67	7.85
7	0	0.35	1.50	1.04	0.33	0.75	0.24	0.65	1.30	1.00	7.16	4.62	11.78	11.78
8	0	0.35	1.65	1.30	0.39	0.75	0.32	0.65	1.30	1.00	7.71	5.03	12.74	12.74
9	0	0.35	1.80	1.35	0.45	0.75	0.40	0.65	1.30	1.20	8.25	5.29	13.54	13.54
10	0	0.35	1.95	1.40	0.51	0.75	0.48	0.65	1.30	1.30	8.69	5.54	14.23	14.23
11	0	0.35	1.95	1.45	0.57	0.75	0.56	0.65	1.30	1.40	8.98	5.69	14.67	14.67
12	0	0.35	1.95	1.50	0.63	0.75	0.64	0.65	1.30	1.50	9.27	5.83	15.10	15.10
13	0	0.35	1.95	1.55	0.69	0.75	0.73	0.65	1.30	1.60	9.57	5.98	15.55	15.55
14	0	0.35	1.95	1.60	0.75	0.75	0.80	0.65	1.30	1.70	9.85	6.11	15.96	15.96
15	0	0.35	1.95	1.65	0.81	0.75	0.88	0.65	1.30	1.80	10.14	6.26	16.40	16.40
Totals	29.60	3.85	19.35	14.44	5.76	7.50	5.29	6.56	12.80	15.40	90.95	56.66	147.61	118.01

IRR = 24.3%

Note: See MAP Economic Analysis for assumptions on benefit streams.

Sensitivity Analyses

Given the assumptions upon which the above analysis is based, the results of the analysis are quite robust. This is demonstrated by the following figures that indicate the relationship between a change in the benefit stream and the level of the resulting internal rate of return:

Percent by which benefit streams are increased/decreased	Resultant IRR
+ 80%	46%
+ 60	43
+ 40	40
+ 20	36
Base Case	32
- 20%	27
- 40	22
- 60	15
- 80	5
- 90	-4

Thus, if the projected benefits from the MAP were reduced by 40 percent from the levels assumed in Table H-3, the internal rate of return would still be at 22 percent. It is only when over 85 percent of the aggregate benefits attributed to MAP are eliminated that the rate of return turns negative.

As mentioned above, the benefit stream coming from the higher economic return to irrigated land only slightly modifies the overall results of the economic analysis. If this benefit stream were eliminated entirely the overall IRR would drop by 2 percent to 22 percent. Similarly, the benefits attributed to increases in secondary employment do not fundamentally alter the overall rate of return as is shown below:

	Rate of Assumed MAP Employment Multiplier	Resultant MAP IRR
	150 %	39%
	125	37
	100	34
Base Case:	75	32
	50	29
	25	26
	0	22

Finally, as is well known to experienced economic analysts, the credibility of the rate of return is fundamentally linked to two factors: one, the realism of the assumed benefit streams and, two, the timing of benefits and costs, since the speed at which the net benefit turns positive is linked computationally to the rate of return. This is illustrated in the case of MAP by varying the year of assumed onset of benefits. By delaying benefit onset by a year across the eight commodity subsectors, but maintaining the same levels, the IRR drops to 20 percent. Conversely, by accelerating the onset of all benefit streams by a year, the IRR jumps to 30 percent.

Overall, given the very conservative nature of the assumed benefit streams, the design team is satisfied with the intrinsic economic soundness of the proposed MAP project.

A.I.D. MAP Project Costs Fully Allocated

INPUTS	TOTAL	Percent of Total	Institutional Contractor Budget	Percent of Total	USAID Budget	Percent of Total
1 Tech Assistance	8,149,671	41%	7,827,196	39%	322,474 *	2%
- Long-Term TA	5,833,443	29%				
- Studies	1,452,630	7%				
- Short-Term Assignments	863,597	4%				
2 Promo Travel	2,114,096	11%	1,891,032	9%	223,064 *	1%
3 R&P Fund	2,123,232	11%			2,123,232	11%
4 Trn/Wkshops/Confr/Tours	2,851,077	14%	2,448,160	12%	402,917 *	2%
5 Equipment & Supplies	483,630	2%	449,020	2%	34,610 *	0%
6 PASA (USDA)	1,060,800	5%			1,060,800	5%
7 Sub-Grant (CAAB-IAV)	2,500,000	13%			2,500,000	13%
8 Env Concl Firm	150,000	1%			150,000	1%
9 BUY-INs (AMIS)	200,000	1%			200,000	1%
10 Evaluation & Audit	367,494	2%			367,494	2%
TOTAL:	20,000,000	100%	12,615,408	63%	7,384,591	37%

* Contingency and inflation on these line items.

ANNUAL TECHNICAL ASSISTANCE COSTS

	YR-1	YR-2	TOTAL
- Salary & Wages	$74,000	$76,220	$150,220
- Fringe Benefits (26%)			
Field Office	$19,240	$19,817	$39,057
- Allowances			
Education Allowance	$20,000	$20,000	$40,000
Qtrs incl Guard Service	$29,600	$29,600	$59,200
- Travel & Transportation			
Assignmt to Post + Storage	$23,200	--	$23,200
In-country travel	$3,000	--	$3,000
Consultation Travel	$2,500	--	$2,500
End of Tour	--	$7,733	$7,733
- Other Direct Costs			
HH Furnishings	$20,000	--	$20,000
DBA Insurance	$3,789	$3,902	$7,691
Translation/Typing Reports	$2,000	$2,000	$4,000
Reproduction	$800	$800	$1,600
Communications	$2,500	$2,500	$5,000
- G&A - 5% of Total (w/o Comm)	$9,906	$8,004	$17,910
	$210,535	$170,577	$381,112

$74,000 /year First year: $210,535
Total for 2 years: $341,153

Avg for 3 years $185,000 <--- AVG_SAL

LTTA OVERHEAD: Wages and fringe benefits = as a % of TA costs in 2nd yr 56.3%
Rounded: 56.0% <--- SAL_BEN

100% of wages & fringe benefits= $103,600 /yr

Total LTTA cost = $288,600 /yr

AVG PM OF EXPATRIATE STTA:

- Salary & Wages $6,831 @ daily rate of $263
- Fringe Benefits (26%) $1,776
- Travel & Transportation $2,500
  Per Diem $3,600
- Misc expenses $293

$15,000 <--- AV_STTA

Wages and fringe benefits = as a % of TA costs 45.54%
rounded = 46.0% <--- ST_SALBEN

AVG PM OF MOROCCAN STTA: $6,500 <--- AV_M_TA = $250/day

MAP PROJECT DETAILED A.I.D. INPUT COSTS

(U.S. Dollars)

COMPONENT -INPUT -ACTIVITY	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
EARLY START-UP ACTIVITIES							
- Intro Workshop	20,000						20,000
- Buy-ins	200,000						200,000
- Study Tours	72,000						72,000
- Baseline Studies	20,500						20,500
Subtotal:	312,500						312,500
CROSS-CUTTING ACTIVITIES							
- Ind Diagnostic Studies	343,996						343,996
- P&I Fund Prog Dev'ment	15,000						15,000
- P&I Fund	500,000	500,000	500,000	500,000			2,000,000
- Vehicles/Off Eq/Supplies	205,000						205,000
Subtotal:	1,063,996	500,000	500,000	500,000			2,563,996
1. PROMOTION OF INVMT & MKT							
A. Long-Term TA							
- COP (A)	46,250	46,250	46,250	46,250	46,250		231,250
- Inv Promo Specialist (A)	185,000	185,000	185,000	185,000			740,001
- Mkting Specialist (M)	60,000	60,000	60,000				180,000
- Agri-Bus Specialist (A)	110,000	110,000	110,000	10,000	10,000		350,000
- Home Office Staff	27,083	27,083	27,083	31,250	12,500		125,000
- Local Office Staff	27,083	27,083	27,083	31,250	12,500		125,000
Subtotal:	455,417	455,417	455,417	303,750	81,250		1,751,251

237

COMPONENT / INPUT / ACTIVITY	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
B. Short-Term TA							
- Market Id and Prod Dev							
- Marketing Studies	21,500	10,750	10,750	21,500	10,750		75,249
- Export Promotion	21,500	21,500					43,000
- New Prod Development	32,500		13,000				45,500
- Industry & Firm Promo							
- Industry Contacts							
Subtotal:	75,500	32,250	23,750	21,500	10,750		163,749
C. Promotional Travel							
- Market Id and Prod Dev							
- Export Promotion	240,000	36,000	72,000		72,000		420,000
- New Prod Development		144,000	192,000	144,000			480,000
- Industry & Firm Promo							
- Industry Contacts	105,600	52,800	52,800	52,800	52,800		316,800
- Dir Ass't to Firms	21,120	21,120	21,120	21,120	21,120		105,600
Subtotal:	366,720	253,920	337,920	217,920	145,920		1,322,400
D. Training/Wkshops/Conferences							
- Market Id and Prod Dev							
- New Prod Development	10,000	40,000		20,000	10,000		80,000
Subtotal:	10,000	40,000		20,000	10,000		80,000
E. Equipment & Commodities							
- Market Id and Prod Dev							
- Industrial Promotion	1,500	1,500	1,500	1,500	1,500	1,500	9,000
Subtotal:	1,500	1,500	1,500	1,500	1,500	1,500	9,000
Component 1 Total:	909,136	783,087	818,587	564,670	249,420	1,500	3,326,400

COMPONENT / INPUT / ACTIVITY	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
2. INVMT & OPERATING CLIMATE							
A. Long-Term TA							
- COP	46,250	46,250	46,250	46,250	46,250		231,250
- Ag Economist	92,500	92,500	92,500				277,500
- Hort Ind Specialist	10,000	10,000	10,000				30,000
- Home Office Staff	7,639	7,639	7,639	6,250	12,500		41,667
- Local Office Staff	7,639	7,639	7,639	6,250	12,500		41,667
Subtotal:	164,028	164,028	164,028	58,750	71,250		622,084
B. Short-Term TA							
- Sec Pol Studies	128,999	64,499					193,498
- Non-Sec Pol Studies	43,000	43,000		43,000	43,000		171,998
- Ind Spec Studies	64,499	43,000	64,499	43,000			214,998
Subtotal:	236,497	150,498	64,499	85,999	43,000		580,494
C. Training/Wkshops/Conferences							
- Workshops/seminars	10,000	10,000	10,000	10,000	10,000	10,000	60,000
Subtotal:	10,000	10,000	10,000	10,000	10,000	10,000	60,000
Component 2 Total:	410,525	324,526	238,527	154,749	124,250	10,000	1,262,578
3. INDUSTRY ORGANIZATION & SUPPORTING INSTs							
A. Long-Term TA							
- COP	46,250	46,250	46,250	46,250	46,250		231,250
- Ag Economist	61,667	61,667	61,667				185,000
- Hort Ind Specialist	30,000	30,000	30,000				90,000
- Home Office Staff	9,028	9,028	9,028	6,250	12,500		45,833
- Local Office Staff	9,028	9,028	9,028	6,250	12,500		45,833
Subtotal:	155,972	155,972	155,972	58,750	71,250		597,917

COMPONENT / INPUT / ACTIVITY	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
B. Short-Term TA							
- Stim Supply Services		30,000	30,000	30,000	30,000		119,998
- Trade Associations	44,999		59,999	15,000	7,500		127,498
Subtotal:	44,999	30,000	89,999	44,999	37,499		247,496
C. Equipment							
- Trade Associations	50,000	50,000					100,000
Subtotal:	50,000	50,000					100,000
D. USDA PASA	795,600	265,200					1,060,800
F. World Environment Center	150,000						150,000
Component 3 Total:	1,196,572	501,172	245,971	103,749	108,749		2,156,213
4. HUMAN CAPITAL DEVELOPMENT							
A. Long-Term TA							
- COP	46,250	46,250	46,250	46,250	46,250		231,250
- Ag Economist	30,833	30,833	30,833				92,500
- Hort Ind Specialist	20,000	20,000	20,000				60,000
- Home Office Staff	6,250	6,250	6,250	6,250	12,500		37,500
- Local Office Staff	6,250	6,250	6,250	6,250	12,500		37,500
Subtotal:	109,583	109,583	109,583	58,750	71,250		458,750
B. Short-Term TA							
Ind Aw'ness Program Dev	15,000						15,000
- Apprenticeships	44,999						44,999
- Outreach Fund	15,000						15,000
Subtotal:	74,999						74,999

COMPONENT / INPUT / ACTIVITY	FY-92	FY-93	FY-94	FY-95	FY-96	FY-97	TOTAL
C. Training/Wkshops/Conferences							
- Ind Awareness Training	72,000	36,000	36,000	24,000	24,000		192,000
- Follow-up/Id Aw'ness Conf	10,000	10,000	10,000	10,000	10,000		50,000
- Outreach Fund	25,000	25,000	25,000	25,000	25,000	25,000	150,000
- Apprenticeships	240,000	120,000	90,000	90,000	60,000		600,000
- Long-Term Training							
- Masters	280,000						280,000
- PhD	100,000						100,000
- Post Doc	50,000	50,000	50,000	50,000			200,000
Subtotal:	777,000	241,000	211,000	199,000	119,000	25,000	1,572,000
D. CAAB - IAV	2,500,000						2,500,000
Component 4 Total:	3,461,582	350,583	320,583	257,750	190,250	25,000	4,605,749
5. EVALUATION			179,997			149,998	329,995
6. AUDIT			37,499				37,499
GRAND TOTAL	7,354,312	2,459,368	2,341,165	1,580,919	672,669	186,498	14,594,930

MOROCCO AGRIBUSINESS PROMOTION PROJECT
ACTIVITY LEVELS

COMPONENT/ INPUT/ ACTIVITY	UNITS	FY-92			FY-93			FY-94			FY-95			FY-96			FY-97			TOTAL			Cum. Total
		US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	
EARLY START-UP ACTIVITIES																							
- Intro Workshop	Workshop			1																		1	1
- AMIS Buy-in																							
- Study Tours	Individuals		6	1																	6	1	6
- Baseline Study	pm S-T TA:Study	0.5	2	1																0.5	2.0	1	2.5
CROSS-CUTTING ACTIVITIES																							
- Ind Diagnostic Studies	pm S-T TA:Studies	2	2	8																16.0	16.0	8	32.0
- R&D Fund Support	pm S-T TA	1		1																1.0		1	1.0
1. INVMT & MKT PROMOTION																							
A. Long-term TA	PM																						
- COP (A)		3			3			3			3			3						15			
- Inv Promo Specialist (A)		12			12			12			12									48			
- Mkting Specialist (M)			12			12			12												36		
- Agri-Bus Specialist (A)		12			12			12												36			
Sub-total:		39			39			39			15			3						99	36		
B. Short-term TA	PM - STUDIES																						
- Market Id and Prod Dev																							
- Marketing Studies		0.5	0.5	2	0.5	0.5	1	0.5	0.5	1	0.5	0.5	2	0.5	0.5	1				3.5	3.5	7	7.0
- Export Promotion		1	1	1	1	1	1													2.0	2.0	2	4.0
- New Prod Development			5	1					2	1					1	1					8.0	3	8.0
Sub-total:		1.5	6.5	4	1.5	1.5	2	0.5	2.5	2	0.5	0.5	2	0.5	1.5	2				5.5	13.5	12	19
C. Promotional Travel	INDV's - TRIPS																						
- Market Id and Prod Dev																							
- Export Promotion	tours		4	2					6	1					6	1					16	4	
- Export Promotion	fairs		3	4		3	1														6	5	
- New Prod Development						4	3		4	4		4	3								12	10	
- Industry & Firm Promo																							
- Industry Contacts			10	1		5	1		5	1		5	1		5	1					30	5	
- Dir Ass't to Firms			2	1		2	1		2	1		2	1		2	1					10	5	
Sub-total:			19	8		14	6		17	7		11	5		13	3					74	29	

COMPONENT/ INPUT/ ACTIVITY	UNITS	FY-92			FY-93			FY-94			FY-95			FY-96			FY-97			TOTAL			Cum. Total
		US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	
G. Training/Workshops/Confer	WORKSHOPS/CONFR																						
- Market Id and Prod Dev																							
- New Prod Development				1			4						2			1						8	
H. Equipment	SUBSCRIPTIONS																						
- Industrial & Firm Promo				1			1			1			1			1			1			6	
2. INVMT & OPERATING CLIMATE																							
A. Long-term TA	PM																						
- COP		3			3			3			3			3						15			
- Ag Economist		6			6			6												18			
- Hort Ind Specialist		2			2			2												6			
Sub-total:		11			11			11			3			3						39			
B. Short-Term TA	PM - STUDIES																						
- Sec Pol Studies		3	3	2	3	3	1													9.0	9.0	3	18.0
- Non-Sec Pol Studies		2	2	1	2	2	1				2	2	1	2	2	1				8.0	8.0	4	16.0
- Ind Spec Studies		3	3	1	2	2	1	3	3	1	2	2	1							10.0	10.0	4	20.0
Sub-total:		8	8	4	7	7	3	3	3	1	4	4	2	2	2	1				27.0	27.0	11	54.0
C. Training/Wkshops/Confr	WORKSHOPS																						
- Workshops/seminars				1			1			1			1			1			1			6	
3. INDUSTRY ORGANIZATION & SUPPORTING INSTs																							
A. Long-term TA	PM																						
- COP		3			3			3			3			3						15			
- Ag Economist		4			4			4												12			
- Hort Ind Specialist		6			6			6												18			
Sub-total:		13			13			13			3			3						45			
B. Short-Term TA	PM																						
- Stim Supply Services					2		1	2		1	2		1	2		1	2		1	10.0	0.0	5	10.0
- Trade Associations		3		1				4		1	1		1	0.5		1				8.5	0.0	4	8.5
Sub-total:		3			2			6			3			2.5			2			18.5			18.5

COMPONENT/ INPUT/ ACTIVITY	UNITS	FY-92			FY-93			FY-94			FY-95			FY-96			FY-97			TOTAL			Cum Total
		US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	US	M	#	
4. HUMAN CAPITAL DEVELOPMENT																							
A. Long-term TA	PM																						
- COP		3			3			3			3			3						15			
- Ag Economist		2			2			2			0			0						6			
- Hort Ind Specialist		4			4			4			0			0						12			
Sub-total:		9			9			9			3			3						33			
B. Short-Term TA	PM																						
- Ind Aw'ness Program Dev		1		1																1		1	1
- Apprenticeships		3		1																3		1	3
- Outreach Fund		1		1																1		1	1
Sub-total:		5		3																5		3	5
C. Training Programs																							
- Ind Awareness Training	Individuals		6			3			3			2			2						16		
- Follow-up/Ind Aw Confer	Conferences			1			1			1			1			1						5	
- Outreach Fund	Seminars/Wkshops			5			5			5			5			5			5			30	
- Apprenticeships	Individuals		8			4			3			3			2						20		
- Long-Term Training																							
- Masters	Individuals		4																		4		
- PhD	Individuals		1																		1		
- Post Doc	Individuals		1			1			1			1									4		
Sub-total:			14			7			6			5			4						36		
5. EVALUATION	PM							12									10			22			
6. AUDIT	PM							2.5												2.5			

Annex I

SOCIAL IMPACT OF THE AGRIBUSINESS SECTOR IN MOROCCO

Contents

EMPLOYMENT GENERATION BY AGRIBUSINESS
- Winter Fruit and Vegetable Production
- Harvesting and Packing
- Women Entrepreneurs
- Child Labor
- Hazardous Exposure

LAND OWNERSHIP

- Water, Roads and Ports
- Irrigation Investments
- Ground Water

CAPITAL AND TECHNOLOGY.
- Economies of Scale
- Access to Credit

HUMAN CAPITAL
- Cheap Labor
- Technical Talent Shortage
- Demand for Applied Technicians
- Women in Higher Training
- Managerial and Entrepreneurial Skills
- Marketing: A Male Domain
- Cooperatives

FOOD CONSUMPTION
- Higher Incomes
- Lower Prices
- Food Preparation Time

PROJECT BENEFICIARIES
- Firms
- Institutions
- Individuals
- Unskilled Labor
- Urban Consumers

TARGETING OF PROJECT BENEFICIARIES
- Matching Participation in Training
- Active search
- Open Participation

ANNEX I

SOCIAL SOUNDNESS ANALYSIS

SOCIAL IMPACT OF THE AGRIBUSINESS SECTOR IN MOROCCO

The Government of Morocco and USAID/Rabat have begun designing the Agribusiness Promotion Project to stimulate private sector business initiatives in the country's agricultural sector. The aim is to encourage an export-oriented strategy and promoting increasing privatization and liberalization of the agricultural sector. This project capitalizes on progress made in the past few years by the Government of Morocco in addressing the constraints to agricultural development under its stabilization and structural adjustment program. Subsidies have been reduced, and price controls on input and commodity prices have been relaxed.

A number of recent studies point to growth in agribusiness as one of the most promising sources of growth in Morocco during the coming decade. Morocco has a strong comparative economic advantage in winter fruit and vegetable production thanks to its low labor costs, excellent climate and geographical location for supplying the EEC and to a lesser extent North America, and the availability of nearly a million hectares of irrigated land. The principal activities of the MAP project are:

1. Promotion of agribusiness investment and marketing primarily for export markets.
2. Improvement of the agribusiness investment climate through policy and regulatory change.
3. Training to strengthen the human capital needed by agribusiness. and
4. Reinforcing industry organization and supporting institutions, including trade associations and public service agencies.

The Morocco Agribusiness Promotion (MAP) Project will have a highly favorable net social impact. Expansion of the export-oriented agribusiness sector will result in significant gains in employment and incomes in the rural areas and among lower-income strata in urban areas. It will also contribute to improvement in the nutritional quality of the Moroccan diet by increasing supplies and lowering prices for fruits and vegetables. Nevertheless, some concerns arise regarding the impact of increased agribusiness activities on employment of child labor, exposure of agricultural workers to hazardous chemicals, and exacerbation of gender-related inequities.

EMPLOYMENT GENERATION BY AGRIBUSINESS

The export oriented agribusiness sector in Morocco generates a considerable level of employment in rural and urban areas. Future growth in the sector is expected to contribute to employment and to improvements in skill and salary levels in the labor force. The intensive labor requirements range from production in the fields, to work in the packing house for export of fresh product and in canning and processing factories for export and domestic markets.

Employment generation is not the principal objective of the MAP project. The primary goals are to increase GNP, GDP, agricultural output, and foreign exchange earnings. Employment and equity issues are important but secondary to the stated USAID mission goals of economic growth.

Nevertheless, in the case of the MAP project, there is no obvious conflict between the pursuit of growth and equity goals. Given the current rates of unemployment even among the educated work force, expansion of exports and production in an industry that is highly labor intensive, fulfills both objectives. One of main reasons for the expansion of agribusiness industries in Morocco is the plentiful supply of inexpensive labor.

Moreover, in estimating the net contribution of the agribusiness sector to GDP, wages and salaries paid by the industry constitute one of the strongest items, since other inputs such as seeds, chemicals, equipment, fuel, transport, packing materials, and capital have strong import components, and payments for land and water are relatively small.

In the economic analysis of the MAP project, estimates of benefits derived from the project emphasize income flows for labor inputs, since the opportunity cost of those labor resources for the rest of the economy are small.

Winter Fruit and Vegetable Production

Fruit and vegetable production, packing, processing, and distribution are in general highly-labor-intensive activities. The MAP project is concerned with a limited range of horticultural products, especially those with export prospects. Winter vegetables (primeurs) comprise the main product lines of interest to the project. Olives, citrus, fresh fruits, cut flowers, spices and essential oils, grapes, and grain legumes will also be addressed by the MAP project. Much of the subsequent discussion uses winter vegetables as an illustration. The comments are however applicable in general to the other subsectors as well.

247

Winter vegetables for export are grown in Morocco exclusively in irrigated land. A considerable proportion are grown inside plastic green houses, as opposed to open fields. Intensive production methods are used under these conditions to obtain maximum yields per unit of land used. Total area cultivated is not very large. However,labor requirements are high: A hectare of tomatoes under green houses occupies eight workers continuously during the growing season, and additional labor is needed during harvest. Figure 1 of Annex I is included to illustrate the order of magnitude of labor used in tomatoes, the main export vegetable, compared to that used in the traditional main crop, soft wheat, in irrigated areas in the Souss-Massa valley near Agadir.

Export of winter vegetables to Europe takes place between October and April. Production and harvesting are therefore spread out before and during this seven-month marketing season. Tomatoes, the principal fresh vegetable exported, takes three months before it starts bearing fruit, and then has a three month productive life. Other vegetables exported such as eggplants and peppers have similar life spans. Labor inputs are needed over eight months of the year, though it varies in distribution depending on the life cycle of the product.

Production of winter fruit and export vegetables in Morocco takes place in privately owned farms varying in size from less than 1 hectare to over 500 hectares. The composition and structure of production and processing varies greatly depending on the product. Citrus is the mainstay of Morocco's fruit export industry. Tomatoes are the principal winter vegetable exported, but potatoes, carrots, eggplant, beans, peas, zucchini, and onions are also produced and exported. Citrus production and processing is international in scope and relatively advanced from the standpoint of production techniques, use of irrigation, postharvest handling, transport, packaging, processing of juices, and exporting. The citrus industry is also highly concentrated in a few large concerns. Winter vegetable production, in contrast, is more widely dispersed among a large number of small and medium-size producers, including many small farms organized into cooperatives. Production and packing technology also ranges widely, from open field cultivation to greenhouse production using advance climatic and pest control systems.

Nearly all producers and exporters of winter vegetables are men, but women contribute a significant share of the field work, especially in small- and medium-size farms. For the country as a whole, women represent 43 percent of the active rural labor force, according to a survey of the Direction des Statistiques. Their presence was not, however, as visually evident during the tour of the countryside made by the design team because the tour coincided with the beginning of the rains in November. Fields were then being plowed for planting with traditional crops using both tractors and

248

Labor Use in Tomatoes and Wheat
Souss-Massa Valley, Agadir. 1988

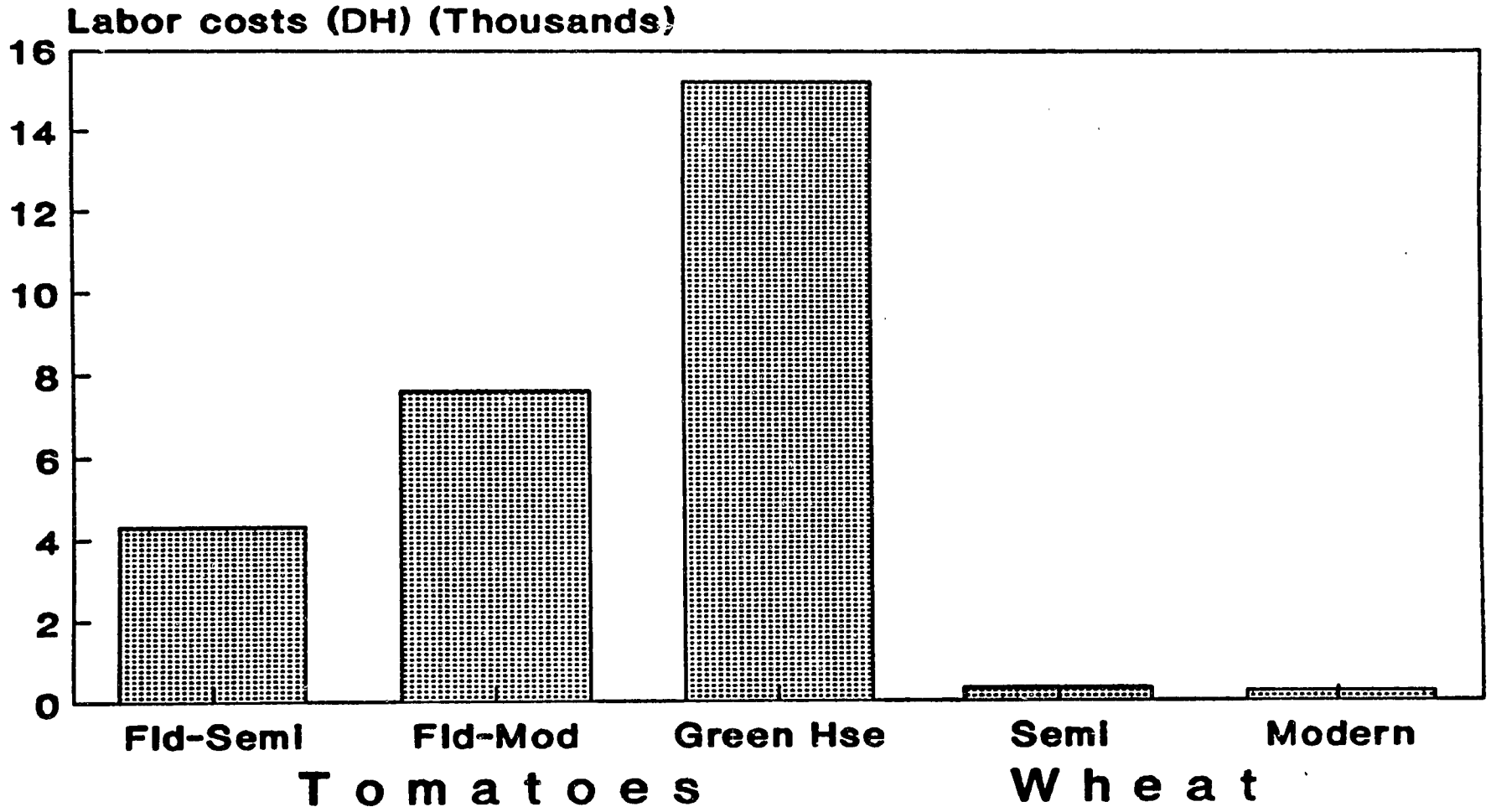


Table I-1
Production Costs and Margins for Tomatoes and Wheat
Souss-Massa Valley, Agadir. 1988

	Tomatoes Open Semi-tec	Tomatoes Open Modern	Tomatoes Green Houses	Wheat Soft Semi-tec	Wheat Soft Modern
Labor	4300	7600	15240	320	240
Tractor	2820	4420	4680	920	1480
Inputs	15122	22609	34423	1344	2347
Water	2310	2970	2970	990	1650
Other	10990	12738	64645	1129	1386
Margin	5499	12364	10043	1797	4897
Sum	41040	62700	132000	6500	12000
Total Revn.	41040	62700	132000	6500	12000
----------percentages----------					
labor %	10.5	12.1	11.5	4.9	2.0
profit %	13.4	19.7	7.6	27.6	40.8
both %	23.9	31.8	19.2	32.6	42.8

Source: ORMVA du Souss-Massa, Agadir.

animal-drawn plows. Land preparation is done predominantly by men in the farm household. Men also do most of the planting, and harvesting of potatoes.

The design team visited only a few vegetable-growing farms, and those visited were perhaps among the largest and most advanced in field technology. Few women were observed during these visits working directly in vegetable fields, despite reports that women are particularly active in vegetable production. Instead, the few hired laborers observed were young males, reportedly from Marakech and other rural areas in the interior of the country. One possible explanation is that women are more involved in producing small volumes of vegetables in home gardens rather than in commercial scale for export. One can also speculate that proportionately women are more present in smaller and less technologically advanced farms, where they contribute to family labor, rather than in larger commercial farms using hired laborers. Women also are at a disadvantage in access to irrigated land needed to produce winter vegetables for export. Women's employment generation from expanded winter vegetable production will be greater if it takes place among small and medium-size farms.

Fruit and vegetable export before 1986 was a monopoly of the government export marketing board, the Office de Commecialisation et d'Exportation (OCE). OCE no longer enjoys the export monopoly but still has 50 percent of vegetable exports, and about 30 percent of the fresh citrus exports. Independent private export companies have appeared to compete with OCE. OCE's former quality control and regulatory functions were split off and given to a new public sector enterprise known as the Etablissement Autonome de Controle et Coordination des Exportations (EACCE). Its functions include export quality certification and coordination of exports through consultation with producer/exporters associations.

Harvesting and Packing

Harvest time is the most demanding period in terms of labor requirements for export crops. For some products harvest is spread out over several months (tomatoes, for example), while for others it must take place during a few days. The season for apricots last only two weeks in the Marakech area. Fortunately, the harvest period for clementines, oranges, and olives lasts several months over the full range of varieties, thus avoiding excessive peak periods in labor demand. Migrant labor is often used during peak harvest times. Cut flowers are also highly perishable, and thus require continuous harvesting over several weeks; timing of planting and harvesting are critical. Harvest of winter vegetables is done nearly entirely by women, but for citrus it is entirely by men.

Most of the winter vegetables and fruits exported by Morocco are intended for immediate fresh consumption in Europe and other

world markets. A small but significant portion of winter vegetable production is processed into canning or frozen products. Post-harvest handling of fruits and vegetables demands considerable amounts of labor for sorting and packing. There are many packing houses "stations de conditionement" scattered throughout the vegetable- and fruit-producing areas. A packing station processing 10,000 tons of tomatoes or clementines per season, or about 60 tons per day, can occupy 200 to 250 laborers.

The labor force in these packing stations is 80 to 90 percent women. Male workers are used for the heavier tasks of loading and unloading crates, and as operators of mechanical equipment. Sorting by size, color, and appearance, and packing produce into boxes is done exclusively by women. Managerial and supervisory roles are filled nearly entirely by men. In larger establishments with a quality control department, women might be present as technicians under male supervision. Women are also present as secretaries and other subordinate administrative support personnel.

Several reasons are offered by employers for the rigid differentiation of jobs by gender: women are more meticulous, and dexterous, they tolerate routine and menial jobs better, they prefer to work a few hours occasionally rather than permanent jobs, and it is disruptive to mix men and women doing the same jobs. But the most common reason advanced is simply that women are cheaper labor than men: 4 DH per hour for women as opposed to 4.5 Dh for men, in one of the plants visited.

Women Entrepreneurs

Examples of women engaged in business roles in the agribusiness sector do exist. The case of the Minister of Agriculture's daughter, trained overseas in agriculture, and her willingness to work outdoors in the fields was cited several times. A sister of another Minister operates a delicatessen product plant (charcuterie). One of the largest firms exporting flowers, producing ornamental plants, and engaged in landscaping work is owned by a prominent woman. Women were also mentioned as managers in olive oil and canning plants, and in administration of a carob industry firm. All of these examples were mainly heard from second or third parties, though some members of the team did encounter the owner of the landscaping firm at the Casablanca Food Expo. It was not possible to interview these women entrepreneurs to find out what critical barriers they had to overcome to enter the agribusiness industry and how they did it. At first sight, their elite family background, and exposure to training and living outside the country were key contributing factors.

Although these are eloquent examples in the industry of women owners, entrepreneurs, technicians, and exporters in the industry, they stand out as exceptional cases to the general situation. More commonly, women are confined to unskilled and low-paying jobs in packing plants, or as laboratory technicians under male supervision. It is hoped that the presence of women in these prominent roles heralds a welcome trend towards increasing acceptability for qualified women in positions of responsibility. It should be worthwhile to learn from the experiences of such successful women entrepreneurs and identify possible opportunities for increased participation of female entrepreneurs in the agribusiness industry in the future.

Child Labor

The sight of small boys among the labor force observed working in green houses growing bananas, tomatoes, and other vegetables, raises concern about child labor in the production of export crops. While legally prohibited, the common occurrence observed by the team indicates that child labor use is perhaps widespread, especially in large farms that rely on hired migrant laborers.

Hazardous Exposure

Another source of concern to the team was the obvious disregard for safety precautions in the handling of agricultural chemicals by laborers. In one case, nematode treatment was being mixed and applied bare handed by 14-year-old boys. In another, mixtures of pesticides were sprayed inside a green house by three young men without any masks or skin protection. Since most of these workers are illiterate or otherwise unable to read the warnings in French, English, and German, it befits their employers and supervisors to ensure that adequate precautions are taken, and educate the young workers on the poisonous dangers involved. The lame excuse offered by supervisors that young workers refuse to wear protective gear is not convincing and does not remove the responsibility from employers.

Labor unions are not seen active on workers safety concerns. Labor unions are not particularly active in rural areas, and it is extremely difficult to organize seasonal agricultural labor, some of which is migrant. The MAP project will work to raise awareness among producers and workers on the dangers inherent in agricultural chemicals. Educational efforts on proper use of pesticides, aimed at farmers and technicians, should receive priority. Adequate labeling in Arabic would also help. Product inspection and testing for residual pesticides in produce destined for export should be followed up with visit to farms and processing plants found non-compliant with acceptable norms.

LAND OWNERSHIP

While widespread use of labor makes the agribusiness industry highly desirable to generate income for low-income groups, the ownership of land used in the production of export crops is concentrated to varying degrees depending on the crop.

Land ownership concentration is not a major concern in most export products. The main exception is citrus, but the MAP project is precluded by U.S. legislation from promoting production and exports of citrus products. Winter vegetable production, for example, includes many cooperatives that consolidate members of relatively modest size, even though there are large producers in the sector. Similarly, olive production, and extraction of olive oil, take place in thousands of units scattered throughout the country. The key consideration in these cases is that access to large tracks of land is not necessary per se for entry into the export of winter vegetables or olives out of Morocco. Other factors such as location, and access to irrigation water, matter more.

Women are conspicuously absent as owners or managers of farms and enterprises producing and exporting winter vegetables for export. Exceptional cases are mentioned on occasions, but the reality is that the industry is a bastion of male enterprise. The absence of women owners and managers of winter vegetable farms is more remarkable in view of their strong presence in the rural labor force and their common association with vegetable production for family consumption and the domestic market. One of the reasons for the lack of women entrepreneurs in exports of fresh fruits and vegetables is their exclusion from land inheritance. This is a critical constraint for women in Morocco to enter commercial farming. The design team heard many different estimates of how much less land a daughter can inherit from her father, ranging from nothing at all to as high as half as much as her brother. A wife has as much right as one of her male children. In rural areas, the team is told, the legal code is irrelevant and the custom is that land in passed from fathers to sons, and if there are no sons, to his brother. Women are said to feel "shame" (honte) in asserting their rights to inherited land vis a vis their brothers.

Water, Roads and Ports

Access to water and to good roads are important determinants for an area to be involved in the production of winter vegetables for export. Some of the more intensively cultivated areas in vegetable production seen by the design team were in seemingly arid terrains full of stones and with hardly any natural soils. Their advantage was their access to shallow underground water for pumping, and proximity to the road to Casablanca. The principal areas now producing vegetables are in irrigation districts using

254

recevoir water. These considerations enter in making the Souss valley a rapidly growing area for winter export vegetable and fruit production, especially now with the opening of the new port in Agadir. The Souss valley will be one of the priority target areas for MAP project activities.

Irrigation Investments

The government of Morocco has made large investments over the past decades in irrigation and by 1990 the country has nearly reached the long-standing goal of one million hectares of irrigated land. Massive investments can be involved in these irrigation schemes. For the Souss Valley for example, underground pipes carry the water from the upstream dam to fields nearly 100 kilometers away. Little or no land redistribution has accompanied some of these irrigation investments. Land benefiting from the Massa-Souss irrigation project has remained in the hands of their former owners, though consolidation of separate plots into a single holding has been implemented (remembrement). As a result, the benefits from irrigation have gone to a smaller number of extensive land-holdings, than would have been possible had land had been expropriated for redistribution among a large number of beneficiaries. Earlier government funded irrigation projects, reportedly those farther north in the country, did implement land redistribution programs, as it has commonly been done in many other countries. The general issue of land redistribution, particularly in connection with irrigation, is a politically sensitive issue in Morocco. Discussions about it with officials and private individuals are clearly avoided.

Ground Water

The introduction of powerful pumps and deep wells to tap underground aquifers has expanded the area under irrigation at little or no cost to the national government. This has opened the way for medium-scale land holdings and entrepreneurs to produce winter vegetables for export outside the usual irrigated perimeter areas. A considerable portion of export vegetables produced near Casablanca and Agadir come from farms using ground water.

CAPITAL AND TECHNOLOGY

Production of winter export vegetables requires a level of sophistication and technology far above that demanded by more traditional crops. In particular, winter vegetables require irrigation and climate control. The introduction of plastic green houses in the last decade can be credited for the rapid expansion of the winter vegetable industry during the 1980s. Greenhouses remove the uncertainty of freezing temperatures during the critical harvesting months, and allow the introduction of

255

highly controlled production technologies. Similarly, winter vegetable production relies on irrigation systems, ranging from surface irrigation by gravity to expensive micro-sprinkler systems.

Economies of Scale

Economies of scale are present in the introduction of irrigation and green houses, but they do not favor large scale operators excessively. The standard plastic green house, for example, only covers 500 square meters (20 needed per hectare). A farmer can start with a few green houses at first, and gradually expand to cover additional area. This was often observed on tomatoes. The team saw farmers with a few green houses right next to open-fields protected merely with wind breaks. In areas with shallow water tables, farmers can irrigate small areas using small pumps and rudimentary systems of canals and hoses. Under the right conditions, it is possible for small producers to enter the business. Conditions, however, are not always so favorable.

Access to Credit

Green houses and irrigation require substantial initial investments. Operating costs during the production season also demand sizeable financial commitments. Access to credit is essential for most producers, except perhaps the wealthiest among them. The rapid expansion of green house vegetable production during the 1980s can be attributed in part to the World Bank credit available through the banking system specifically earmarked for that purpose (Projet Primeurs). Small and traditional farmers, as well as women, will find it difficult to obtain the requisite financing to enter the business. More likely, farmers able to enter and expand winter vegetable growing are those with larger-than-average-size holdings. Many producers are also urban professionals able to secure loans, rather than traditional farmers.

A common complaint heard by the design team was the excessive collateral requirements imposed by the banking system to grant agricultural loans, especially for investment loans with amortization periods of several years. Real estate property valued at over 100 percent of the value of the loan is a common demand from banks, including the agricultural development banks, CNCA and BDA. Clear title over substantial land areas is the most common collateral tendered against agricultural loans. Such a requirement imposes a seemingly insurmountable barrier to many potential farmers and entrepreneurs without the initial wealth or land ownership.

254

Women are essentially unable to access commercial credit, partly because they do not have title or decision power over land use or disposition. There are no legal impediments against women being subjects of credit from the banking system. No consent from husband or parents is required. CNCA, for example, is emphatic that women can apply for loans on the same grounds as men. Nevertheless, women borrowers represent only 16 percent of all loans granted by the CNCA, and the size of their loans are smaller than average. It is then estimated that less than 10 percent of the value of the loan portfolio goes to women borrowers. Most loans to women are made through a special window for small loans to promote artisanal activities in rural areas. For these loans, no real collateral is required, only a cosigner on good standing with the CNCA. These window loans average just over 6,000 DH while the average agricultural loan granted by CNCA is 25,000 DH. CNCA has discovered that despite the smaller size of loans, women borrowers repay nearly 100 percent of their loans, while recurrent recovery problems remain with the bulk of regular agricultural loans. Current nominal rates of interest are 7 percent for short term, 10 percent for medium term, and 11 percent for long term (housing mainly). The rate of inflation in Morocco for the past few years has been less than 10 percent.

HUMAN CAPITAL

Cheap Labor

The comparative advantage that Morocco enjoys for the production of winter vegetables is in great part due to its irrigation water and warm climate during the winter months, but it also depends on its cheap labor vis-a-vis the European producers. One of the main competitors in the production of export vegetables during winter in the European Community has been Spain. The entry of Spain into the Common Market also led to a rapid rise in labor costs in Spain. Protectionists barriers introduced by the EEC to favor Spanish production have reduced Morocco's share of the Community market for oranges and clementines. However, despite the added protection, Spain has reportedly failed to increase its share of the winter vegetable market vis-a-vis Morocco. On the contrary, higher labor costs have reduced production, and increasing living standards have raised national consumption. As a result Spain is becoming a net importer of winter vegetables. No clear cut data is available to substantiate these reports. This tendency seems already taking place in the 1990 season, but it needs to be confirmed in future years. If true, the market for fresh winter vegetables from Morocco could undergo a major expansion in the coming decade.

Technical Talent Shortage

Morocco's abundance of cheap labor does not suffice to compete in the European markets. Production and processing of export winter

257

vegetables requires a high level of technical sophistication that Morocco is having difficulty providing. This is paradoxical since, at the same time, there is a high incidence of unemployment among recent university graduates, including some with agricultural degrees. The problem arises because university training tends to be strong in book and lecture learning and weak in the practical application of theory in field and factory conditions. Many agribusiness enterprises feel little need for hiring recent university graduates at the Ingenier Agronome level. Two common reasons given are the high salary expectations and weak practical knowledge of these graduates. (See section on Training). As an illustration, none of the 20 recent graduates in the social sciences program at IAV had obtained a private sector job within six months after graduation, and the Government has drastically reduced hiring. Graduates are therefore waiting a long time before finding jobs. Of course, there are wide differences between specialties; graduates in "genie rural" (agricultural engineering), for example, are reportedly all hired before graduation. No information on placements of graduates in food technology was available, unfortunately, to gauge the demand for that discipline.

Demand for Applied Technicians

In contrast, graduates from technical schools with "technicien" diplomas in horticultural subjects are having little difficulty finding placements within the private sector. Their levels of skills and practical approach, as well as their willingness to engage in field work, match better the perceived needs of the industry. Graduates in these programs have a high-school diploma plus two or three years of professional training. Many recent graduates have transferred from other programs after one or two years of initial studies in the more advanced programs.

Women in Higher Training

Supervisory and managerial positions in the agribusiness industry are nearly invariably in the hands of men. There is, however, a remarkable balance between the number of female and male students in the mid-level technical fields related to horticulture and agribusiness. Current enrollment of Moroccan students at the School of Horticulture in Agadir, for example, is 64 females (47 percent) and 73 males, and in some specialties such as horticulture and plant pathology, all the students are female (see Table I-2). At the horticultural schools of Agadir and Meknes, rough equivalence exists between female and male students. The strong presence of women in these fields might reflect an affinity for the biological and chemical sciences. It is all the more remarkable, because in rural areas two out of three girls never attend school, compared to one out of three boys. Access by women to higher education thus represents an encouraging development that could open new opportunities for them in the agribusiness sector. The contrast between current enrollments and industry structure imply

258

Table I-2

Enrollment in Selected Agricultural Schools
by sex, 1990.

Institution	Females	Males	Total
Institut Agronomique et Veterinaire			
(Rabat and Agadir campuses)			
1989-90.....	472 (27%)	1382	1754
1990-91, 3eme. Cycle.....	17 (13%)	111	128
1990-91, 7eme. anne.....	24 (15%)	130	154
Agadir Horticultural Complex			
1 ere. Cycle, all students.....	44	65	109
Moroccan students.....	40	41	81
2 eme. Cycle, all students.....	6	17	23
Moroccan students.....	3	15	18
3 eme. Cycle, all students.....	22	17	39
Moroccan students.....	21	17	38
Total Moroccan Students.....	64	73	137
Horticulture (graduating class)	10	0	10
Plant Pathology (5th year).....	5	0	5
Landscaping.....	3	2	5

Source: Visits to institutions.

that women technicians are likely to increase their presence and participation in future years. The MAP project will follow with interest the career development of these technician graduates, as part of its monitoring activities. If unbalanced placements become evident, the project should seek to identify a mechanism to rectify potential biases in hiring within the industry.

Managerial and Entrepreneurial Skills

Another common comment made by the agribusiness industry about university graduates with "Ingenier" diplomas is their lack of training in business administration. Although their technical training might be considered fairly advanced, they come out ill suited to understand the economic and commercial aspects of the agribusiness world. A few courses in rural development, agricultural economics, and agricultural extension, do not prepare them to understand the management problems faced by private sector firms in a highly competitive international market. The MAP project acknowledges this deficiency in training and suggests training activities to remedy it (see training section)- Training interventions ranging from workshops for current managers to instituting degree programs in agribusiness management at the university level are being considered as part of the project activities.

Marketing: A Male Domain

A remarkable feature of the Moroccan agricultural economy is the predominance of men in the marketing of fruits and vegetables. Commercial activities in both rural and urban areas are seemingly the exclusive domain of men. The near total exclusion of women from commerce, even from petty trade, is found in other muslim societies. In contrast, women predominate in marketing fruits and vegetables in many other parts of the world, particularly in Latin America and Africa. In those countries, food retailing and distribution tends to be small-scale, extremely competitive, and poorly remunerated activities.

No clear reasons for this peculiar absence of women from trading in Morocco have been established. Customary proscriptions against women being in close interaction with men, against their mobility, and against their working outside the direct supervision of the family, are probably behind their absence from trade. From the legal point of view, no restrictions exist, as far as we could determine. (It was reported that in some areas in northern Morocco, women do engage in trade in substantial numbers, but this was not possible to confirm)- In other societies, trading activities have opened the way for women, and many men as well, to accumulate considerable amounts of capital that are then invested into other enterprises. Women's exclusion from trade in Morocco significantly narrows their future prospects for assuming entrepreneurial roles in the agribusiness world. The MAP project needs to identify better

what prevents women from engaging in trade and suggest ways to remedy such anomaly.

Cooperatives

A surprising number of cooperatives produce and export winter vegetables and citrus fruits. Their number may result from the relative ease of entry in the production of winter vegetables in contrast to the economies of scale needed to operate packing plants. Commercial packing stations for fresh vegetables need a minimum volume of produce to be viable. On the other hand, they also need to be close enough to the fields to ensure that produce is cooled and packed promptly after harvest. Hence, a large number of medium-size packing stations is found scattered throughout the production areas. Expansion of the size of operations of packing plants may also be limited by the ability to gather sufficient part-time seasonal workers from the surrounding population. Independent producers find it advantageous, under these conditions, to work together in setting up a common packing station. Few cooperative members are women, even though many women contribute to family labor in their husbands' farms. Cultural proscriptions against mixed gatherings of men and women limit women participation in cooperative and association meetings. Their presence as officers in these organizations is therefore minimal or non-existent.

FOOD CONSUMPTION

Higher Incomes

The Morocco Agribusiness Promotion project is anticipated to have a significant impact on food consumption of the segment of the population directly involved in the industry, as well as among urban consumers. Food expenditures accounts for a considerable portion of household budget in both urban and rural areas. The poorest 30 percent of the households spend 59 percent of their income in food, compared with 37 percent by the wealthiest 10 percent of households. The average household spends 51 percent of income on food. In rural areas the poorest 3 deciles spend 62 percent of income on food. (Household consumption survey, 1984/85). It is therefore likely that increased incomes from wages among the poorest strata of the population will go to improve their food consumption. Expansion of the agribusiness sector, and its concomitant employment generation, will redound in higher incomes for the poor strata that provides the unskilled work force needed in the industry.

261

Lower Prices

Growth of exports from the agribusiness sector will have an additional impact on food consumption by diverting a share of its output, albeit its lower-priced portion, towards the local market. Increased supplies of fruits and vegetables will make these products more affordable to urban consumers in Morocco. To be sure, consumption of fruits and vegetables is concentrated among the high income strata of the population, but middle and low income groups also respond readily to price drops in those commodities. Overall, the decline in prices for fruits and vegetables amounts to a real income increase among urban consumers, but it goes particularly to the higher income groups that consume those vegetables.

Food Preparation Time

Many products of Morocco's agribusiness sector are for the domestic market. Canned vegetables, for example, have an assured local market. Export prospects of canned fruits and vegetables are limited by their declining shares of food consumption in European and American markets, and intense competition in other world markets. Not so in Morocco. The limited availability and high cost of refrigeration at home and a poor cold chain infrastructure limit the local market for frozen and chilled food products, and thus ensure a market for canned products. Canned or refrigerated processed food products represent major progress in convenience in food preparation. Responsibility for food preparation in Morocco falls exclusively on women; urban women in higher and middle-income households will therefore enjoy the main gains in convenience and time savings offered by the processed food industry.

PROJECT BENEFICIARIES

The MAP project will benefit firms and institutions in Morocco and the United States, and through them a large segment of the rural and urban population in Morocco. Direct beneficiaries will include the limited number of individuals and firms directly participating in the training and promotional activities sponsored by the project, as well as the private and public institutions strengthened by the project.

Firms

Exporters, processors, packers and producers of exportable agricultural products will be the principal direct beneficiaries of the MAP project. They will participate in both training and promotional activities, and stand to gain from the application of the information and skills acquired in the course of these programs. The scale of operation of these firms varies greatly. There is a large number of winter vegetable producers, most of them small or medium-size farms. Packing stations are also numerous and fairly standardized in capacity. The greatest concentration exists

262

in exporting and processing. Many exporters, even medium-size ones, use OCE as their exporter because of their lack of experience and OCE's well established network of contacts. Some of the larger producers and exporters of winter vegetables have established their own joint exporting facilities. Processing of winter fruits and vegetables remains a small subsector in relation to the volume of fresh vegetables exported; however, it is likely that this subsector will expand rapidly in the near future.

Institutions

MAP also seeks to promote the agribusiness sector by strengthening institutions that provide services to enterprises in the sector. Several actions are aimed at organizations such as trade associations of exporters and producers of specific products, regional groupings of private entrepreneurs, private and public institutions of higher education and technical training, marketing agencies responsible for the collection and dissemination of market statistics and information, servicing agencies that provide product quality control and management consulting to agribusiness firms.

Individuals

Recipients of long term training in the United States in fields related to agribusiness management will derive immediate and direct benefits from project sponsorship.

Unskilled Labor

The main indirect beneficiaries of the project activities are the large number of potential workers that will be occupied as a consequence of expansion of the agribusiness industry. Employment impact will range from jobs in processing and packing of produce for the export market, to jobs for rural unskilled laborers in the production of export crops. Most of the labor force used in packing and processing of fruits and vegetables are women, while in production hired unskilled men, often migrants from poorer regions, predominate.

Urban Consumers

Urban consumers will benefit indirectly from expanding exports from the agribusiness sector. The supply of fruits and vegetables will improve and prices will diminish as a result of the diversion of lower grade output to the domestic market.

TARGETING OP PROJECT BENEFICIARIES

The overall positive social impact of the MAP project is predicated on the premise that its ultimate outcome, the expansion

of production, processing, and exports of Moroccan agricultural products, will occur as a result of the project. Project activities do not bring about this outcome directly. Each type of activity will have direct beneficiaries, but the real impact of these activities will be eventually measured by the extent to which these beneficiaries apply the results from their participation to expand the production and exports of the sector.

Training and business promotion are among the main activities carried out by the MAP project. Training is more amenable to direct targeting of individual beneficiaries. Business promotion is less targetable since it has to be aimed at whatever business community already exists in the selected priority subsectors. Training has direct beneficiaries and individual participants constitute a finite population. Conferences and workshops reach, of course, wider audiences. Business promotional activities also have direct participants but the effect are more indirect than in training.

Matching Participation in Training

Targeting of beneficiaries is therefore attempted mainly in the training component of the project. Ideally, training should be offered to whoever wants to take advantage of the opportunities offered. Unfortunately, women are often not linked to the information channels about these training opportunities. Insisting that firms and individuals contribute a share of the training costs, the project will ensure that training activities respond to real needs of the agribusiness community. However, past experience has shown that selection of participants by government agencies generally result in a predominately male list of candidates. This could reflect either a predominantly male pool of potential candidates, out of which the best are selected. Or, it may reflect biases in the selection criteria that result in a selection of mostly male candidates out of a well-integrated pool. Given the biases of the Moroccan society in general and the business community in particular against having women in positions of administrative or technical responsibility, the project needs to introduce special criteria to ensure that proper consideration is given to potential female candidates.

USAID/Morocco has already a highly regarded training program for studies in the United States for candidates put forward by government ministries. Recently, the program has adopted the general rule that for every two male candidates at least one female also be proposed. Since adoption of this criterion, little opposition has been encountered in its implementation, and the overall target of at least 30-percent participation by women candidates has been achieved and exceeded. The same general ratio is recommended for the training component of the MAP project, even though the participants will originate mainly in the private agribusiness sector.

Active search

Applying the same targeting criteria to business promotion activities in the MAP project is considered impractical because these activities would be primarily oriented to people already in position of managerial or technical responsibility in agribusiness firms, and women are nearly totally absent in those positions. Training activities, on the other hand, are aimed primarily at young professionals, recent graduates, and future faculty for the technical and college level institutions. The project will therefore need to make specific efforts to identify potential Moroccan women participants in promotional activities. Doing case studies on those few women entrepreneurs mentioned earlier will help identify other potential candidates. Likewise, business promotion involving U.S.-based companies should also ensure that American women are adequately represented. As a general rule it could be suggested that as many Moroccan as American women be included in the promotional efforts sponsored by the MAP project. It should be pointed out that the agribusiness industry in the United States is also predominantly male, and therefore the project could have as much difficulty ensuring adequate U.S. women participation.

Open Participation

Apart from the gender-related targeting of direct beneficiaries, where the obvious social inequity violates the American sense of values, the project is best served by an open policy of participant selection. Already the selection of priority products, such as winter vegetables and olives, goes a long way to ensure that participation in project activities will include many middle- and small-size operators. Another criteria in selecting participants should be to enhance the competitive environment in a given market, i.e., avoid providing unique advantages to the most powerful firms in the market.

VI. D. SOCIAL SOUNDNESS ANALYSIS

1.- Positive Impact. Overall, the Morocco Agribusiness Promotion (MAP) project will have a highly favorable net social impact. Expansion of the export-oriented agribusiness sector will result in significant gains in employment and incomes among rural and lower-income strata in urban areas. It will also contribute to improve the nutritional quality of the Moroccan diet by increasing supplies and lowering prices for fruits and vegetables. Nevertheless, some concerns arise regarding the impact of increased agribusiness activities on employment of child labor, exposure of agricultural workers to hazardous chemicals, and exacerbation of gender-related inequities.

2.- Direct Beneficiaries

The activities of the Morocco Agribusiness Promotion project will reach directly a finite number of firms and institutions in Morocco and the United States, and through them, it is expected to benefit a large segment of the rural and urban population in Morocco. Direct beneficiaries will include the limited number of individuals and firms directly participating in the training and promotional activities sponsored by the project, as well as the private and public institutions strengthened by the project.

Firms. Exporters, processors, packers and producers of exportable agricultural products will be the principal direct beneficiaries of the MAP project. They will participate in both training and promotional activities, and stand to gain from the application of the information and skills acquired in the course of these programs. For example, technicians going on training stages at US companies and exporters on promotional tours of US potential clients will likely come back to apply the results of their visits in expanding the business activities of their respective companies. Benefits will only ensue if the training and promotional efforts are translated into effective business improvements and expanded markets.

Institutions. MAP also seeks to promote the agribusiness sector by strengthening institutions that provide services to enterprises in the sector. Several actions are aimed at these organizations, such as trade associations of exporters and producers of specific products, regional groupings of private entrepreneurs, private and public institutions of higher education and technical training, marketing agencies responsible for the collection and dissemination of market statistics and information, servicing agencies that provide product quality control and management consulting to agribusiness firms.

Individuals. Recipients of long term training in the United States in fields related to agribusiness management will derive immediate and direct benefits from project sponsorship, but upon their return they will hopefully use their higher education for the overall strengthening of the industry.

3.- Indirect Beneficiaries

Unskilled Labor. The main indirect beneficiaries of the project activities are the large number of potential workers that will be occupied as a consequence of expansion of the agribusiness industry. Employment impact will range from jobs in processing and packing of produce for the export market, to jobs for rural unskilled laborers in the production of export crops. Most of the labor force used in packing and processing of fruits and vegetables are women, while in production hired unskilled men, often migrants from poorer regions, predominates.

Urban Consumers. Urban consumers will benefit indirectly from expanding exports from the agribusiness sector in two ways: first, the supply of fruits and vegetables will improve and prices will diminish as a result of the diversion of lower grade output to the domestic market. Second, increased accessibility of processed foods will simplify meal preparation and will particularly alleviate that burden of working urban women.

4.- Differential Impacts, Concerns and Issues

Women. Women in Morocco suffer from an unequal status vis a vis men in terms of rights to inheritance, access to land, opportunity for schooling, access to credit, marriage and divorce. Moreover, customary practices commonly restrict women from engaging in some economic activities such as trade, or occupying positions of responsibility or authority in enterprises and associations. These unequal conditions are reflected in the structure of the agribusiness sector. Although eloquent examples exist in the industry of women owners, entrepreneurs, technicians, and exporters, they stand out as exceptional cases to the general situation. More commonly, women are confined to unskilled and low-paying jobs in packing and processing plants. Women graduates can expect perhaps to become laboratory technicians under male supervision. Women also contribute over 40 percent of the labor force in rural areas, including production of fruits and vegetables for the export and domestic markets. Under these circumstances, women are not likely to enjoy equal opportunity to participate directly in the training and promotional activities of the Morocco Agribusiness Promotion project. The project therefore contemplates specific measures to ensure at least a minimum level of involvement by women. In training activities, for example, the project may adopt the current USAID training program goal of at least one woman per every two male candidates. This ratio has been successfully reached and exceeded in training programs sponsored by USAID/Rabat. The employment impact of the project will be monitored on a gender-disaggregated system.

Child Labor. While legally prohibited, the use of child labor is commonplace in Morocco, particularly in rural areas. The design team observed its occurrence in several farms producing bananas and export winter vegetables, where small boys, reportedly migrants

from the other regions, were hired to do field work.

Hazardous Chemicals. Modern production techniques for export quality fruits and vegetables require careful use of pesticides and other agricultural chemicals. The design team observed some of these dangerous chemicals being applied by laborers without any protective gear in the confinement of green houses. Serious concerns regarding the health hazards to workers from exposure to these substances must be registered with producers, the workers themselves, and health authorities. Moreover, product contamination and acceptability for export to some markets could be compromised by improper dosage or timing in applications of pesticides. Therefore, the project will allocate resources to raise awareness of the health dangers and to equip appropriate entities to test for levels of pesticides present in produce for export and domestic markets.

Regional Factors. Morocco's comparative advantage in production of winter vegetables reflects a unique combination of favorable climate, proximity to European markets, accessibility of irrigation water, and a large pool of inexpensive labor. These factors are especially concentrated in areas with irrigable land near urban centers with good sea ports. The impact of the expansion of the fresh winter vegetable sector is therefore concentrated in those areas. Transport availability and cost are two of the principal constraints. Increasing availability of refrigerated truck transport is gradually expanding production prospects to other areas. Fruit tree crops have a wider zone of influence than winter vegetables.

ANNEX J

TRAINING ANALYSIS
AGRIBUSINESS TRAINING DEMAND ANALYSIS

Two sources exist to identify the demand for trained people who can serve the agribusiness industry. The first is to interpret what the industry says and the second is to interpret data from existing studies. It was difficult to determine if sources were referring to potential employees at the primary production level or at levels of supervision and management beyond that. What does seem clear, however, is that the industry is not satisfied that students coming out of formal training institutions at the university level are ready to step into jobs in the private sector, and thus industry is not willing to pay the kinds of salaries they demand.

There is a lack of people trained to fill middle management positions or who are capable of developing into these kinds of positions. On the one hand, the curricula in the schools is too general and practical experiences are focused too homogeneously (everybody does the same thing for too long), and most of the practical training focuses too heavily on production of agricultural products and on problems associated with the first steps of the long trail of the product to the final consumer. Schools at the university level are attempting to meet these criticisms by extending the formal training period so that specialties can be studied and experienced more intensively. Since the six- year programs are relatively new, it is perhaps too early in this evolution of the formal training process to determine if that change will be successful in meeting these criticisms and in responding to the needs of the agribusiness sector.

A suggestion often heard is that the education institutions needed to provide more hands-on practical experience. Students needed to obtain basic understandings of the processing of agricultural products. Industry does not wish to absorb the cost of this training at their own plants. They were also hesitant to agree that they should share in the cost of the construction, equipping, and operating a model plant at a university site.

However, there are several kinds of evidence that industry personnel are willing to pay substantial fees for in-service training. In September-October 1987, IAV Hassan II offered a four-week seminar on Development and Planning Strategies for Irrigated Agriculture and a fee of $1,900 was charged (not including food and lodging). In March-April 1988, IAV Hassan II offered a five-week course on In Vitro Cultures at a charge of $2,000 and attracted 12 participants. During May-June 1991, IAV, IAM-Saragossa and IAM-Montpellier will offer a seminar on Pastoralism and Development at a cost of about $4,800. Personnel at IAV thought that, in some cases, the participant's fees were

paid by their employer.

The Complexe Horticulture at Agadir appears to be particularly active in developing fee-based seminars and are successful in attracting participants. The International Center for Irrigation at IAV also is becoming active and has offered two fee-based seminars. The Department of Food Processing now has a brochure that advertises its ability to perform research and outreach. There is now a National Center of Studies, Research and Outreach (CNERV) at the National Advanced School of Agriculture (ENA) at Meknes. The School of Horticulture at Meknes is now building a continuing education center that will include classrooms, lodging, and eating facilities. All of this activity seems to indicate (1) a determined effort on the part of the institutions to perform outreach activity and, more importantly, (2) that the private sector is sending strong signals that in-service training is needed and wanted and that it will not come free to them. In addition, various ORMVA's have signed agreements with IAV Hassan II to provide research and outreach activities at Ouarzazate and Tafilalet for farmers in these areas. This is an example of a parastatal agency willing to pay the costs of in-service training.

More complete information exists from studies that have recently been performed regarding the demand and placement of graduates of training institutions. A recent USAID-sponsored study (Morocco: Private Sector Training Needs Assessment, Bureau of Private Enterprise, USAID/Morocco, Ernst & Young in collaboration with Sigma Tech Ingeniuerie, Draft Report, October 1990, 55 pp.) develops some interesting conclusions:

- Moroccan firms tend to have a very thin layer of employees at the decision-making level. The director of the School of Business at Casablanca indicated Moroccan industry has about three administrative staff for every 100 employees and that the goal ought to be 15 for 100 employees;

- Long-term training for decision makers is rarely feasible because of the inability to release employees from the small- and medium-sized firms;

- Most Moroccan firms place greater value on experience than education. But most firms do require the equivalent of the Bachelor's or Master's degree for management-level positions;

- Sixty-five percent of the firms are willing to provide training to administrative and technical cadres and about 52 percent to senior management personnel. However, most of this training is provided by the suppliers of technical equipment;

- Critical areas of training needs are management tools,

270

marketing, human resource management, and sector specific training;

- Reliance on European affiliates to market products delays the need for Moroccan firms to develop strategies for training in the areas of market analysis and marketing strategy; and

- Agribusiness firms' training needs are in technologies for new product development, business management skills, international marketing, biotechnology, and energy efficiency.

The report of the evaluation of IAV Hassan II in 1988 also contains relevant comments (Supporting Moroccan Agriculture in the 1990s, the Sustainability of the Hassan II Agronomic and Veterinary Institute, Final Interim Evaluation Report, September 1988, Washington, D.C. September 12, 1988, 161 pp.):

- Demand is emerging for specialists in the private sector, and the demand in the public sector is decreasing, with the exception of those trained in agricultural economics, where there is still demand in the civil service as well as the private sector;

- A major focus in IAV's draft strategic plan is studying the teaching/research in the social sciences, particularly in agricultural economics and in agribusiness management (nothing has yet been done in agribusiness).

A progress report of an ongoing study at IAV of placement of graduates of agricultural schools in Morocco provides interesting insight into the demand structure (Progress Report, Employment of Staff in the Private Sector, IAV Hassan II, December 1989, 34 pp.). Sixty percent of the openings for graduates of agricultural schools are in the private sector, 28 percent in the semipublic sector and the remainder in the public sector. Of the 239 positions investigated, 129 were filled and 57 percent of those were Ingénieurs D'Etat, 43 percent Ingénieurs D'Application, 0 percent Techniciens. The unfilled positions were primarily in the fields of agricultural economics and agricultural engineering. Only 31 percent of the openings were made known to the student or to the school by direct contact.

The Project Paper team has identified demand for training in processing technology. There are a number of processing problems that can be attacked through in-service courses delivered by specialists, such as food microbiology, food container handling, current regulations of food processing, and sanitary and other environmental issues. An evaluation of information provided the IAV Annual Report for 1988-89 is that the effort in horticulture is toward production and not toward the problems of postharvest. In Food Technology, there does not seem be the capacity to

provide services in the application of process calculations and determinations for vegetables and acidified vegetable products. There is evidence of need for relevant equipment to use for experiments in food processing technology.

The internal management of the firm and the marketing process itself can be addressed through in-service events. Although the pool of middle management personnel is not broad, there is some evidence that there will be increased pressure on firms to provide training opportunities for this cadre. Further, as the number of firms increases and some firms become larger, there will be increasing pressure to provide management and marketing training for the new employees who are hired and who do not have the depth of preparation or experience needed. The Private Sector Needs study found that about 87 percent of the firms surveyed had experienced increased sales in 1989 and 25 percent of the firms surveyed were in the agribusiness industry. This study tried to identify the training needs of businesses. At least 25 percent of the firms identified quality control, accounting, inventory management, product design, and financial management as training needs areas. A large number of firms indicated a need for computer training but the study correctly observed that computer training is often confused with accounting and management training and viewed as a solution to problems of the firm that are really management related.

The study also concludes that small- and medium-sized firms with a thin layer of management personnel will have difficulty releasing these people from their daily tasks to keep the firm healthy. Thus training programs must be designed to make it possible for the existing and growing pool of middle managers to obtain training as near as possible to their workstations but also in as quick a period of time as possible. Training programs, therefore, should be offered in or nearby a community and preferably at night or on weekends.

HUMAN CAPITAL SUPPLY ANALYSIS

Formal agricultural training institutions, associations, extension agencies, and proprietary education schools have the capacity for training human resources to serve the agribusiness industry.

Associations

Discussions with industry-related personnel did not provide much insight into the training capacity of associations. The Project Paper team heard comments that extension agencies were ineffective in providing training services. Associations more often depended on the formal training sector to provide training. Universities and schools commonly provide analysis services to associations and cooperatives as a service to the members of these organizations. It is not clear that these organizations

272

can be depended upon to provide the kinds of services the agribusiness industry is going to need. One comment regarding the Chambers of Commerce is that they were dominated by small businesses and the energy and the training capacity is not there to provide in-service opportunities to members.

Proprietary Schools

There are approximately 3,000 students in 25 proprietary schools. Most use part-time teachers and are located in rented office buildings; most are located in Rabat and Casablanca. The students from these schools are hired as soon as they enter the market. There appears to be significant capacity in the proprietary schools to train people for entry-level jobs in the many fields of business (hotel management, computer science, business management, secretarial) but it is probably too soon to conclude if this approach to education will satisfy the need for people trained to enter into middle management positions. The market will make that decision (Private Sector Training Needs Assessment, pp. 17-26). The rapid growth of these schools occurred almost overnight because the university system was not providing the product that the market demanded, and the government deregulated the training industry.

Public Training Institutions

The capacity of the formal institutions to provide training in agriculture is expanding.

At IAV Hassan II, 340 well-trained faculty members provide instruction and research through 29 disciplinary departments and three service departments. The Rural Development Department (DDR) was formally established in 1983 as the IAV outreach unit. Recently established is the concept of multidisciplinary, interdepartmental, or interinstitutional groupements d'etudes et de la recherche (GERs). The GER is a mechanism of integrating the competencies of faculty and senior students within and between institutions. The authors of the 1988 evaluation report of IAV Hassan II believe that the GERs can become the main building blocks toward interinstitutional efforts in problem solving. There are now seven GERs in the areas of microbiology, small ruminants, storage, renewable energy, camel, range management, and pastoralism. The latter (GERP) has done research financed by the World Bank in the Moyen Atlas on pasture management. The GERER (renewable energy) involves researchers from three Rabat institutions (Faculty of Sciences, ENIM, and EMI), Ecole Mohamedia d'Ingénieurs, and IAV. This group organizes an annual conference and publishes a bulletin every 2-3 months. Their advantage is that are not hobbled by the departmental structure and can respond to a problem by identifying the proper mix of resources from several sources.

The important strengths at IAV are in horticulture and food technology. There are 20 faculty in Horticulture, 13 of whom possess a Ph.D. (one is ABD at the U. of Calif. at Davis). The third cycle curriculum includes 25 courses. Both the curriculum and the faculty appear to meet the needs of instruction, research, and outreach on postharvest handling and processing. There are 19 students who are in the third cycle specializations in 1990-1991 (the first year of the sixth year will be 1991-92). There are 30 faculty in the food technology area (includes food industrial engineering, human nutrition and food economy, food technology, chemistry-biochemistry and food technology and food microbiology and biotechnology), 25 of whom have or will have their doctorates (three are ABD at MIT, Oregon State and the University of Nebraska). This department has 16 courses plus seminars, workshops, and industrial projects and it also appears to have the capacity to meet the needs of instruction, research, and outreach in the agribusiness industry. During the first year of third-cycle specializations in food technology (1990-1991) there are 30 students. At the end of the 1990-1991 academic year, 265 students will complete third cycle programs. Forty of those students will have studied in horticulture and food technology, only 10 of whom are from the food technology program. As the agribusiness industry grows it is likely that there will be more jobs in the industry and demand for these students will expand and more students will choose this area.

The other area at this institution that could provide instruction, research, and outreach in agribusiness is agricultural economics, which is housed in the Department of Human Sciences. While this faculty has expanded its offerings in economics, these offerings do not yet meet the needs of agribusiness, particularly in internal management, marketing, and international business. The department seems to have opted in the direction of agricultural policy, a macro approach to this field. It is fair to conclude that the capacity at IAV focuses on production, some aspects of postharvest activities, and processing. The concern in the latter case is the degree to which they can apply an interdisciplinary approach to this subject and the extent to which they can develop the ability to perform postharvest analyses and to provide services. Staff and senior officials areinterested in changing their approach to a more private sector oriented one.

At ENA some 60 faculty are organized into 14 departments of instruction and research. While the CNERV is quite strong, the academic program at this institution that appears to complement the weakness at IAV is agricultural economics. A faculty is being developed in this field to seek ways to work with industry and industry organizations. The third-cycle curriculum is micro oriented toward production, markets and support institutions (credit and public regulations) and international business (with an emphasis on Moroccan agricultural products). While visiting there we were told that there was a meeting that evening with an

industry group (at the request of the industry group). The sixth year of the third cycle is devoted to research and writing. The approach is different from many such programs where the only option is to write a thesis (mémoire) in the student's research area.

There are 11 technician schools located throughout Morocco, some of which provide instruction in general agriculture while others are specialized. The specialty schools offer instruction in forestry, agricultural mechanics, animal production, rural engineering and topography, horticulture, and farm management. The number of faculty at these institutions was not obtained.

The Institute for Commerce and Business Administration (ISCAE) at Casablanca has an assistance program for small businesses - The Centre de Promotion et Création d'Entreprise (CPCE), which is funded by the Catholic Relief Services and USAID. This program has already assisted 40 small businesses. It is expected that the UNDP will fund an expansion of this program. The ISCAE also has a continuing education unit (CFC), which now has 1,000 participants studying aspects of business. This institution offers a traditional business degree program at both the undergraduate and Masters level. There are 675 students in the undergraduate program and 225-250 in MBA-equivalent programs in general business, accounting, and international business. One of the general business programs is a part-time program that provides an opportunity for presently employed business people to pursue an advanced degree. These programs are offered by 50 full-time faculty, 12 of whom are doctorally qualified and another 50 part-time faculty. The curricula of these programs are excellent and would easily meet the standards of any equivalent program in the United States.

The following table provides information regarding the number of students at those institutions which can provide training in agribusiness.

This data indicate that there are probably at any one time between 4,300 and 5,000 students studying at these several formal training institutions, who could provide human resources to the agribusiness industry. Based on this data it can be concluded that about 40 percent will be trained at IAV. Now in the planning stage are three additional schools of business that will be strategically located to reflect the economy of the region. The curricula at these institutions will be designed to reflect the nature of the economy; for example, a school located in Agadir would be expected to tailor its curriculum to agribusiness and tourism. It is expected that these schools will serve an additional 3,000-4,000 students. Yet another plan is to create seven regional schools patterned after ISCAE at Casablanca. Beyond the capacity at IAV, the number of students who could be trained to fill entry-level, middle-management positions is limited to about 1,200 at ENA and ISCAE. Unless there is some

provision for providing substantial additional background to the technical students they will not be capable of assuming these kinds of positions based upon their academic preparation and the kinds of practical experiences they now receive.

TABLE J-1

NUMBER OF STUDENTS IN UNIVERSITIES AND TECHNICIAN SCHOOLS SERVING AGRICULTURE, 1987-88 & 1988-89

	1987-88	1988-89	
IAV (Rabat & Agadir)	2006(1)	1754(2)	
1st Cycle	887	816	
2nd Cycle	656	483	
3rd Cycle	281	227	
Technicians	182	228	
NonMoroccans	150	150	
National Adv.Sch. of Agric.	301(3)	301(3)	
1st Cycle	131	131	
2nd Cycle	95	95	
3rd Cycle	75	75	
Technical Schools	1875(4)	1430(4)	
ISCAE	900(5)	900(5)	900(6)
Cycle Normal (4 yr.)	675	675	
CSG (MBA Equiv.)	80	80	
CSGi (MBA Eq. Part Time)	75	75	
CFEC (M.S. Acct. Equiv.)	70	70	
TOTAL	5081	4384	

Sources: (1) Final Interim Report, Supporting Moroccan Agriculture in the 1990's, The Sustainability of the Hassan II Agronomic and Veterinary Institute, Sept. 1988. (2) Annual Report of Activities in Instruction and Research for 1988-89, IAV Hassan II. (3) Data provided by the Office of Student Affairs at ENA-Meknes. Data is for the year 1990-91. (4) Report of Instruction and Research Activities, IAV, 1988-89. (5) Estimated from data provided by MARA, Office of Agricultural Education and Research. (6) Estimated from data provided by the Director of ISCAE.

BLE J-2

INSTRUCTIONAL PROGRAMS AT THE SCHOOLS OF AGRICULTURE

School	Programs
IAV Hassan II	Agronomy, Plant Breeding, Plant Protection, Horticulture- Fruit Crops, Viticulture, Olive Production, Animal Husbandry, Ranch Management, Animal Ecology, Plant Ecology, Landscape Mgmt., Soil Science, Soil Chemistry, Forestry, Timber Technology, Fisheries, Geodesy, Photogrammetry, Topography, Mechanical Engineering, Agricultural Engineering, Hydraulics, Hydrology, Human Nutrition, Food Technology, Rural Economics, Management, Development, Pedagogy, Sociology, Advanced Genetics, Biometrics, Microbiology.
National Advanced School of Agriculture	Agronomy, Arboriculture- Grape Growing, Botanical- Ecological Vegetation, Rural Economics, Rural Equipment, Agricultural

278

Mechanics, Applied Agricultural Education, Animal Production and Pastoralism, Phypatopathology, Basic Sciences, Extension Science, Soil Science, Technology, Agricultural Zoology Technical Schools Vegetable crops, Tree crops, Flower crops, Plant Health, Rural Engineering, Topography, Animal Production, Agricultural Mechanics, Electromechanics, Farm Management, Cultural Practices, Fruit Orchards Management, Forestry, Soil and Water Conservation.

While the curricula at the technical schools are more applied in nature, they also focus on agricultural production. The training is consistent with the mission of those institutions and they are doing a good job at preparing students in agricultural production. There is criticism from employers that the students do not get practical training that enables them to step directly into jobs and produce at the level that employers expect from the beginning. This is not an uncommon criticism of formal education institutions. Formal training institutions always walk the delicate line between formal academic preparation and practical experience. The problem is that practical experience can never be sufficiently broad to gain the many kinds of experiences employers expect. Normally, the institution must make hard choices about the kinds of practical experiences that will be made available to students. Nevertheless, for purposes of attempting to meet the needs of the agribusiness industry, institutions must attempt to redirect both the curriculum and the practical experiences toward the internal management of those businesses beyond the farm gate and to better grasp the problems of marketing and trade.

The formal training institutions are increasingly focusing attention on outreach. The effort is taking advantage of the many human resources that have been trained through several donor projects during the past 20 years. Since 1983, there have been eight sponsored conferences at the IAV Horticultural Complex at Agadir at which 2,230 growers, managers, professionals and others were in attendance. Since 1987, this institution has delivered seven scientific seminars at the Complex. Approximately 150 professionals and others attended these seminars (Table 3).

TABLE J-3

CONFERENCES AND SCIENTIFIC COURSES HELD AT THE IAV HASSAN II HORTICULTURE COMPLEX 1983-1991

Conferences:

1983 Citrus, 180 participants.
1984 Banana, 250 participants.
1985 International Symposium on Landscape Architecture and Environmental Protection, 250 participants.
1986 Protected Cultivation of Crops in Mild Winter Climate Areas, 300 participants.
1987 National Course on Locust Control for DPVCTRF, 200 part.
1988 Banana, 350 participants (first conference on fee basis).
1989 Citrus, 250 participants.
1990 8th Congress of the Mediterranean Phytopathlogical Union, 450 participants.
1991 Projected: International Conference on Management of Saline Soils, 200 participants expected.

Scientific Courses:

1987 National Course on Potato Production in Cooperation with the CIP (Int. Potato Center)
1988, 89, 90 Same Course Held Annually...18-25 participants per course.
1989 International Course on Tissue Culture in Cooperation with the University of Colorado and USAID.
1990 Same Course Held: 12 students from 7 countries ($2000 fee).
1990 Projected National Course on Flower Production, 30 participants expected.

During 1988-1989, 20 of the academic disciplines at IAV offered 137 seminars 25, of which were attended by people from business and government as well as students. The CNERV has been established at ENA to enable the faculty to provide outreach and research to meet problems or to address specific subjects. The Horticulture School at Meknes is building a center for continuing

280

education to serve the needs of the public.

Nearly all of this outreach effort, however, is aimed at the technical aspects of production. Effort at these institutions should focus specifically on the agribusiness industry. The internal business management courses are offered at the ISCAE (the School of Business at Casablanca) and at some of the private business schools, but neither the students nor the curriculum build upon a foundation of scientific and technical courses in the agricultural disciplines. It is important that personnel in any given position in the production-management-marketing sequence have some understanding of the entire industry.

TRAINING STRATEGY

The training strategy will focus on developing the capacity of institutions to produce the human capital capable of managing the industry and responding to changes in the industry as they occur. The system as described above has performed well in producing good technologists and researchers but few who can serve the agribusiness industry as engineers and managers. The need is to develop the capacity to perform this task without creating a new institution. It would not be wise to attempt to create this capacity without a good understanding of the needs of the industry – that is, a demand-driven approach. Resources and time will be wasted in searching for the best approach through a supply-driven approach.

The approach will provide for short-term training of participants who will represent all sectors of the industry. This training will provide intensive learning opportunities at the institutions in the country of the appropriate industry or market. Practical hands-on experience will help participants transfer new knowledge and understanding to Moroccan institutions. Although some of this knowledge and understanding can be learned in group in-service seminar settings, the actual one-on-one participation of the daily activities of a business, agency or association reinforces the learning about concepts, practices, rules, organization and technology that cannot be duplicated as effectively any other way.

Participants will, upon return to Morocco, become the nucleus of an advisory committee that will work toward expansion of the obtained knowledge and in support of the creation of the means to deliver a focused in-country training program. The role of the project will be to provide funds to facilitate these changes through investment in other short- and long-term human capital development projects and investment in some technological capacity to perform the training task.

This approach does not include the construction of new facilities. Short-term training opportunities will be given on

a priority basis to people who are early in their careers in industry and regulatory agencies, without ignoring the needs of some who are in government and education.

The long-term training opportunities will focus on developing the new human capital needed to deliver the formal training programs that will be developed in response to the needs of the industry. These programs will take form in the curricula and the outreach programs of the training institutions, as well as in industry organizations which will develop to serve this industry.

ANNEX K
INSTITUTIONAL ANALYSIS

A. Institutional Landscape of Moroccan Agribusiness

Historically, there has been a close linkage between the public and private sectors in Morocoo. Training, research and extension have been dominated by the public sector. Even quasi-private organizations such as SASMA, have benefitted from substantial public subsidy. Up until the mid-1980's state organizations also were the major service and input suppliers in both dryland (CTs) and irrigated (CMVs) areas. Further, the GOM put in place an export monopoly, the OCE, which until 1987 was responsible for orientation of export-oriented agribusiness activities, particularly citrus and winter vegetables. This monopoly prevented market signals from directly reaching the individual producers and packers, but also served as a mechanism to spread R&D costs and marketing risks. The return to farmers, packers, and shippers who followed the national production and export plans came in the form of subsidization of agribusiness activities, further masking market conditions.

Besides controlling the export trade, the state also held, and still holds, substantial ownership of production and export capacity. SODEA, the parastatal landholding organization controls nearly a third of national citrus capacity.

There are also special circumstances in Moroccan agribusiness. The royal agricultural domains are frequently a source of technology innovation. They have played a major role in the introduction of greenhouse banana production, drip irrigation, center pivot irrigation, and tissue culture-based plant propagation.

B. Adjustment, Liberalization, and Privatisation.

Structural adjustment, liberalization, and privatisation have changed the institutional landscape for Moroccan agribusiness in ways that are qualitatively similar to many countries, but which also have features specific to the country.

For example, Morocco seeks avoids the shocks of adjustment that other nations have experienced. It phases in adjustments carefully. Still, there has been a decline in the services available to agribusiness. Export statistics show, for example, that fresh fruit and vegetable exports dropped off after OCE's monopoly was removed. It took two years for exporters to replace OCE servics with new export channels. PP team interviews also show other changes: firm-specific brandnames are beginning to develop; restructuring of vertically-integrated operations is taking place; and the regulatory apparatus for exports is shifting

to new ways of developing standards.

Public sector actors in agribusiness, expecially MARA, MCI, MCE are redefining roles. MCE was established this year to handle export market concerns across sectors. The three ministries in general are moveing towards roles which are more policy, regulatory and information oriented. Several agribusiness parastatals are up for sale. Other parastatals have been restructured or split up to form different structures (OCE into EACCE, IMEC, etc.).

The general consensus of individuals interviewed was that ssociations were strongly tied to government. Now they are free of government, but membership is questioning their viability. In small concentrated industries, such as cut flower exports, there are still strong associations. Others, however, are scratching for resources and a definition of their mission. Lobbying is one activity that is frequently an association function. Informational activities are less well developed. Advertising and generic marketing investigations of broad benefit to an industry are rarely well-developed.

The new environment has given rise to other structures in addition to nationwide associations. Groupements a interet économique are being formed in different regions. These are informal or formalized by contract, vertically-integrated operations from producer to the market. They are becoming stronger as they associate with French and Dutch organizations who provide technology, management assistance, and markets. However, market makers may be public (OCE), parastatals (SODEA), or smaller private groups (Mabrouka Cooperative). vary

Some functions not being played by anyone and the checkoff system seems to be unraveling. The generic Maroc brandname promotion, for example, is no longer being financed from the export tax. Packaging development has been slowed as IMEC is no longer linked to a major export pull. Association members are unwilling to support activities which may benefit competitors in the same industry.

At the same time, reduced financing of associations and association or OCE-provided services has created a new market for private service providers and for those service units which have taken steps to restructure themselves to operate more like businesses. A French group, for example, is setting up a farm management firm in the Agadir area in partnership with Moroccans. A Dutch group has been the driving force behind a partnership to establish vertically integrated tomato production, packing, and shipping operation. OCE has put together a 140 pilot effort in the Souss valley which groups 70 producers of greenhouse tomatoes around a 6000 ton/year capacity packing plant.

The liberalization and privatization decrees have greatly

advanced individual incentives to start, modify, or expand agribusiness enterprises. The real boom in investor interest has come, however, following the royal decree that the public regulatory and investment agencies had a thirty day limit in which to approve or deny an application to establish a new business activity.

The removal of the requirement for Moroccan participation in the ownership of Moroccan companies has led to an influx of Western European and other investors. In some cases, purchases of Moroccan companies has led to consolidation of industries. In others, new capital has enabled production and facilities upgrading. However. there appear to less activity in the service industry associated with agribusiness, at least from Moroccan service providers.

New relationships are deveoping between public institutes (schools and universities) and the private sector. Both are testing ways to contract services and research support. However, faculty and researchers still tend to work individually with industry, rather than through their home institutions. Administrative problems related to civil service pay scales seem to be one of the major constraints to closer institutional links between companies and universitites.

The climate for institutional change exists in Morocco. The issue is how to get services in place to increase effectiveness and efficiency of key institutions supporting agribusiness. The project has opted for a demand driven approach to avoid the still dominant tendency within public and parastatal institutions to follow an internally-generated agenda of teaching, research, and service supply.

ANNEX L

Policy Agenda - Actions to be Undertaken

While it could be argued that many of the actions of the MAP project will have an effect on the investment climate, the policy agenda will focus on those aspects of policy and regulation that can fundamentally affect the economic viability and competitiveness of Moroccan agribusiness.

The areas of policy and regulation will be addressed largely in the form of studies focused on the identification of realistic options for policy change. Identification and design of terms of reference (TOR) for these policy and regulatory studies will be the responsibility of the contractor field personnel. This team would also have responsibility for dissemination of results through the trade press, workshops, and work with MARA personnel.

It is anticipated that the MAP project would address two or three important sector-wide policy areas over the LOP. The number of these general studies should be limited due to their cost and the resources required to supervise them. Only the most critical general constraints should be addressed.

Studies of Macrolevel Policy Issues Affecting the Agribusiness Sector as a Whole

The August 1990 Agribusiness Sector Assessment provided an outline of some of the sector-wide constraints to agribusiness growth and development. Below is an illustrative list of such sector-wide policy issues to be addressed by the project:

- **Transport industry problems**, particularly in price rate structures and shipping procedures, which are serious constraints to Moroccan agribusiness growth. The heavy regulation and cartelization of key Moroccan air, sea, and road transport industries continue to impose a heavy constraint on industry expansion;

- Another subject that may have broad implication is **the system of export taxes and marketing-order-style checkoffs** discussed below. This subject can be addressed from the point of view of impacts on one horticultural industry but, to make substantial progress in policy change, it may be necessary to address the question from a broader perspective to build support for change across a range of export industries.

Diagnosis of Policy and Regulatory Issues in Nonhorticultural Industries

This is another area in which MAP project resources can be used to address selected policy targets of opportunity in industries other than the target group in horticultural commodities. For example, some industries such as sugar, edible oils, bread wheat, animal feeds, and dairy and poultry production, are still burdened by policy problems that result either in large state subsidies or have the effect of maintaining aggregate production at suboptimal levels.

Again, the number of these studies should be strictly limited since, to be done well and effectively, they may require levels of resources and areas of competency not sought in the main institutional MAP contract. This would be true, for example, in dealing with the complex, interrelated policy problems in the Moroccan oil seed, feed, and livestock industries.

USAID and the project implementation team should limit the number of these additional studies to two or three over the LOP. Consideration might be given to linking such studies to the possibility of doing additional work with that industry under the subproject option. USAID may wish to buy into centrally funded A.I.D. projects to perform some of these studies before selection of an institutional contractor such as the Consulting Assistance for Economic Policy Reform (CAER) Project, or the Agricultural Marketing Improvement Strategies (AMIS) Project.

Industry-Specific Regulatory and Policy Studies in Horticultural Industries

Studies undertaken in this category should be the heart of this component. A strong fabric of top-down state intervention still exists and serves business interests that are often quite concentrated. This has its origins in historical socioeconomic patterns, in colonial patterns of production and market organization and asset ownership (some of which have survived intact to this day), and in the 20-year socialist phase of strong state control and intervention, which only ended four to five years ago and whose effects on policy and regulatory thinking are still strong. Industry structure and operating procedures can be expected to evolve further under the influence of competitive market pressures. Other dimensions, particularly those having to do with state regulation and continuing attempts to organize and coordinate vertical subsectors, might be studied to identify alternative approaches to be promoted by the project.

The following are an illustrative list of possible topics:

- Costs and returns of current grading and standards procedures;
- GMP (good manufacturing practice) standards and their application to fruit and vegetable processing;

- Issues involved in the optimal use of Société de Développement des Exploitations Agricoles (SODEA) and Société de Gestion de Terres Agricoles (SOGETA) lands and options for alternative management and ownership approaches;

- Options for privatization and promotion of an export-oriented, competitive wine industry;

- Moroccan food labeling laws and options for change;

- Credit rates, terms, and conditions for tree crop renewal; and

- The structure of taxation of raw agricultural products (no income tax till the year 2000) versus processed products like poultry that pay taxes. Is this an optimal system of taxation or is it producing undesirable patterns of investment and suboptimal economic results?

These studies would come after the initial subsector diagnostic studies have been completed and after the implementation team begins to work with the industry. The identification of specific policy and regulatory areas for further investigation should be one of the critical outputs of these diagnostic studies. The team anticipates that these studies will be more narrowly defined and specific than the studies in the previous categories, and that they can be budgeted at two person-months per study (shared expatriate and Moroccan).

Basic elements that should be part of industry-specific policy and regulatory studies include:

- Opportunities for the promotion of industry organization and coordination efforts that are controlled by producers (through their own organizations) and less by state organizations acting on behalf of the industry;

- Opportunities for the formation of geographically decentralized industry or trade associations;

- Careful examination of remaining regulations to assess their impact on industry performance, particularly in areas beyond grades and standards, such as the industry coordination and mandatory marketing functions currently performed by the EACCE; and

- Analysis of the effectiveness of the current mandatory checkoff system on Moroccan exports. What are state companies such as OCE doing with their percentage share of the checkoff? Is it still justified to give this allocation to OCE when it is supposedly a competitor in various horticultural export channels? (See the annexed technical analyses for more details on this topic.)

Appendix M

The Grant for the Program of Support to Agribusiness in Morocco

I. Human Resource Needs for Agribusiness

Improvement of the human resource base for agribusiness was identified as a key constraint in the **Agribusiness Assessment** conducted in the Summer of 1990. At the same time, and also during project paper analysis work conducted in the Fall of 1990 concerns were expressed for improving the human resource base for agribusiness on a sustainable basis. Sustainability was of particular concern given the likelihood of continued dynamic change in the agribusiness sector and in its human resource needs. The best way found to address this concern was through involvement of a local institution of higher education.

Two main lines of training for agribusiness were identified in the assessment and project paper analysis work. One was basically for degree training in agribusiness management, conducted in Morocco, and the other for a wide variety of specialized short term courses relevant to technical needs. These latter would include courses in subjects as diverse as food sanitation and handling, food processing technology, marketing, international phytosanitary regulations, packaging and storage, refrigeration and transportation, among others.

Given the applied nature of the demand for agribusiness training, it was also clear that the training institution would need to be closely linked to the agribusiness sector in other ways, i.e., through science, technology and outreach. Unless these criteria were met, training programs conducted by the host country institution would lack desired practicality and applicability. Given the export product orientation of MAP, the training institution chosen also needed to have a strong international orientation.

The **Hassan II Agro-Veterinary Institute (IAV)** was identified as the most appropriate local institution to address human resource needs for agribusiness. IAV is the leading agricultural and food science training and research institution in Morocco and has already developed close linkages to the agribusiness sector. It has an incomparable base of scientific and technical personnel who are widely respected in the agribusiness community. IAV presently has international cooperation agreements with agencies in 15 countries, including the United States, France, Belgium, Spain, and Germany. It has also received a clear mandate from the GOM to increase the relevance of its work and to reach out into larger Moroccan society to effect technical and social change.

II The Hassan II Agro-Veterinary Institute

The Hassan II Agro-Veterinary Institute was created in 1966 by the Government of Morocco to become one of the major centers for higher education in agriculture and related industries. It is an independent public educational entity having its own by-laws and regulations, and is governed by an advisory board including the Ministries of Agriculture and Agrarian reform, Finance, and Education. IAV's main facility is a 80 hectare campus located in Rabat; it also manages 3 experimental farms totalling 731 hectares and maintains a specialized horticultural campus in Agadir.

IAV has since benefitted from nearly $40 million in USAID financing and has received important assistance from France, Belgium, Germany and the IBRD. It is generally regarded as one of the leading institutions of its kind in developing countries with a faculty numbering over 350, many of whom are U.S. doctorates, and a student body of 2500, ten percent of whom are foreign students. Organized into 35 departments, IAV provides training for the full range of agriculture and food science disciplines and its graduates are now found throughout the agriculture and agribusiness sectors of Morocco. Training, initially geared to public sector needs is becoming more and more private sector oriented. IAV professors are also widely sought by both the public and private sectors for consulting and applied research needs.

USAID assistance to IAV is now in its final phase, the last resident technical assistant having departed in 1990, and with the last PhD training participants scheduled to complete their programs in 1992. IAV has been implementing this final phase of AID assistance under a host country contract, which has proved to be a totally satisfactory arrangement, given the maturity of the institution and its management capabilities. A 1988 evaluation of AID assistance to IAV concluded, "The team strongly believes that AID and the GOM have created an exceptional capacity for training, research, and advisory services in Morocco and on the African continent."

IAV maintains strong linkage programs both within and outside of Morocco. It is the center of 12 professional associations organized in Morocco, and maintains linkage programs with 55 universities and research institutions located in 15 countries. In Morocco, IAV is also linked to the National Agricultural and Forestry Institutes both through provision of faculty and in departmental collaboration programs. The campus for horticultural training and research in Agadir, where 40 faculty are currently stationed and where 200 students presently receive training, is of special interest to MAP, which is focused on agribusiness development for horticultural products.

To date, IAV has trained 1,498 M.S. level engineers, 414 veterinary doctors, 2915 bachelors level engineers and 1,050 technicians. IAV faculty members have produced 700 publications in over 100 refereed international journals.

III The IAV Program of Support to Agribusiness in Morocco

Given the rapidly growing institutional capabilities of IAV and dynamic growth in Morocco's agribusiness sector, linkages between the two have been rapidly developing during the last several years. Increasing demands are being placed on IAV for applied research, training, both degree and subject-oriented, and for consulting services. In the interest of improving the effectiveness of its outreach to agribusiness, IAV would now like to consolidate its activities in this sector by creating a Program of Support to Agribusiness (PSA) in Morocco.

PSA would be involved in the full range of services provided by IAV to the agribusiness sector. These would include:

1. **Degree Training:** PSA would be in charge of developing curriculum for a formal degree in agribusiness. Enrollment conditions would be flexible, permitting enrollment by both full time students and middle management. Outside instruction from practicing agribusiness leaders would also be sought, along with resources from institutions having specialized expertise.

2. **Outreach Training:** PSA would develop a program of specialized training for agribusiness needs. While priorities from different subsectors would have to be determined such training would likely include specialized short term courses in food packaging and processing, manufacturing processes, sanitation, labelling and regulatory requirements, marketing strategy, etc.

3. **Technical Assistance:** a wide variety of needs also exist in this area in areas as diverse irrigation technology for greenhouses, food chemical and microbiological analysis, market studies and strategy development, and many others. CAAB would serve as a link between producers, processors, marketers and individual firms in solving technical problems of interest to particular subsectors. Such assistance would be channelled primarily through industry and producer associations.

4. **Research and Development:** PSA would develop a full, prioritized research agenda for private agribusiness that would be implemented by individual IAV departments. While prioritizing this agenda would require detailed discussions with agribusiness firms and associations, likely items would include product and process development, plant protection, technical-economic optimization of food processing, as well as development of new horticultural varieties for changing markets.

   PSA would also investigate the feasibility of building a model food processing and packing facility at the IAV Rabat campus for both training and research purposes.

IV THE MAP GRANT TO IAV FOR PSA

While an important part of sustainability for MAP is expected to be attained through mutually profitable business relationships between U.S. and Moroccan firms, and through enhanced competitiveness of Moroccan agribusiness in general, sustainability will also depend on relevant public sector institutions offering appropriate support to the sector. IAV, as a mature agricultural institution employing the best agricultural scientists in Morocco, and with a superb track record of accomplishment is well equipped to offer Moroccan agribusiness the research, training and technical assistance it requires for its continued development.

While IAV is already offering a wide variety of services to agribusiness, these efforts now need to be organized and consolidated to obtain maximum impact. IAV would attain this through creation of PSA, which itself would represent a milestone in its overall program of outreach to Moroccan society.

While specific elements of the USAID-funded grant to IAV for establishing PSA remain to be negotiated, preliminary discussion between USAID and IAV have established the following principles for the grant:

(1) **IAV would be responsible for all local salaries, provision of offices and laboratories and associated costs:** in effect present office and laboratory facilities are adequate for PSA. IAV also has the requisite core personnel, who would essentially assure a coordination function between the agribusiness industry and IAV's training, outreach and scientific capabilities. A possible exception would be constructing and equipping a model food processing plant, which will be explored during the first year of the grant.

(2) **USAID funds would be applied to the additional cost categories, those requiring hard currency financing, and those requiring start-up funding:** these would include, but not be limited to, external technical assistance (contracted directly by IAV) that is required to develop an agribusiness curriculum, or conduct specialized courses or scientific experiments, minimal additional laboratory equipment, office automation and transportation equipment, and financing PSA's participation in international fora. Also included would be start-up costs for specialized agribusiness courses, which are expected to become self-financing over a relatively short horizon.

While the exact **level of effort** under the grant remains to be determined, preliminary discussions indicate that, based on the two principles noted above, and on expected accomplishments by PSA, USAID funding of approximately **$500,000 per year** will be required for Phase I, which is scheduled to last three years. A follow-on Phase II effort is presently programmed at $1,000,000 and its implementation will depend on evaluation of CAAB as well as needs

292

for PSA that are identified in Phase I (including the feasibility of a model food packaging/processing plant for PSA). Provisions will be made in the Project Agreement for MAP, with will be signed by the Minister of Agriculture and Agrarian Reform, that will allow USAID/Morocco to provide the grant directly to IAV.

V ILLUSTRATIVE BUDGET

A. USAID PORTION - Phase I (3 years)

1.	Technical Assistance		$300,000
	a. Agribusiness Curriculum Dev.	30,000	
	b. Feasibility Study Model Plant	30,000	
	c. TDY PSA Activities Support	190,000	
	d. Other Direct Costs	50,000	
	Subtotal	$300,000	
2.	Commodities		250,000
3.	Operations (PSA Activities)		600,000
4.	International Travel (Site Visits, Invit. Travel, short courses, and conferences)		190,000
5.	Contingencies		150,000
	TOTAL		1,500,000

B. IAV Portion - Phase I (3 years)

1.	Salaries & Personnel Costs	200,000
2.	Commodities, including laboratory eq.	300,000
3.	PSA Operations, including in-country travel	150,000
4.	Facilities, incl. maintenance	700,000
	TOTAL	1,350,000

ANNEX N

SUBSECTOR ANALYSIS AND ITS USE IN INITIAL MAP DIAGNOSTIC STUDIES

Introduction

The MAP project proposes to work with a broad set of horticultural industries in Morocco and needs to do so in a systematic and efficient manner. The project will need to carefully choose those expenditures of resources that will have the greatest impact on meeting employment and income generation objectives. MAP also will have to have information sufficient to monitor and evaluate the impact of project actions. Therefore, MAP project work with each commodity subsector will begin with a systematic, applied subsector diagnostic study.

The subsector approach provides a simple, action-oriented framework for meeting needs for basic information on the structure and functioning of the systems of firms which produce and market specific products or closely-related groups of products. There is not one precisely-defined set of investigative methods which must be used in an identical fashion each subsector; however, experience in the use of the subsector approach has accumulated a set of tools which have proven their descriptive and analytical worth and their cost-effectiveness. The general principles which are outlined in this annex should be applied flexibly and with common sense in the search for the most effective uses of project resources..

The MAP design team feels that it is important to have this more global view of the subsector before plunging into the details of specific project actions. This seems to have been missing in some previous projects such as the IBRD *Projet Primeurs* which had a much narrower production orientation (primarily loans for greenhouse construction) and whose involvement in the critical marketing dimension of winter vegetable export was the construction of warehouse facilities in the new port of Agadir and a market study which was done at the end of the project! [1]

Definitions and Basic Principles of the Subsector Approach.

The commodity subsector approach is one which has been used very successfully in recent years in programs to improve the performance of marketing and information systems in agricultural

---

[1] "Market Opportunities for Winter Vegetables in Europe", Landell Mills, UK, 1988(?).

commodities in the US and the third world and, more recently, in working with rural small-scale industries in developing countries. The approach was first developed in applied industrial organization work that was done with large-scale, non-agricultural industries in the US through the 1930s. The application of the subsector method to agribusiness draws on the overlapping contributions made in the areas of agricultural marketing and small/medium enterprise development. [2] The initial subsector diagnostic study is also similar in some aspects to the rapid reconnaissance survey used in the initial stages of farming systems research and extension (FSRE) work in agricultural production.

A subsector is a vertical grouping of industries involved in the production and marketing of one well-defined product or a number of closely related products. A series of these commodity subsectors cut across the large divisions of an economy, or sectors, (agriculture, industry, etc.). [3] The core idea in the subsector approach is to describe the structure and functioning of vertical production and marketing systems, and to use analysis and judgement to locate those places in the subsector where change (in rules, technology, pricing, information, vertical integration, etc.) can increase the aggregate output of the subsector (or significantly lower per unit cost through greater subsector efficiency).

In most commodity subsectors there are several competing vertical marketing channels for the product in question, with

---

[2] A number of papers outline the subsector method applied to agricultural marketing and small/medium enterprise (SME) development efforts. Many of the subsectors covered in both areas are often considered to also be in the agribusiness sector. See: John S. Holtzman, "Rapid Reconnaissance Guidelines for Agricultural Marketing and Food System Research in Developing Countries", Working Paper No. 30, MSU International Development Papers, East Lansing, Michigan, 1986; James Boomgard, et.al., "Subsector Analysis: Its Nature, Conduct, and Potential Contribution to Small Enterprise Development", Working Paper No. 26, MSU International Development Papers, 1986; and James Boomgard et.al., "A Subsector Approach to Small Enterprise Development and Research", Working Paper No. 10, GEMINI Project Papers, Development Alternatives, Inc., Bethesda, Maryland, 1991.

[3] Technically the use of the term subsector can be confusing since the vertical flow of a product from producer to consumer crosses the boundaries of "sectors" as they are defined in national income accounting. For example canned olives involve industries in agriculture (production), transportation (marketing), industry (processing and canning), and retailing (wholesale and retail trade in the finished product).

each channel often representing a different set of production technologies. In developing countries particularly, one marketing channel may center on small-scale or traditional processing technologies, while another may involve a larger-scale, more industrial processing technology. In addition to differences in scale and technology, this competition among channels presents opportunities for technical assistance efforts to make trade-offs among variables such as employment generation, foreign exchange used in inputs or gained in exports, etc.

Normally a vertical subsector is composed of a series of recognizable "industries" at different horizonal, functional levels, often involving a change in ownership as products pass from one functional level to the next. For example, the wheat subsector can be seen as being comprised of linked horizonal layers: a wheat production industry (farms), a marketing and storage industry, a milling industry, a baking industry, a pasta industry, a retail store industry, etc. When there are few competing channels in a subsector or where there is substantial vertical integration, the predominant industry or company may begin to largely overlap with the boundaries of the "subsector" (eg., the FRUMAT orange juice processing and marketing company in Morocco.)

There are four major characteristics emphasized in the subsector diagnostic approach, as it has evolved over the past decade in the context of action-oriented development projects (mostly in agricultural marketing and in small and medium enterprise development efforts):

- Analysis of industry structure and functional relationships in the vertical flow of well-defined products;
- The coordination of product and information flows within vertical marketing channels;
- Competition among vertical channels for the same types of products ; and
- The identification of locations on the map of the subsector where intervention can have maximum leveraged impact on changing the level of output or efficiency of the subsector (or specific channels within a subsector.)

Vertical Flows

The primary focus of the subsector approach is on the vertical flow of products and the information needed to provide coordination for that flow, particularly as products change hands

in ownership. This will be clearer in the discussion of the subsector map immediately below. One of the significant advantages of the approach is the emphasis on understanding these vertical flows; it pragmatically organizes information in the same way that private sector companies do themselves: they are in the business of selling specific, well-defined products into specific markets in the vertical channels.

Coordination of Information and Product Flows

A key to the basic economics of any commodity subsector is understanding how agricultural products move from the farm through transformation and packaging to the ultimate consumer. In established markets, there are mechanisms by which products move from producer on up the chain: this may be through contracting, through a series of market exchanges, through an auction system, etc. For new products, these mechanisms need to be established. This may use the channels and exchange mechanisms already developed for similar products or it may use new mechanisms. From an individual firm point of view, the ideal solution may be to try and distinguish its product from the competition (eg., Mohammed's Vine-Ripe Souss Tomatoes marketed in Norway) and perform all the functional steps within one vertically-integrated company (this type of vertical integration is characteristic of some firms supplying new, highly-profitable European markets for highly differentiated products). These exchange mechanisms often are places where changes can have substantial leveraged impact on large numbers of firms.

Competition among Vertical Channels

Once alternative production and marketing channels for the same product are identified (eg. in Morocco, olive oil from small-scale "maasra" presses competing with oil produced in industrial factories), then it is critical to evaluate the evolution and dynamics of competition among the vertical channels. In a sense, this brings a critical "horizontal" dimension into the subsector diagnostic approach. It is also here that technical assistance projects often must make choices in where to direct their resources (many AID projects are directed towards assistance to channels occupied by small and medium enterprises since this may maximize desirable distributional or employment effects).

Leveraged Use of Assistance Resources

For a technical assistance project, the challenge is always to use project resources effectively to have the greatest impact on achieving project objectives -- as measured by performance indicators which, in the case of AID projects, are always objective and verifiable! A good subsector diagnosis can be very

useful in identifying those places in the subsector where change can have great impact since much production is funneled through those locations. These are sometimes referred to as "nodes" on a subsector map and are often places where products change hands (eg., input suppliers or a processor buying raw or semi-processed products from producers are often at "nodal locations").

The types of changes that may be envisioned are ones that might effect grading and standards, pricing, timing of deliveries, changes in processing technology, a processor changing his buying practices, and so on. To have this change occur may require a policy study, training in a new technology, negotiating with different parties on a legally-binding contracting mechanism, or the design of a new advertising strategy and direct marketing campaign -- all of which may be undertaken through the use of project short technical assistance (probably a combination of outside and Moroccan expertise) or which may be purchased as a third-party service.

In the growing lore on the subsector approach, the most common means of finding leverage points for project intervention involve the identification of key nodes in the subsector map, the geographic clustering of many firms in the same category, or the identification of policy constraints subject to possible modification. The diagnostic study should be geared to generating this type of practical suggestion for change or, at least, identifying the areas in which there are good options for change which will require further technical, market, or economic analysis.

One of the important analytical techniques in the subsector approach (and in the selection of possible leverage points) is to develop an understanding the **dynamics of change** in the subsector. First, we should know what channels are growing most rapidly. What are the driving forces and constraints responsible for this differential growth or stagnation? This may also involve the identification of current niche markets which may be very substantial outlets for Moroccan production or which may be the precursors for greater market growth of the same kind in the future.

Another key in project use of the subsector approach is to identify those places in the subsector were leverage and opportunities for project intervention converge. Also, we need to accept the possibility that MAP may not be able to identify any "areas of convergence" between leverage and opportunity, either because they do not exist or because of restrictions on the nature of MAP project resources which can be applied in that subsector.

Thus, in sum, the subsector diagnostic approach is one that

is partly descriptive (industry structure, types of production processes used, marketing channels, etc.) and partly analytical and prescriptive in indicating areas where change could have maximum impact on subsector productivity. This approach was employed in the initial Morocco Agribusiness Assessment and was particularly useful in helping to identify opportunities for intervention and to inform the process of selecting subsectors for inclusion in the MAP project. [4]

The Subsector MAP

The subsector map summarizes the diagnostic team's initial understanding of the subsector structure and main functions. Although the subsector map is basically a simple, idea it can be a very powerful pedagogic and analytic tool, particularly if key decision-makers agree to the schematic presentation of key dimensions of the subsector. The map identifies the subsector's principle functions, participants and vertical channels. The emphasis is on transformations of the product as it moves through the channel and who does them.

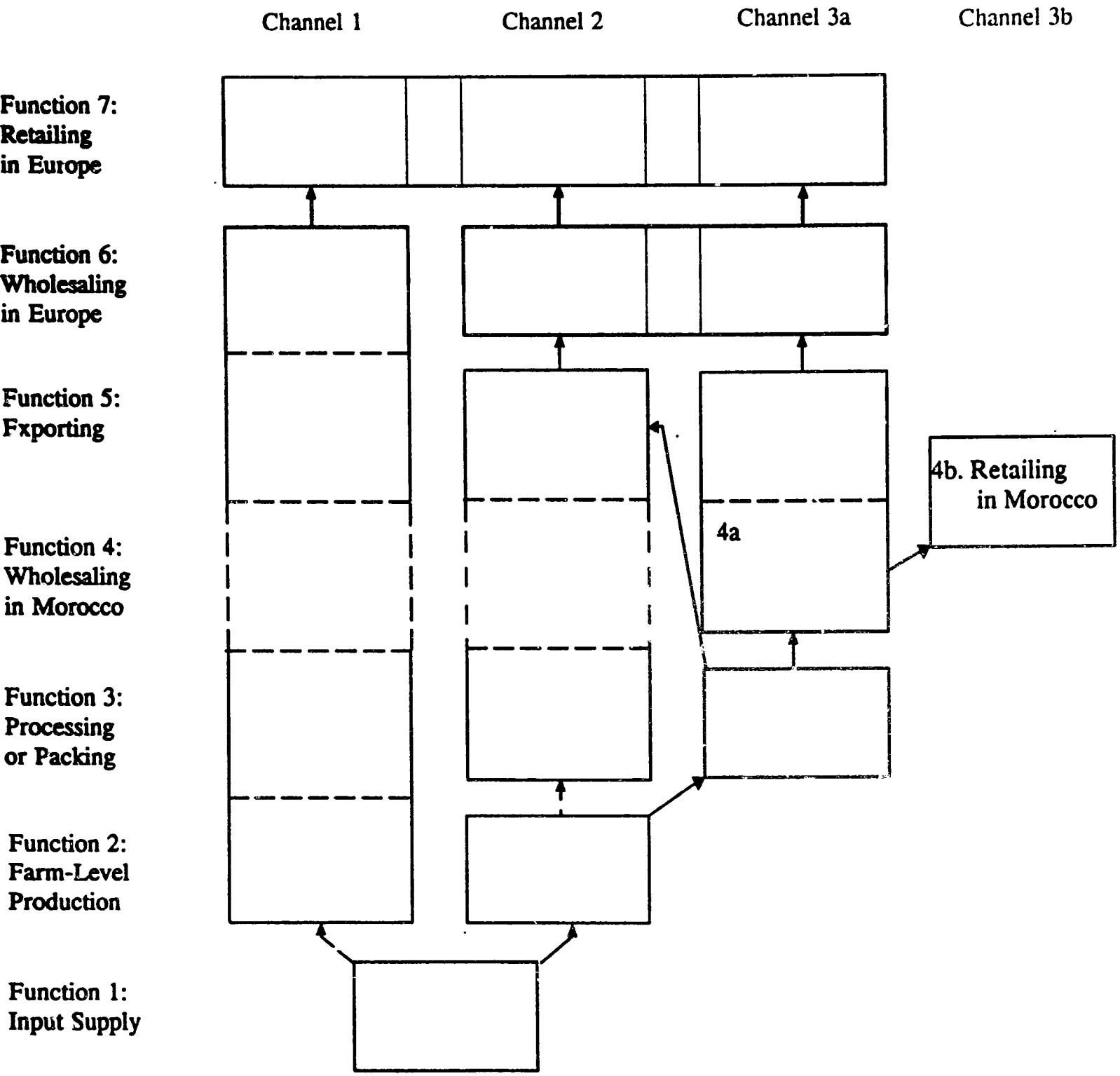
Figure 1 on the next page presents a "generic" subsector map as it might apply to an export-oriented horticultural commodity in Morocco. Note that there are seven general functions identified along the left hand side of the map with competition for the product among three different marketing channel. Here the destination markets are presented as a relatively homogeneous "European retail market" which would most likely be too simple for an actual product. In addition, the Moroccan market for this particular product is shown is secondary in nature.

The map also contains a certain number of conventions on representing functions, types of sales, and so forth. It is not essential that all of these be followed but they have proved useful in past uses of the subsector approach. One of the conventions indicates how to show competition between vertically integrated firms and those which rely on market exchanges for thee transfer of products. The important idea is to capture key relationships and points of exchange as the team's understanding

---

[4]. Other recent work on the use of the subsector approach could be of use to teams working on the MAP studies where some members are unfamiliar with the approach. Particularly of note are: "A Field Manual for Subsector Practitioners" (manual and video training module are being developed by the AID-funded GEMINI project, c/o DAI 7250 Woodmont Ave, Bethesda, Md. 20814. Draft manual may be available by April, 1991.). A very good recent example of the usefulness of subsector analysis is "Opportunities for Interventions in Thailand's Silk Subsector" by Steve Haggblade and Nick Richie, draft report done for CARE/Thailand, February, 1991.

Figure 1:
Generic Subsector Map for Export-Oriented Moroccan Horticultural Commodities



Legend

- = *Enterprise boundary*
- = *Division between functions within a firm*
- = *Firms using identical technology for a given function*
- = *Function skipped but implicitly performed by vertically integrated firm*
- = *Market sale of goods*
- = *Contract sales*

of the structure and functioning evolves. Initially, the map may be fairly confusing with a crisscrossing tangle of lines. Later, with greater knowledge, it will be possible to prune out the less important cross-relationships and focus on the main market channels.

As knowledge grows, it will be possible to add overlays of additional information to the subsector map. For example, the numbers of firms performing different functions may be added. As an example of a more complicated subsector map with overlays added, see Figure 2, a map of the Thai silk industry. [5] There we see the overlay of number of firms as well as information on the types of silkworms used by small traditional producers competing against large industrial concerns and various types of industrial mills. Figure 2 also illustrates the amount of information and complexity of structure and trading relationships that can be represented. [6] Experience also shown that is often useful to have two versions of the final subsector map: a complete one with all the messy detail and exceptions, and a simplified one, emphasizing the major channels, that can more easily serve operational project purposes.

Elements for the Terms of Reference for the MAP Subsector Diagnostic Studies

Introduction

On the pages that follow are "generic" terms of reference for the subsector diagnostic studies to be used in the MAP project to initiate project implementation with the targeted horticultural commodities. Obviously the general TOR must be adapted for each subsector. As was reported in the initial Sector Assessment (August 1990) and the DAI PP Report (January 1991), enough is known about most of the eight subsectors to define areas of special focus for each diagnostic study. These special conditions should be clearly stated in the specific TOR. For example, the following are generalizations that have been made about some of the target subsectors (with implications for personnel):

- **Cut Flowers:** The only real opportunities for MAP

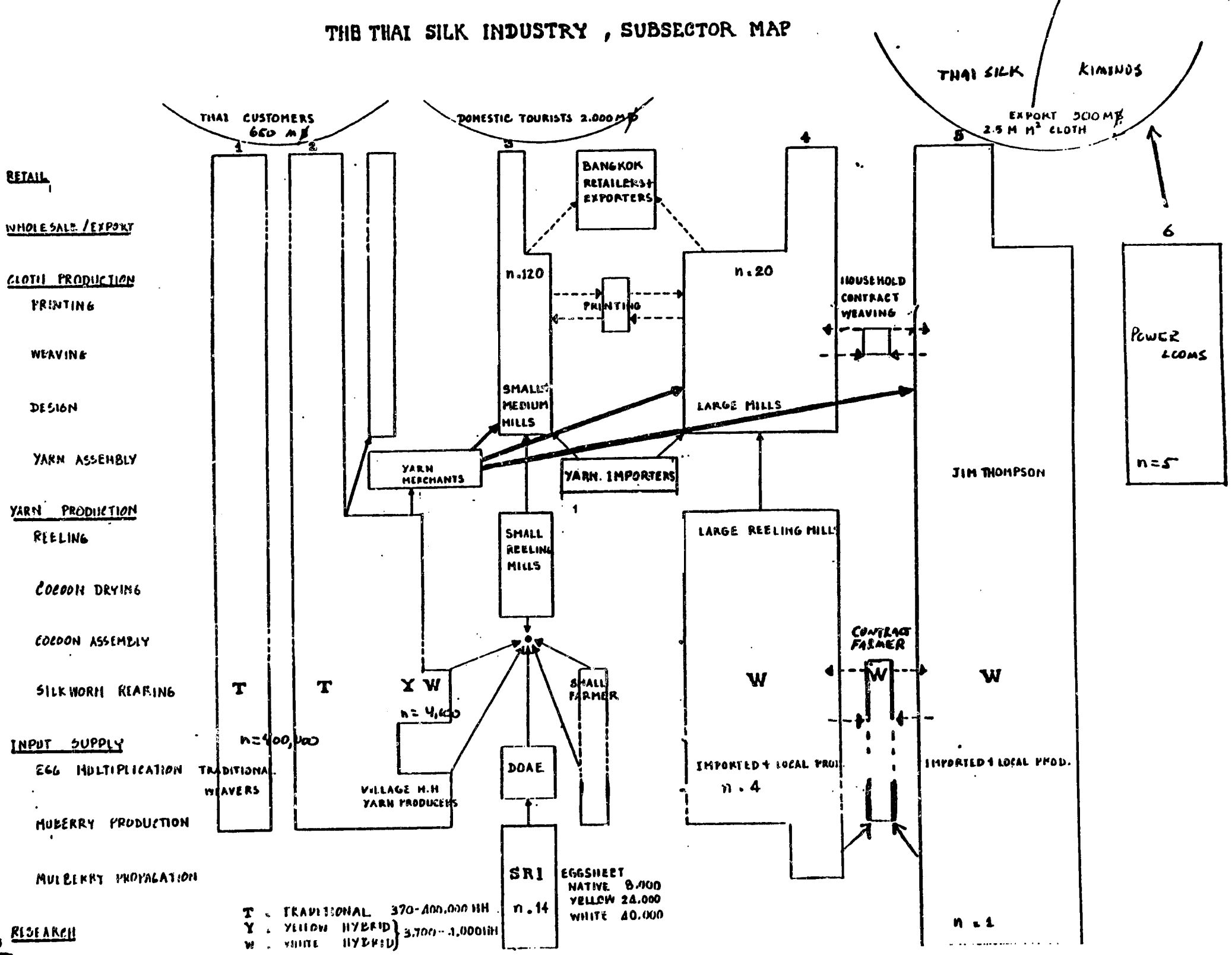
---

[5] See Haggblade and Richie, op.cit.

[6] See the GEMINI Subsector Practitioners Manual for more detail on developing and revising subsector maps.

302

THE THAI SILK INDUSTRY , SUBSECTOR MAP



assistance lie in the expansion of export markets, particularly those in North America. Therefore, expertise in flower varieties demanded, quality standards, and prices in foreign markets will be important in assessing growth potential in Morocco;

- **Olives:** Just considering olive oil, we know that there are two major processing technologies, industrial oil pressing and that done by thousands of Maasra using traditional methods. Can these thousands of smaller processors and farmer tree-owners associate differently to use intermediate-scale oil processing technology, potentially competitive with the small number of industrial mills? (One implication is that it would be important for one team member to be someone with extensive knowledge of alternative olive oil processing technologies); and

- **Fresh Vegetables:** The major export markets are for "primeurs" (tomatoes, potatoes, and onions are most important; all other vegetables constitute the residual category) exported during various Winter/Spring "windows" to Europe. Much of the future potential in vegetables seems to lie in greatly expanding targeted exports of high-quality vegetables in the current residual category. An expert on fresh European vegetable markets would seem essential to the diagnostic team.

The more the preliminary steps in exploring a specific subsector can be done by the resident MAP team, in advance of the formal diagnostic study by short-term personnel, the better. This will allow the resident team to prepare better TOR, to focus the diagnostic on key opportunity areas to study for potential MAP intervention, to better identify exact requirements for technical specialists who can look at options for already-identified industry problems, and so forth. It is critical that the diagnostic start at least from the level of the "conventional wisdom" of reasonably well-informed Moroccan informants for a particular subsector; the test of a good diagnostic study is whether it will be enlightening to knowledgeable Moroccan industry specialists.

Preliminary, Pre-Diagnostic Steps

The following steps summarize things that can be done by the resident implementation team to lay the groundwork for a diagnostic study that will be of maximum usefulness in launching the MAP project work in that subsector:

1. Assemble existing documentation. The more data that can be assembled in advance the better. Normally, one should have material that gives a broad overview of the subsector: numbers of firms, employment by type of activity, firm size and location. For some subsectors much of this information is available form MARA and other GOM sources;

2. Any consumptions studies available will provide invaluable information on the relative size of different markets (domestic and foreign), as well as growth trends and future prospects;

3. Make initial contacts with industry participants and groups. This should include: (a) visits to farms and processing/marketing firms of different size; (b) identification of initial key informants for the subsector as a whole or in key industry segments. Sources might include industry personnel who operate at key funnel points or nodes, IAV specialists, trade association representatives, etc. There are four key questions to ask in interviews that allow us to begin to assemble our initial picture of the subsector:

> (a) Where do you get your raw materials? (b) To whom do you sell your output? (c) What technology do you use, what alternatives exist, and why do you use this one? (d) What major changes have occurred in your line of business since you began?

4. Through the above steps, identify the basic functions performed in the subsector, the major alternative technologies used, and participants in the various market channels, and the major consumer markets receiving the final products; and

5. Use of above information, contacts, and preliminary understandings of subsector to modify the generic TOR objectives below.

Objectives for The Diagnostic Study

The subsector diagnostic studies will be called on to furnish the following types of information for use in describing the subsector and providing recommendations for the subsector action plan: [7]

---

[7] The resident MAP TA team will work with an industry advisory group to put together a "commodity action plan" within a short period of the completion of the diagnostic study--- this

305

- Description of the industry structure (number and size of firms, types of products, degree of competition) and functioning of marketing channels for the commodity in question. This should include appropriate market price and quantity information; a tentative subsector map; notions of comparative advantage (domestic resource cost competitiveness for export commodities);

- Where possible, begin to assemble enterprise budget information for specific types of businesses in the subsector, particularly where opportunities exist to compare costs of production across two or more competing market channels, making use of different types of processing technologies,

- Identify constraints and opportunities for:

  * The use of improved technology in production, processing, packaging;

  * Improving market opportunities for current products;

  * Opportunities for new product development; and

  * Opportunities for the promotion of alternative business arrangements and partnerships.

- An assessment of the functioning and adequacy of current trade associations and other industry groups and the opportunities to strengthen those institutions to encourage the formation of new ones that might operate on a new geographic scale (a Souss vegetable processors's association, for example) or which new commercial objectives (such as the "groupements d'intérêt economique"). Concrete recommendations for further action are important in this area since MAP will be contacting and working with firms at least partially through their professional associations;

- An overview of subsector training needs and optional approaches to be followed, particularly in the first year of operation;

- Specification of general terms of reference for marketing studies to be done in priority target markets

---

includes the plan of work for the first year of MAP actions with that subsector to be submitted to the steering committee for approval.

(EEC, US, UMA, etc.);

- Identification of opportunities for leveraged intervention in the subsector. These should largely focus on types of actions which the MAP project can address through its four major components. However, if there are other suggestions for badly needed change which go beyond MAP capabilities, these should be identified, along with ideas about how MAP may be able to assist subsector participants in reaching the desired change;

- Identification of specific firms capable and interested in expansion through partnership and other business arrangements. These firms will then be contacted directly by the project's promotional units; and

- Suggestions for Moroccan membership on a subsector advisory committee.

Study Outputs

The subsector diagnostic study should have the following minimum outputs:

- By the end of the field work in Morocco, a draft of key portions of the subsector report (in french), particularly: key conclusions on the structure and functioning of alternative channels in the subsector, a subsector map, and recommendations for MAP project actions in the subsector (with designation of those for first year plan of work);

- A final study workshop with participation by key subsector industry groups and informants to debate and refine the above draft conclusions and recommendations; and

- A final subsector diagnostic report, incorporating workshop conclusions and modifications, to be submitted in English no later than two weeks after the workshop (provision should also be made for speedy translation into French).

Personnel and Level of Effort

The typical diagnostic study team should contain the following three specialty areas:

(1) Agricultural economist or econo ist with experience in

INSTITUTIONAL ANALYSIS

DIRECTION DE LA PROTECTION DES VEGETAUX DES CONTROLES TECHNIQUES ET DE LA REPRESSION DES FRAUDES

The Direction de la Protection des Vegetaux is under the Ministry of Agriculture and Agrarian Reform and preforms all crop protection activities in Morocco. There are two Divisions under the Service administratif:

Division des Controles Techniques et phytosanitaire, and

Division de la Repression des fraudes.

Division des Controles Techniques et Phytosanitaire

This Division is divided into two Services:

Service de la Protection des Vegetaux, and

Service du Control des semences et plants.

Service de la Protection des Vegetaux: This Service has 35 inspectors throughout the Kingdom of Morocco who are responsible for phytosanitary control of all import and export agriculture goods including fresh produce and processed foods. The inspectors are located in all major cities and at each of the major port cities.

Service du Controle des Semences et Plants: This service currently has 12 regional inspectors located in the major cities of Morocco. The GOM will be adding three additional inspection stations this year for a total of 15. One newly identified inspection station will be Settat. This service is responsible for quality control of seed products in Morocco and also assures quality of new germplasm imported into Morocco. This Service is responsible for the management of the *Catalogue Official des Varieties*.

Division de la Repression des Fraudes

This Division is divided into three Services:

Service de la Reglementation du Contentieux;

Service des Vins et Alcool; and

Service Technique.

Currently there are 30 regional inspectors which are responsible for ensuring quality control for products produced in Morocco. These inspectors are responsible for

reporting any variance from quality directly to the Justice Department of Morocco.

Service de la Reglementation du Contentieux: This Service is responsible for the quality control of products produced in Morocco. In conjunction with the *Laboratoire Official D'Analyses et de Reserches Chimique de Casablanca* samples are periodically analyzed to ensure quality.

Service des Vins et Alcool: This Service is responsible for ensuring the quality of all wine, beer and alcohol produced in Morocco. Analysis of these products are also done at the National Laboratory in Casablanca.

Service Technique: This Service is responsible for supplying information and technical assistance to producers to ensure quality of Moroccan products.