No.

SYRIAN ARAB REPUBLIC
MINISTRY OF AGRICULTURE
AND AGRARIAN REFORM

JAPAN INTERNATIONAL
COOPERATION AGENCY
(JICA)

THE STUDY

ON

QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS

SYRIAN ARAB REPUBLIC

MAIN REPORT

AUGUST 2002

TAIYO CONSULTANTS CO.,LTD

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PREFACE

In response to the request from the Government of the Syrian Arab Republic, the Government of Japan decided to conduct the Study on Quality Improvement of Agricultural Products in Syrian Arab Republic and entrusted the study to the Japan International Cooperation Agency (JICA).

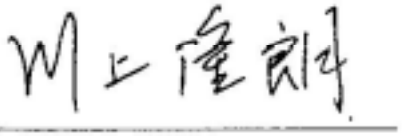
JICA sent to Syria a study team headed by Mr. Haruo Tsuchiya, Taiyo Consultants Co., Ltd., 4 times between January 2001 and May 2002.

The team held broad discussions with the officials concerned of the Government of the Syrian Arab Republic, and conducted a series of field surveys in the country. After the team returned to Japan, further studies were also conducted and the present report has been prepared.

I hope that this report will contribute to the sustainable development of Syrian agriculture and to the enhancement of friendly relation between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Syrian Arab Republic for their close cooperation extended to the Team.

August 2002



Takao Kawakami
President
Japan International Cooperation Agency

August 2002

Mr. Takao Kawakami
President
Japan International Cooperation Agency
Tokyo, Japan

LETTER OF TRANSMITTAL

Dear Sir

We are pleased to submit to you herewith the report on the Study on Quality Improvement of Agricultural Products in Syrian Arab Republic. This report presents the results of all works performed in both Syria and Japan during a total period of 20 months from December 2000 to August 2002.

In line with the objectives of the Study, namely "Quality Improvement of Agricultural Products", various projects in each sector are proposed.

The projects are expected to contribute to stabilizing and increasing market value of the products and improving marketing condition for the products. By the implementation of the projects, increase in farmer's income will be achieved and job opportunities will be expanded in rural area.

It is worth to mention that all officials and other concerned parties involved in the study actively participated in the planning and project formulation of these projects, aiming at the sustainable operation and maintenance of the projects after its implementation. Hence, we wish the projects to be implemented as early as possible.

We wish to express our deep appreciation and sincere gratitude to your Agency, the Ministry of Foreign Affairs, the Ministry of Agriculture, Forestry and Fisheries of the Government of Japan for the courtesies and cooperation kindly extended to our team.

We also wish to express our deep appreciation and sincere gratitude to the Syria Office of your Agency, the Embassy of Japan in Syria, the Ministry of Agriculture and Agrarian Reform of the Government of Syria and other authorities for their close cooperation and assistance extended to our team during field investigations and studies in Syria.

Very truly yours,

H. Tsuchiya

Haruo Tsuchiya
Leader
Quality Improvement of Agricultural Products in Syria Arabic Republic

Location Map of the Study Area

The Collection of Photographs

Ministry of Agriculture and Agrarian Reform (MAAR)

The Study Team's Office in MAAR

Field Study at Potato Field of Idleb Area

Field Study at Aleppo Wholesale Market

The Workshop of Participatory Planning

The Seminar of Draft Final Report

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ABBREVIATIONS

ACB	:	Agricultural Cooperative Bank
DAA	:	Directorate of Agricultural Affair
DAE	:	Directorate of Agricultural Economics
DAEX	:	Directorate of Agricultural Extension
DASR	:	Directorate of Agricultural Scientific Research
EU	:	European Union
ECE	:	Economic Commission for Europe
FA	:	Farmers' Association
FAO	:	Food and Agriculture Organization (of the United Nation)
FC	:	Farmers' Cooperative
F/S	:	Feasibility Study
FTC	:	Foreign Trade Center
FV	:	Fruit and Vegetables
GDP	:	Gross Domestic Product
GFU	:	General Farmers' Union
GOS	:	Government of Syria
GOSM	:	General Organization for Seed Multiplication
GMP	:	Good Manufacturing Practice
HCA	:	High Council of Agriculture
ICARDA	:	International Centre for Agricultural Research in the Dry Areas
Inc/R	:	Inception Report
IOOC	:	International Olive Oil Council
JBIC	:	Japan Bank For International Cooperation
JICA	:	Japan International Cooperation Agency
LAN	:	Local Area Network
MAAR	:	Ministry of Agriculture and Agrarian Reform
MEET	:	Ministry of Economy and External Trade
MLA	:	Ministry of Local Administration
MOI	:	Ministry of Irrigation
MOI	:	Ministry of Industry
M/M	:	Minutes of Meeting
MSIT	:	Ministry of Supply and Internal Trade
NAPC	:	National Agricultural Policy Center
PP	:	Participatory Planning
SEBC	:	Syrian European Business Centre
SASMO	:	Syrian Arab Organization for Standardization and Metrology
SNS	:	Syrian National Standards
SPC	:	State Planning Committee
S/W	:	Scope of Works
UNESCO	:	United Nations Educational Scientific and Cultural Organization
UNDP	:	United Nations Development Programme
UNICEF	:	United Nations International Children's Emergency Fund
UPS	:	Uninterruptible Power Supply
WID	:	Women in Development

Units

ha	:	hectare
m	:	meter
cm	:	centimeter
mm	:	millimeter
SYP	:	Syrian Pound
kg	:	kilogram
dom	:	donum (0.1ha)

CHAPTER 1 INTRODUCTION

1.1 Background of the Study

The Study on Quality Improvement of Agricultural Products, Syrian Arab Republic, was initiated, based on the Scope of Works (S/W) agreed on September 21, between the Japan International Cooperation Agency (JICA), the official agency responsible for implementation of technical cooperation programs of the Government of Japan, and the Ministry of Agriculture and Agrarian Reform (MAAR) of the Syrian Arab Republic.

The Study extends for 17 months and includes two phases (three periods) of field study in Syria and four periods of study in Japan. The first field study was conducted from the middle of January 2001 to the middle of March, followed by the second field study from early May to the middle of July 2001. The second phase-2 (the third period) field study started in the middle of November 2001 and concluded in the middle of February 2002.

1.2 Objectives of the Study

The objectives of the Study are:

(1) To make study reports on (i) orange, (ii) apple, (iii) olive and olive oil, (iv) tomato and (v) potato, hereinafter referred as " the commodities",
(2) To formulate a plan of implementation and/or operation of the priority project(s) proposed in the study reports and,
(3) To transfer technology to the Syrian counterpart personnel throughout the steps of the Study

1.3 Study Area

The Study area covers the main cultivation area, processing area and marketing area of the commodities. However, data analysis will cover the whole territory of Syria and other countries related to the Syrian commodities depending on the necessity of the study objectives.

1.4 Scope and Contents of the Study

Major contents of the Study are:
To prepare the quality improvement plan for commodities (orange, apple, olive and olive oil,

tomato and potato), including the followings;

- shipment and market survey both in the country and abroad
- commodity reports for five commodities
- quality improvement plans based on the above commodity reports
- capacity building and technology transfer related to the above

These plans aim at enabling,

- the Government to provide market information continuously to the concerned parties
- traders to maintain quality and reduce losses during distribution
- producers to implement quality control based on the grading standard, responding to the market requirements, and to reduce losses

CHAPTER 2 BACKGROUND

2.1 The Syrian Economy

2.1.1 Structure and Growth

The economic structure has changed little in the past 30 years, although dependence on the two major agriculture and mining and manufacturing sectors has steadily increased, from under 40% of GDP in the 1970s to over 50% now (Annex, Table 2.1). Agriculture gave about 20% of GDP from 1970 to 1985 and 20-30% thereafter. Mining and manufacturing expanded from 15-20% of GDP in the 1970s to 25-30%, mainly because oil output increased. Wholesale and retail trade has declined and transport and communications has remained constant. Sectoral composition of GDP in 1999 was 24 % for agriculture, 27% for mining and manufacturing, 19% for wholesale and retail trade, 13% for transport and communications and 17% for other services.

Annual GDP growth for 1990-99 averaged 6.1%, with a high 13.5% and a low –1.8% (Annex, Table 2.2). Almost all variability of GDP is caused in agriculture by climate, biennial fluctuation of tree crop output and price change. As agriculture gives 25% of GDP, a 1.0% change in its output leads total GDP to change by 0.25%. Agriculture sector annual growth averaged 5.1% from 1990 to 1999 and ranged from a high 22% to a low –17%.

Rapid population growth limits improvement to standards of living. Population rose by 32% from 1990 to 1999 and restricted the rise in GDP per person to 29%. Official statistics put GDP per person in 1999 at USD 895. The World Bank estimates gross national income for Syria of USD 970 per person, ranking it as 135 among 207 countries compared.

The pattern of national expenditure has changed little in recent years (Annex, Table 2.3). Consumption is around 80% of GDP, 68-69% by the private sector and 11-12% by the public sector. Public sector domestic investment is about 11% of GDP; that of the private sector has fallen over the past few years, from 15% to 8% of GDP.

2.1.2 Population and Employment

The population is young with 56% under the age of 20 at the last (1994) census (Annex, Table 2.4). Population grew annually by 3.4% from 1970 to 1981 and by 3.3% from then until 1994. Life expectance at birth is 69 years. Just over half (50.5%) of the population is classified as rural. The World Bank estimates Syria’s population in 1999 at 15.7 million and expects the

annual growth rate to average 2.1% from 1999 to 2015.

The total workforce in 1999 was about 4.1 million people, of whom 3.4 million were men and 0.7 million were women. Agriculture is the major provider of jobs, employing 29% of the total workforce - 24% of the male workforce and 51% of the female (Annex, Table 2.5).

2.1.3 Trade

Syria's total trade, equal to about 10% of GDP, is consistently in deficit by about 2% of GDP, although a surplus occurred in 2000 (Annex, Table 2.6). Services receipts, workers' remittances and private transfers offset the deficit to give a small positive current account balance.

The export base is very narrow, as crude oil supplies 55-65% of the total and the next three largest items (textiles, cotton, fruit and vegetables) 20-25% (Annex, Table 2.7). The major export destination is the EU (well over 60% of the total), with Italy, the United Kingdom and Spain the major buyers, primarily because of oil exports. The largest regional markets, which are more important for non-oil exports such as agricultural commodities and especially fruit and vegetables, are Turkey (9-10% of total exports), Saudi Arabia (6-8%) and Lebanon (4%).

Agricultural exports for each of 1997 and 1998 were valued about USD 1,000 million and represented about 30% of all exports (Annex, Table 2.8). Export and import values calculated by FAO in dollars (Annex, Table 2.9) are higher than those estimated by Syrian authorities. The discrepancy is explained by Syria's past application of multiple exchange rates. Unification of the exchange rate, which is almost complete, should remove the discrepancy.

The largest of import sources is the EU (30% of the total), of which Germany, the United Kingdom and Italy provide 65% (Annex, Table 2.10). Other major suppliers are Turkey, the USA and Japan, each with about 5%. In 2000, about 64% of imports were intermediate consumption goods, 13% final consumption goods and 23% capital goods.

2.1.4 Prices

Annual increase in both wholesale and retail price indexes of the Central Bureau of Statistics averaged 5.3% for 1990-99 (Annex, Table 2.11). Both indexes increased by 9.1% annually for 1990-95 and 1.0% for 1995-99.

2.2 The Agriculture Sector

2.2.1 Crops Sub Sector

(1) Land use

About 20% of Syria's total 18.5 million hectares is uncultivable due to being rocky or sandy, occupied by rivers and lakes or used for buildings and public roads (Annex, Table 2.12). GOS increased the cultivable area in the 1990s by de-rocking; this was partly offset by increases in the areas of rivers, lakes, buildings and public roads. Forest and steppe/pasture land occupy 8.6 million hectares, leaving 6.0 million hectares cultivable, of which 92% is cultivated.

(2) Areas cropped

Field crops in 2000 occupied 4.7 million hectares, or 80% of the total cropped (Annex, Table 2.13). Fruit trees used 0.8 million and vegetables 0.1 million hectare. The 1990s saw small reduction of vegetable area, small increase of fruit trees area and little change in field crops.

GOS has moved to secure production and lift yields by increasing the area with irrigation from 0.83 million hectares (15% of the total cropped) in 1990 to 1.33 million (28%) in 2000. Almost all the increased irrigation was used for field crops.

Wheat and barley are the greatest users of agricultural land, in 2000 being grown on 64% of the total cropped (Annex, Table 2.14). The next most important were olive which occupied 10% of the total cropped, cotton (6%) and lentil (3%).

(3) Production

The crops sub sector gives 70% of sector product (Annex, Table 2.15). Production of all major crops, except barley, increased by more than population in the 1990s, increasing Syria's food self reliance. The major crop trends (Annex, Table 2.16) were that (i) production of the wheat staple expanded faster than population; (ii) production of the industrial crops of cotton and sugar beet responded to the increased supply of irrigation water; (iii) production of fruits, led by orange and olive, increased sharply; and (iv) output of most vegetables increased steadily.

2.2.2 Livestock Sub Sector

Livestock (mostly cattle, sheep, goats, poultry), kept by rural people mostly in mixed farming systems, are a critical source of income to farmers and food to the whole population. Syria has, over recent years, increased both animal numbers and productivity, to give higher output.

(1) Cattle, sheep and goats

Cattle numbers increased by 25% between 1990 and 1999 - from about 787,000 to 978,000. The composition of the national herd changed markedly, as introduced breeds were crossed with local breeds to produce higher-productivity "improved" breeds which rose from 28% to 60% of the national herd. The higher average quality of the national herd led to large increases in both productivity and production. Sheep (around 1.5 million) and goat (14 million) numbers remained constant throughout the 1990s.

Table 2.1. Syria: Cattle, Sheep and Goat Statistics

	Head ('000)		Production: 1999 ('000 ton)	
	1990	1999	Meat	Milk
Cattle				
Local	316.3	202.8	4.3	63.7
Introduced	223.1	193.2	12.9	373.1
Improved	247.8	581.9	29.5	706.7
Total cattle	787.2	977.9	46.7	1,143.4
Sheep	14,508.6	13,998.5	176.7	445.9
Goats	999.7	1,045.6	5.3	65.9

(2) Poultry

Poultry are important for commercial enterprises and to households for domestic production. The number of chickens increased from 14.8 to 21.0 million between 1990 and 1999; output of meat rose from 60,000 to 104,000 tons and of eggs from 1.5 to 2.5 billion. About 80-85% of meat from chickens and of eggs comes from commercial farms and the balance from domestically-kept birds. Poultry also include 54,000 ducks, 52,000 geese and 255,000 turkeys.

2.3 Fruit and Vegetables

Fruit and vegetables are important to agriculture for employment, output and export. Fruit and vegetables give 40% of output from the crop sub sector and 10% of agricultural exports.

2.3.1 Fruit

(1) Area

The area of most species expanded throughout the 1990s (Annex, Table 2.17) and there were significant shifts in composition of the total fruit tree area as farmers responded to prices and Government policy. Two of the three target crops in this study became more important: the proportion of olives increased from 52 to 60% of the total and that of orange from 1.3 to 1.7%. The proportion of apple fell from 6.4 to 6.2%.

Table 2.2. Syria: Fruit Tree Areas

Crop	Area (per cent of total)	
	1990	1999
Olive	52.2	59.9
Apple	6.4	6.2
Orange	1.3	1.7
Other citrus	1.5	1.8
Grape	14.6	8.7
Pistachio	8.6	7.4
Other	15.4	14.3
Total	100.0	100.0
Total area (hectare ’000)	748.9	800.2

(2) Production

Production of most fruits increased substantially in the 1990s. Output from the three target crops of this study increased very substantially – that of olive by about 70% to 600,000 tons (two-year average), that of orange by over 100% to 407,000 tons and that of apple by 50% to 290,000 tons. The total number of trees of most varieties expanded in the 1990s, with the exception of grape. Continued planting has resulted in a high proportion (about one third) of all trees now being not yet in production. Olive has about 67% of trees now bearing, orange has 75% and apple has 66%. Production will expand for some years as young trees commence bearing fruit and as those now bearing fruit mature further and give greater yield.

Table 2.3. Syria: Fruit Tree Numbers and Production: Major Varieties

Fruit	Proportion of trees bearing (per cent of total)		Production ('000 ton)	
	1990	2000	1990	2000
Olive *	62	67	290.5	633.5
Apple	50	66	204.6	286.8
Orange	48	75	171.0	407.1
Lemon	59	70	42.4	83.5
Other citrus	54	32	149.1	309.5
Pistachio	23	48	13.0	39.9

* Olive : Two-year average 1989-1990, 1999-2000

2.3.2 Vegetables

(1) Area

Vegetables give 10-12% of official estimates of the value of crop sub sector output. However, Syria applies an unconventional definition of vegetables and the exact value of output is thus unclear. Vegetable cropping is very diverse, with at least 20 species on more than 1% of cropped area (Annex, Table 2.18). The most important in area are potato (21% of total vegetable), tomato (14%), water melon (10%), cucumber (7%) and eggplant (6%).

Table 2.4. Syria: Areas of Major Vegetable Crops ('000 hectare)

	1990			2000		
Vegetable	Irrigated	Not irrigated	Total	Irrigated	Not irrigated	Total
Potato	21.1	1.5	22.6	22.3	0.5	22.8
Tomato: field	19.4	8.6	28.0	13.3	4.3	17.7
Tomato: greenhouse	n.a.	n.a.	n.a.	2.3	0	2.3
Water melon	6.9	22.0	28.8	4.6	9.0	13.6
Cucumber	9.3	5.8	15.0	4.7	2.1	6.8
Eggplant	6.0	0	6.0	5.8	0	5.8
All crops	100.4	62.6	163.1	86.1	31.3	117.4

The total area of vegetables fell from 163,000 hectares in 1990 to 117,000 in 2000. Area of almost every crop fell with those of water melon, musk melon, cucumber, squash and onion recording especially sharp falls. Potato area remained about constant; that of field tomato fell greatly, but was compensated by a shift to more productive green house cultivation.

(2) Production

Production of most vegetables increased in the 1990s, despite the reductions in cropped areas, as better husbandry lifted yields. Irrigation was an important factor in improving cropping, as the area supplied with irrigation rose from 62% of the total to 73%.

Table 2.5. Syria: Production of Major Vegetables ('000 ton)

Vegetable	1990			2000		
	Irrigated	Not irrigated	Total	Irrigated	Not irrigated	Total
Potato	382.8	15.4	398.2	479.4	5.3	484.7
Tomato: field	n.a.	n.a.	n.a.	449.7	24.3	474.0
Tomato: greenhouse	n.a.	n.a.	n.a.	279.2	0	753.2
Water melon	116.8	132.9	249.7	136.9	64.6	201.5
Cucumber	86.8	7.1	93.8	82.8	8.4	91.3
Eggplant	114.6	0	114.6	123.7	0	123.7

2.4 Relevant Policy Measures

2.4.1 Policy Framework on Agriculture

(1) Planning system

Syria's overall policy framework has been reformed since the latter part of 1980s, with a shift from central planning to market orientation. The centrally planned system involved government control on planting of each crop, from national to farmers' level, aiming at raising self-sufficiency in the main food crops, lifting output of industrial crops and agricultural raw materials and increasing livestock products. The system was rewarded with many good results, especially almost self-sufficiency in food crops, but efforts of government and the private sector were concentrated on a narrow range of crops. Development and introduction of new crops was limited. Research work tended to concentrate on major food crops and some industrial crops.

Current agricultural policy, which has removed a number of restrictions, is producing greater success. Policy is now directed at food security and import substitution. "Strategic crops" such as wheat, barley, cotton, tobacco and sugar beet, remain under direct procurement by the Government through related corporations and a licensing system. Other crops including fruit and vegetables have been liberalized to stimulate participation of the private sector in production and marketing. Farmers are now able to decide what fruit and vegetables they want

to grow and where to sell, at their own discretion and risk. Production and planted area of a number of fruit and vegetables have increased sharply in recent years and their marketing is increasingly crucial to the Syrian economy.

Producing farmers are now required to take most decisions for increasing their income. These include their scale of farming, reducing production cost, efforts to improve the quality of their products, and rationalization and modernization of their marketing system.

(2) Legal Framework of Distribution of Fruit and Vegetables

Commercial transactions in Syria are controlled by many different types of laws and ordinances. Law No.158 of 1969, which modified Law No. 123 of 1960, prescribes commercial dealings including distribution, business transactions and pricing. There are no comprehensive laws on activities in wholesale markets. The Law of Local Administration No.15, in brief, prescribes responsibilities of the local government for smooth and safe distribution of goods, including fruit and vegetables, in each governorate. Regulations for the establishment and organization of a wholesale market and definitions of the position and roles of market participants are provided in the laws, decisions and instructions of various ministries and local governments.

The operation and maintenance of wholesale markets is a responsibility of the governorate offices. The land and buildings of the markets are prepared and owned by the governorates. The duties of operating the wholesale market are stipulated by the Governor and executed in cooperation with the Committee for Managing the Wholesale Market, which is organized by traders participating in the market activities and is one of the Craft Associations under the jurisdiction of MOI.

The roles and activities of the Committee for Managing the Wholesale Market, also prescribed by the Governor, are principally about maintenance of facilities and of cleanliness and hygienic conditions in the market, in cooperation with the government offices concerned. In some cases, mediation in disputes among sellers and buyers is assigned to the Committee.

Traders in wholesale market must be registered with MSIT and licensed to engage in specific commercial transactions. They are also registered with the chamber of commerce in their place of business. Licensed traders pay a contribution fee to the Committee for Managing the Wholesale Market for its operational expenses and possess a work card issued by the Committee. Traders who want to have a booth in a wholesale market make a lease contract with the governorate and pay an annual rental fee.

A comprehensive law needs to be enacted to improve and strengthen the institutional and management system of each wholesale market. It should clearly prescribe the functions and

organizations of the market, the roles and activities of traders in wholesale dealings and of the government offices and penal regulations to restrain cheating and fraud.

(3) Trade promotion and taxation

Government intervention in the agriculture sector has been steadily reduced since 1988. Measures taken include allowing the private sector to import necessary machinery, equipment, agricultural chemicals and fertilizers and to export selected agricultural products. Since food sufficiency, particularly of wheat, was achieved in the 1980s, the relative profitability of other crops including fruit and vegetables has encouraged rapid increase of their production. The excess supply arising in recent years has led to a need to improve access to external markets.

The Export Committee, established in 1986, is responsible for export promotion through activities such as removal of restrictions on exportable products, selection of advantages and incentives for exporters, identification of feasible products for export, acceleration of cooperation between the public and private sectors and supervision of exporters' activities.

Legal and administrative measures to promote production, marketing and export of fruit and vegetables taken in the last decade are indicated in Annex 1; the major developments are:

1) Commission to be paid to related general companies by traders on fruit and vegetable export has been exempted since 1996;
2) Tax on dealing in fruit and vegetables in wholesale markets was removed in 1997;
3) Exporters were allowed to retain foreign currency earned for import of materials including equipment, machinery and other inputs necessary for export business;
4) Exporters of fruit and vegetables have been allowed since 1999, to import used assembly lines for sorting, waxing and packing fruit and vegetables with foreign currency earned through the exports of agricultural products; and
5) Exports of agricultural and agro-industrial products have been exempted from agricultural product tax and income tax since 2001.

To tackle problems of marketing olive oil and citrus, the High Council of Agriculture (HCA) recently decided that the related government offices should take the following steps:

- conclusion of bilateral or multilateral trade agreements with possible destination countries;
- facilitation of financing exporting/marketing companies, sorting and packing centers of citrus, companies for processing citrus or olive, olive oil mills, and olive oil filtration and packaging companies;
- exemption from taxes levied on the establishment of olive oil mills and filtration and packaging companies;
- reduction of taxes levied on export companies of olive oil;

- modernization of refrigerated transport for export to European countries; and
- intensification of an advertising drive.

2.4.2 Ministries Related to Food and Agriculture

Several ministries other than MAAR are directly involved to food and agriculture, particularly in the field of distribution/ marketing, processing and external trade. MAAR deals mainly with production while MSIT, the Ministry of Industry (MOI) and the Ministry of Economy and External Trade (MEET) deal with demand/supply adjustment in domestic markets, processing and international trade of agricultural products respectively. Within their jurisdiction, each ministry has a number of state enterprises. These include seed production (GOSM) and feed mills (MAAR), wheat flourmills, bakeries and agro-processing enterprises (MSIT) and sugar mills and pasta factories (MOI). The Government's direct involvement in agricultural production and marketing, except for strategic crops, has been decreasing in the transition from central planning to a market-oriented economy. Particularly in the case of fruit and vegetables, the private sector holds the majority of marketing and processing.

2.4.3 Provision of Agricultural Support Services

Agricultural support services are provided by various official and nonofficial organizations. These services play a crucial role in improving production and marketing, including for fruit and vegetables. Closer cooperation among the organizations, however, is keenly needed for further progress.

(1) Public organizations

Agricultural credit, research and extension services have been provided to producers since before economic transition.

1) Agricultural credit

Agricultural credit has been provided to farmers by the Agricultural Cooperative Bank (ACB) since its foundation in 1970, through its more than 100 branches. Loans are either in cash or in kind (seeds, chemicals, fertilizers). Until 1998, ACB was the sole supplier of farm inputs; the private sector is now involved in the distribution of farm inputs.

ACB loans have played a crucial role in achieving the production targets of major food and industrial crops. Large shares of loans have been for de-rocking to expand land under production and for supplementary irrigation to increase productivity. However, agricultural credit covers only production and excludes other purposes such as marketing.

2) Agricultural research

Agricultural research has been carried out by MAAR's related Directorates and Bureaus and

agricultural faculties of the State Universities. The research work of the Bureaus of Citrus, Apple and Olive concentrates on agronomic matters such as cultivation techniques, propagation and provision of seedlings and conduct of training courses for extension workers and leading farmers. GOSM is responsible for multiplication and provision of seeds, seedlings and tubercles of food and industrial crops and vegetables including seed potatoes. The structure of MAAR's research services is now being re-organized to integrate the Bureaus and Directorates into the General Commission of Agricultural Scientific Research.

International research institutions such as the International Centre for Agricultural Research in Dry Areas (ICARDA) and the Arab Centre for the Study of Arid Zones and Dry Land (ACSAD) are also contributing considerably to the progress of agricultural research in Syria.

3) Extension services

The Directorate of Agricultural Extension (DAE) of MAAR is responsible for extension services in the crop and livestock sub-sectors. Extension services are organized by the Extension Division under each Governorate's Director of Agriculture. The Division organizes extension work at the village level through Agricultural Extension Units, of which there are more than 800.

DAE's role has gradually changed from issuing licenses to farmers to access loans and agricultural inputs to having close communication with and giving technical guidance to farmers. To accelerate this movement, the linkages among farmers, research institutions and DAE should be strengthened to build up more coordinated and cooperative work. Intensive training of a smaller number of extension workers on the newly developed knowledge and techniques is a key element.

(2) Farmers' and traders' organizations

1) Agricultural cooperatives

The agricultural cooperative system was consolidated in 1974. Farmers' political associations were integrated with agricultural cooperatives under the name of Farmers' Cooperatives. The current cooperative system consists of 4 tiers: 5,414 Farmers' Cooperatives at village level, 62 Farmers' Associations at District level, 13 Farmers' Unions (FU) at Governorate level and the General Farmers' Union (GFU) as an apex.

Membership in cooperatives is open to farmers, agricultural laborers and agriculture-related workers. Members buy shares at admission according to their agricultural holdings and pay monthly membership fees. Each cooperative lays down its own by-laws to be approved by GFU, and cooperative members are to abide by them to achieve the Agricultural Production

Plan. Most of the cooperatives have multiple functions such as production, marketing, procurement and credit. Regular printed publications and TV and radio broadcasts on agricultural development and improvement of the farm economy are routine activities.

GFU has since 1997 established a marketing association for fruit and vegetables with FUs in 13 Governorates. The activities of these associations in leading fruit and vegetable producing centers are to be intensified. GFU possesses several modern olive oil mills and expects to increase the export of oil.

2) Chamber of agriculture

Chambers of agriculture were started in 1958, initially at Governorate level. Their purposes are to contribute to development of agriculture and livestock husbandry and improvement of the socio-economic and living conditions of rural people, to convey the wishes and requests of producers to the authorities concerned and to protect their rights. Members of the chambers include not only farmers but also traders and owners of agro-industries. The total of members was around 700,000 in 2001. The chambers provide members with enlightening and extension services through publication of printed matter, technical guidance, establishment of model farms and holding agricultural fairs. These chambers were federated in 1991, to coordinate activities in the governorates.

3) Chamber of commerce

Legislation for establishing chambers of commerce, which are non-profit and public-welfare organizations, was enacted in 1959. A preceding chamber of commerce in had been established in Damascus in 1888. The chambers aim to represent, protect and promote trade interests. Chambers attest certificates of origin, trading documents, invoices and commercial guarantees and arbitrate trading disputes. They provide information and data on norms, laws and regulations concerning economic and financial affairs, hold conferences, seminars and training courses and issue reports and publications. The members of the chambers are both trading or industrial individuals and enterprises. These chambers were federated in 1975, to coordinate activities in Governorates.

(3) Government agencies related to the processing and marketing of agricultural commodities

1) General Organization for Storage and Marketing of Agricultural and Animal Products

The Organization, under the supervision and control of MSIT, specializes in marketing crop and livestock commodities. The head office is in Damascus and there are 13 branches in Governorates, except in Damascus Rural. The Organization purchases fruit and vegetables through its collection centers and sells principally to the domestic market (through its 180

stores) and partly to foreign markets. The Organization's share in marketing of fruit and vegetables has fallen sharply in recent years. More efficient use of its facilities for washing, sorting, waxing, packing and transport seems to be of critical importance to revitalize the activities and achieve better business results.

2) General Organization for Food Industry

Under supervision of MOI, this Organization has food-processing plants including those for fruit and vegetables. A small quantity of tomato paste and apple jam is produced. Production of grapefruit juice is expected to start in the near future. The Organization has lost market share to the private sector as policy has been reformed.

3) Foreign Trade Center

The Center was established in 1978 as a government agency to promote international trade under the supervision of MEET. The Center's major roles and functions are:

- Exploitation of markets for Syrian products;
- Improvement of standards and quality of exports;
- Research/study and consultation services on international trade;
- Cooperation with foreign trade representatives and chambers of commerce and industry for expansion of export; and
- Preparation, implementation and review of export promotion programs.

Establishment of an "Export Promotion Center" has been proposed to further encourage and promote export; this would have similar, though broader and more comprehensive, functions to those of the existing Foreign Trade Center.

2.4.4 Quality Control and Standards of Fruit and Vegetables

(1) Quality standards of fruit and vegetables

The Syrian Arab Organization for Standardization and Metrology (SASMO) of MOI, established in 1969, is charged with establishment, spread and authorization of these standards in Syria. The purposes of the organization are improvement of the quality of domestic products, facilitation of commerce and trade and reduction of costs of production and distribution. SASMO is expected to protect the reputation of Syrian products and enhance their competitive power in overseas markets by minimizing the proportion of inferior articles, enhancing their safety and providing suppliers with conditions of fair competition.

SASMO's main functions are:

- to establish, modify and officially announce the standards of all commodities and products produced in Syria;
- to authorize the conformity of the products of applicants to the standards by issuing certificate in the form of Syrian National Standards (SNS);
- to establish and officially announce criteria on weight and measures; and
- to provide technical services to public and private sectors on the standards, quality control and weight and measures through symposia, seminars, conferences and training courses.

SASMO is given authority to draft of a standard. It prepares a draft referring to those developed by neighboring countries, UN/ECE and FAO/WHO to satisfy the levels of protection required for maintenance and conservation of public health, food safety and the environment. The drafts are scrutinized by the Technical Committee consisting of members from concerned ministries, research institutions, testing laboratories, universities and chambers of commerce and agriculture. The resulting draft is submitted to the Permanent Committee for authorization and then officially announced by the Minister for Industry.

By the end of the year 2000, SASMO had made standards for 382 products, including 23 for the five target commodities (Annex 2). The standards include ripeness, external appearance, classification, methods of analysis and testing, packing, transporting and storing. Sampling and rejection factors are also referred.

(2) Quality control of fruit and vegetables

In addition to SASMO, several ministries and their related agencies are involved in quality control. Various decrees and decisions on quality standards and food safety have been issued separately by concerned ministries based on their respective jurisdictions. The provisions of Law No.158 of 1969 are applied for restraining suppliers, traders and retailers from cheating and fraud in business and commercial transactions, including violating obligatory standards. The Law authorizes the administrators to supervise application of the standard in accordance with the rules and regulations of each ministry concerned. In 2000, penalties and fines for breaking the provisions regarding commercial transactions were increased. These include:

- selling a displayed commodity at a price different that indicated in advance by a seller or at a price with a larger profit margin than that set by the government;
- offering a service with a higher charge than determined;
- not issuing invoices or not recording items accurately;
- not abiding by the rules and regulations of the Craft Associations;
- monopolizing a commodity; and
- dealing in a commodity which is distributed through the controlled system.

Syria does not have comprehensive legislation for food safety and hygiene control. Maintenance and control of hygiene for food are based on various laws, decrees and regulations issued by ministries including MSIT, MOH and MAAR. Inspectors of the Directorate of Supply and Internal Trade in each governorate check the safety of fresh and processed foods. MSIT inspects processed foods at both processing plants and retail shops according to SASMO standards.

Samples, if considered necessary, are sent to the Directorate of Central Laboratory of MSIT and analyzed in accordance with the criteria of the SASMO standards. For the analysis of residues of agricultural chemicals, MAAR uses criteria conforming to those of FAO. The Industrial Testing and Research Center of MOI analyzes domestically produced and imported products including food. MSIT is authorized to penalize the manufacturers of processed food or retailers who do not abide by the standards, with punishment ranging from warning to suspension of the business. Hygiene inspection for fruit and vegetables in the wholesale market is rarely conducted.

The actual application and observance of the standards of SASMO for fruit and vegetables is not quite clear, though observance of standards is getting increasingly important for improvement of the quality of produce and ensuring food safety. In many cases, particularly for export, traders follow the specifications of the contract. These specifications, though differing by destination, are generally more rigorous than those set by SASMO.

CHAPTER 3 REVIEW OF FRUITS AND VEGETABLES

3.1 Farm Production and Shipment

3.1.1 Production of Fruits

(1) Production

Total production of fruits was 2.3 million tons in 1999 and 2.9 million tons in 2000, with a two-year average of 2.55 million tons. The year 1999 gave poor harvests of olive and some other fruits such as cherry, apple, pistachio and orange. Average production of major fruits in 1999 and 2000 is shown in Fig.3.1. By weight, olive is 22.7%, grape 18.7%, orange 15.2% and apple 12.4% of total fruit production.

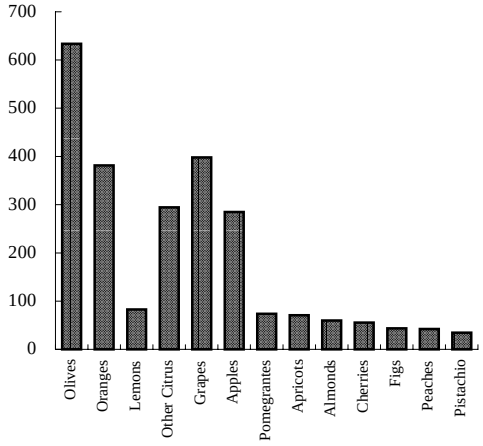


Fig.3.1 Average Fruit Production in 1999 and 2000 (Unit: '000 tons)

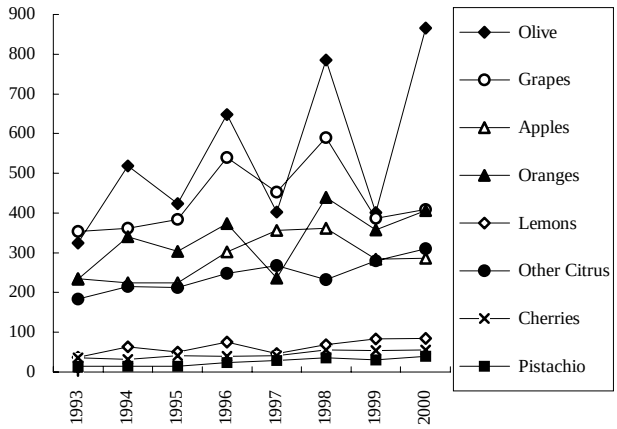


Fig.3.2 Changes in Fruit Production since 1993 (Unit: '000 tons)

(Source: Agricultural Statistical Abstract, 2000. MAAR)

Fig. 3.2 shows the remarkable increase in production of major fruits since 1993. Increase in planted areas contributed mainly to increased output of olive, apple, almond, cherry and orange, and increase in yields mainly to that of orange, mandarin, pomegranate, almond, pistachio, cherry and pear. Details on changes in production, planted areas and number of trees of each fruit are in Annex Tables 3.1 and 3.2.

(2) Planted area and its distribution

The total planted area of fruit trees in 2000 was 797,600 ha, 4.3% of Syria's total land. Planted area of each fruit is shown in Fig.3.3. Olive accounts for about 60% of total planted area of

fruits and grape, pistachio, apple and citrus for respectively about 8.7%, 7.4%, 6.2% and 3.4%.

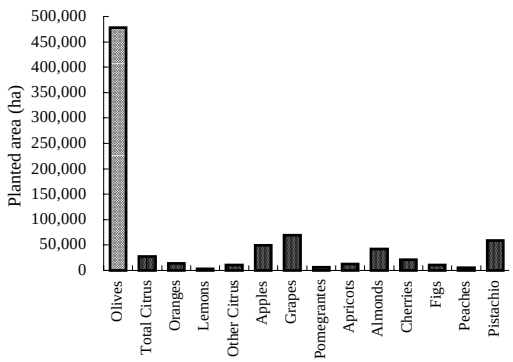


Fig.3.3 Planted Areas of Major Fruits in 2000

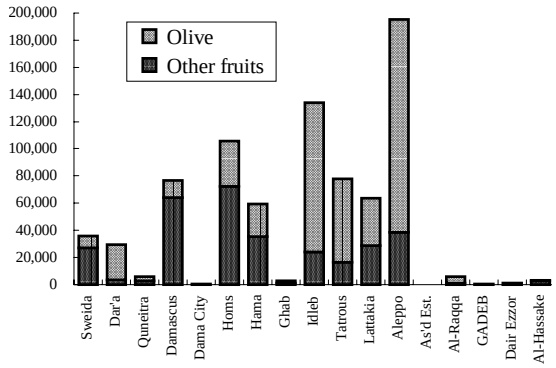


Fig.3.4 Planted Areas of Olive and Other Fruits in Each Governorate in 2000 (Unit:ha)

(Source: Agricultural Statistical Abstract, 2000. MAAR)

Fruit trees are concentrated in the western region such as Aleppo, Idleb, Tartous and Lattakia, due to their suitable weather conditions (Fig. 3.4). Grape, almond, apple and cherry are mostly in the central and southwest governorates of Homs, Damascus and Sweida, while pistachio is in mainly Hama and Aleppo. Citrus fruits are in the Mediterranean coastal region of Lattakia and Tartous. Distributions of production, planted area and number of fruit trees by each governorate are in Annex Table 3.3-3.7.

(3) Yield

Yields of fruits increased remarkably in recent years. Orange and other citrus (mainly mandarin) showed the highest increase among major fruits. Yields of orange and other citrus increased from 15.3～16.2 tons/ha on average for 1992-93 to 28.1～29.5 tons/ha for 1999-2000, as shown in Fig.3.5. Yield of each fruit since 1990 is shown in Annex Table 3.2.

Fig.3.6 compares yields of some fruits in Syria with those of the world and of European countries. As the yields of fruits fluctuate by year, average yield over some years is needed to give a good indicator for comparison. Yields of orange, other citrus (mainly mandarin), lemon, plum and figs in Syria are much higher than those of Europe and the world and those of apple, pear, olive and pistachio are lower.

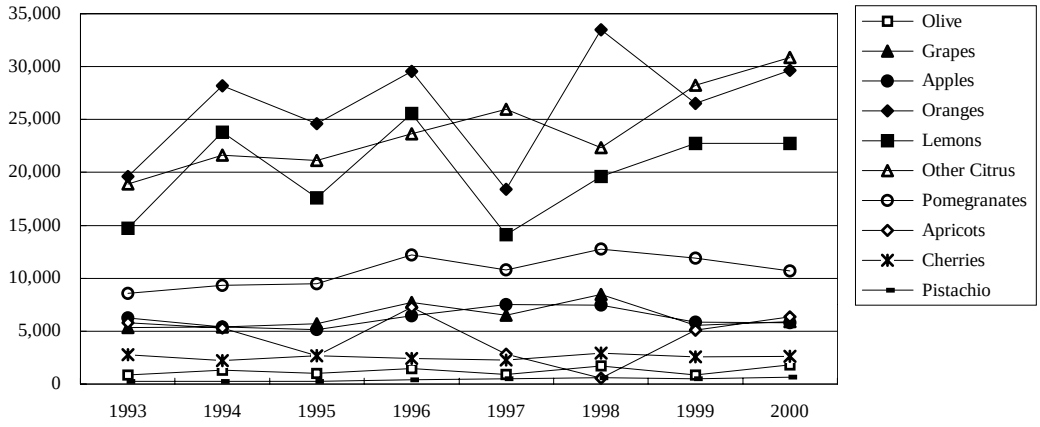


Fig. 3.5 Changes in the Yields of Major Fruits since 1992 (unit: kg/ha)

(Source: Agricultural Statistical Abstract, 2000. MAAR)

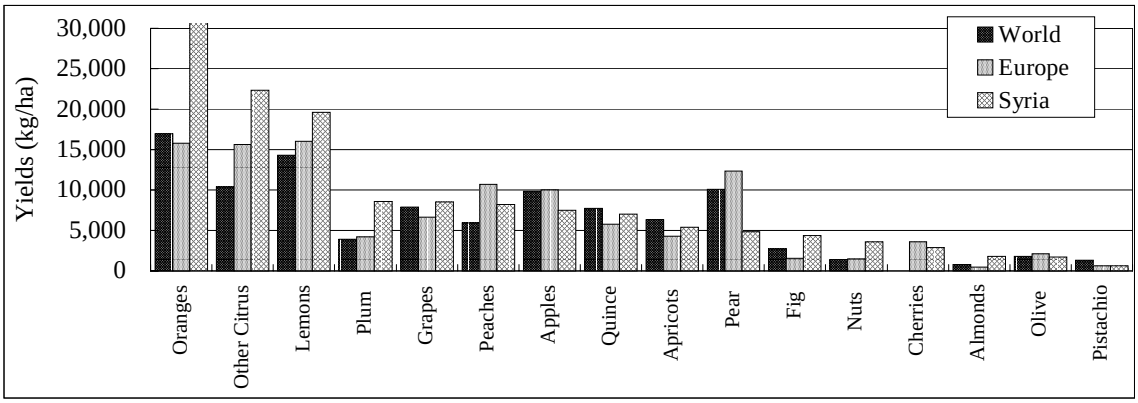


Fig. 3.6 Average Yields of Fruits in the World, Europe and Syria in 1998

(Source: Yields in the world and Europe: FAO data, Yields in Syria: Annual Agricultural Statistical Abstract, 1999)

(4) Characteristics of fruit production

The number of fruit-producing households and their farm sizes are not clear. Farm sizes differ by the species of fruit grown, with olive farms generally bigger than those of other fruits and citrus farmers being very small, mostly less than 1.0 ha. Most farmers are producing fruits not for self-consumption but for sale and so are very eager to introduce new techniques.

Following guidance from MAAR, many fruit farmers are introducing biological control and organic farming. It is commendable that the farmers and Extension Units of MAAR are paying attention to produce safe products. However, they are not so eager to produce uniform products with good appearance. Farmers seem to emphasize yield and production, rather than uniformity and good appearance of products. Many farmers are not so eager to practice the thinning of

young fruits and pruning of disused branches. As a result, many fruits produced are diverse in quality such as shape, color and taste.

Fig. 3.7 shows the percentage of irrigated areas of each fruit tree in 2000. Some fruits, such as citrus and peach, are mostly under irrigated but olive, pistachio, grape and apple are mostly rainfed. The percentage of irrigated area of olive is only 6.1 %, and those of pistachio, grape and apple are 4.7, 14.9 and 34.3 % respectively. This may show the resistance of fruit trees to drought. MAAR is developing much new farmland, where many species of fruits are being introduced. Selection of fruit species in newly developed land should be considered carefully in terms of the cost of irrigation facilities and high labor requirement.

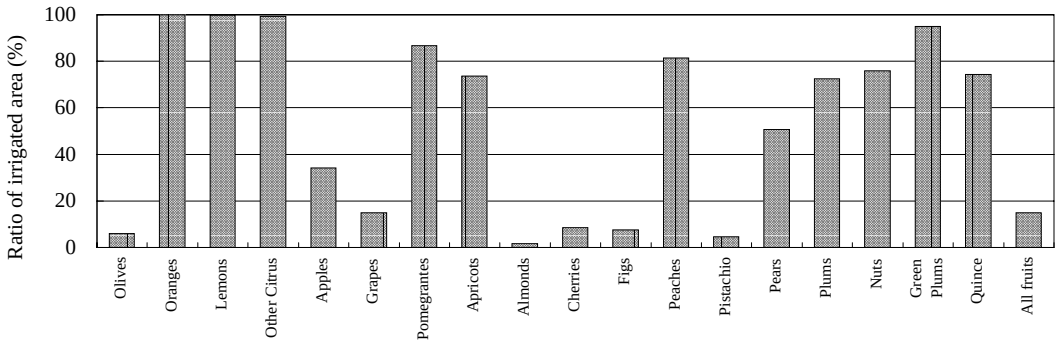


Fig. 3.7 Percentage of Irrigated Areas of Each Fruit Tree in 2000

(Source: Agricultural Statistical Abstract, 2000. MAAR)

Production of olive, orange, mandarin, apple and grape is increasing and supply in Syria of most of these fruits is about equal to, or more than, demand. Young trees planted recently are now reaching fruit-bearing age. So, natural condition of the areas and consumers' preferences should be considered in selecting fruit species for newly developed areas.

For export, production of higher quality fruits with lower cost will be more important than quantity. Therefore, producers will be required to produce high quality fruit products with lower cost. Enhanced guidance by Extension Units and Bureaus, including on farming practices and marketing information, will be essential.

3.1.2 Production of Vegetables

(1) Production of vegetables

The definition of "vegetables" differs by report. Here, "vegetables" includes leaf, fruit and root vegetables and some fresh beans, but excludes oil and industrial crops such as soybean and sugar beet. Total production of vegetables in this definition was 2.17 million tons in 1999 and 2.18 million tons in 2000. Tomato, potato, watermelon, eggplant and cucumber hold big shares

(shown in Fig. 3.8), giving respectively 35, 22, 9, 6 and 4% of total weight.

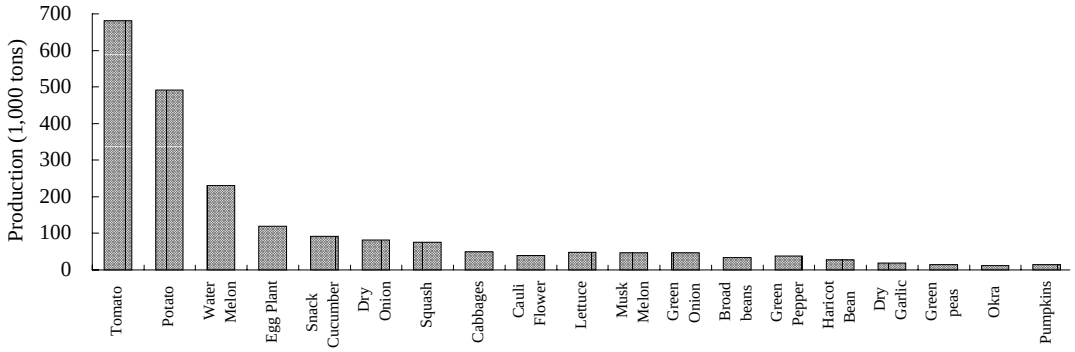


Fig.3.8 Production of Major Vegetables (Average of 2 Years in 1999-2000)
(Source: Agricultural Statistical Abstract, 2000. MAAR)

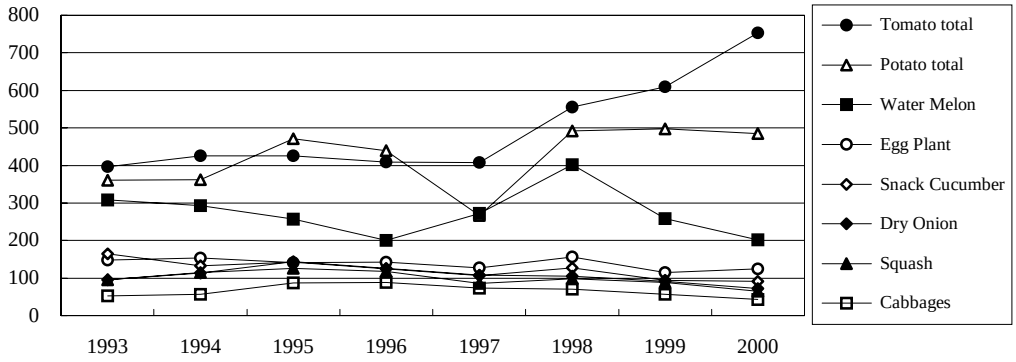


Fig.3.9 Changes in the Production of Major Vegetables since 1993 (Unit: 1,000 tons)
(Source: Agricultural Statistical Abstract, 2000. MAAR)

Total production of vegetables averaged 2.1 million tons for 1991-92 and 2.2 million tons for 1999-2000, an increment of only 6% over 8 years. Production of tomato, potato, dry garlic and lettuce increased, but that of watermelon, egg plant, cucumber and dry onion stayed the same or fell a little (Fig. 3.9). Details on changes in production and planted areas of vegetables are in Annex Table 3.8.

(2) Planted areas of vegetables

Total planted area of vegetables in 2000 was about 114,000 ha, about 0.6 % of total land area. Major vegetables are potato, tomato, watermelon, snack cucumber, egg plant, musk melon and broad beans, occupying respectively 20, 18, 12, 6, 5, 4 and 4% of total area.

Planting of vegetables is concentrated in the western governorates of Aleppo, Idleb, Tartous, Lattakia, Hama and Damascus which are favored by precipitation, irrigation water and soil

conditions.

Planted area of vegetables (two-year average) was 159,784 ha for 1991-92, 148,261 ha for 1995-96 and 112,988 ha for 1999-2000. Total planted area, especially that of such species as watermelon and cucumber, has declined gradually in recent years, as shown in Fig. 3.10.

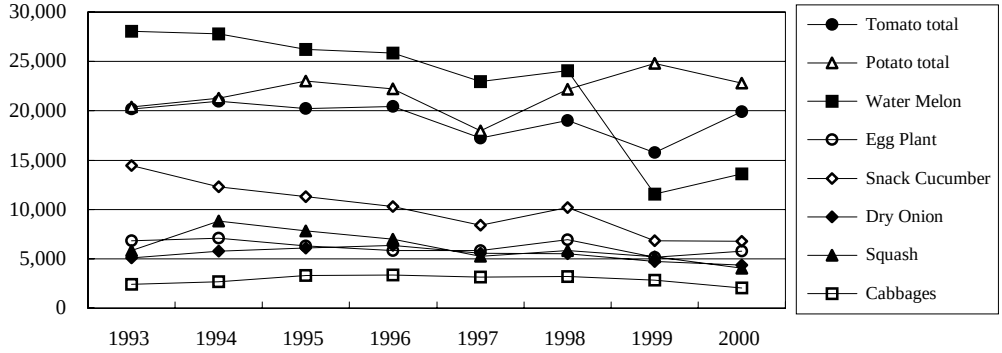


Fig. 3.10 Changes in the Planted Areas of Major Vegetables since 1993 (Unit: ha)
(Source; Agricultural Statistical Abstract, 2000. MAAR)

Increased production and decreasing planted areas are manifestations of increases in yield. Details on the production and planted area of vegetables are in Annex Table 3.10-3.11.

(3) Yields of vegetables

While trends in yields of vegetables differ by species, those of most vegetables are increasing gradually, as shown in Fig. 3.11. Yield of tomato increased rapidly in the past four years due mainly to increased production in greenhouses.

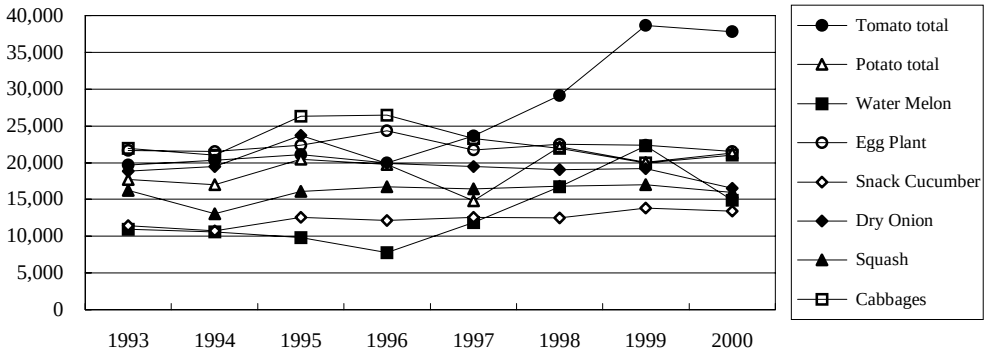


Fig. 3.11 Changes in the Yields of Major Vegetables since 1993 (Unit: kg/ha)
(Source; Agricultural Statistical Abstract, 2000. MAAR)

Average yields of major vegetables in Syria, compared to those of Europe and the world, are shown in Fig. 3.12. Yields of Syrian cauliflower and haricot bean are higher than those of

Europe and the world, while those of tomato, egg plant, potato, dry onion and pumpkin are higher than that of the world average and lower than that of Europe. The yield of cucumber is lower than that of the world and Europe.

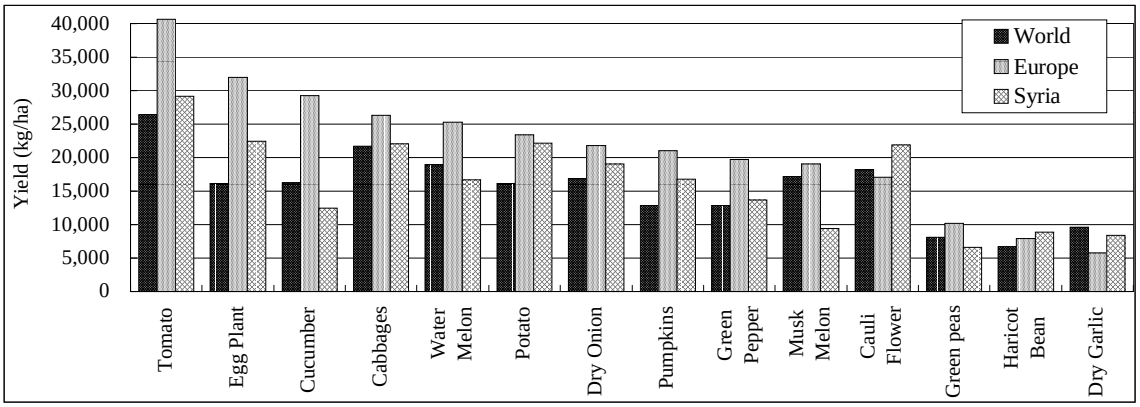


Fig. 3.12 Average Yields of Vegetables in the World, Europe and Syria in 1998

(Source: Yields in the World: FAO Yearbook 1999, Yields in Syria: Annual Agricultural Statistical Abstract, 1999)

Around half of the vegetables have higher average yields than those of the world but lower than those of Europe. This may imply that there is scope for increase, by appropriate management, to the levels of European countries. Details on changes in yields since 1990 and yield by each governorate are in Annex Table 3.9.and 3.12.

(4) Characteristics of vegetables

Cultivation of vegetables is divided broadly into two seasons -summer and winter. Area of vegetables is higher in summer than in winter, because of the high share of tomato and watermelon which are mainly summer crops. Irrigated area is higher than non-irrigated in both summer and winter. The irrigated area, particularly for summer vegetables, has decreased gradually over the past eight years (Fig. 3.14). This may be due partly to shortage of irrigation water and increase of greenhouses.

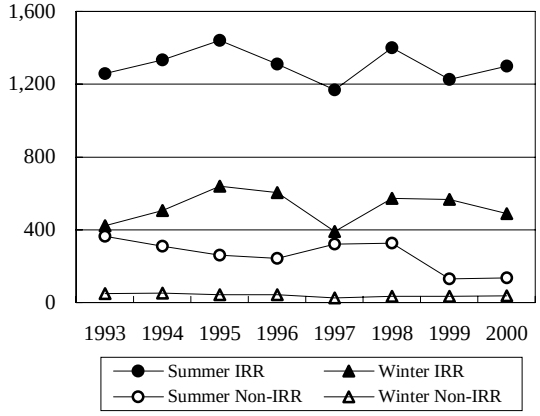


Fig.3.13 Changes in the Production of Summer and Winter Vegetables under Irrigated and Non-irrigated Conditions (Unit:1,000tons)

(Notes; Non-IRR: Non-irrigated, IRR: Irrigated)

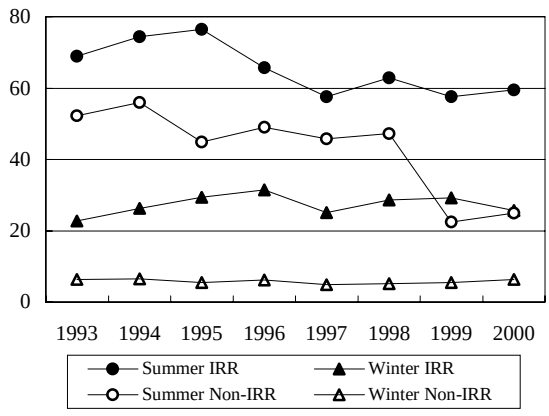


Fig.3.14Changes in the Planted Areas of Summer and Winter Vegetables under Irrigated and Non-irrigated Conditions (Unit: 1,000ha)

(Source; Annual Agricultural Statistical Abstract, 1999)

High prices of seeds seriously affect the production cost of vegetables. Most tomato seed is imported hybrids which enable higher yield and avoid harmful virus diseases. Virus-free potato seed is imported from the Netherlands and other European countries; in the near future, these imports will be replaced by seed produced by GOSM.

Fresh vegetables are supplied throughout the year. Area of vegetables, especially of such as tomato and cucumber, is decreasing gradually as production in greenhouses increases.

Demand for processed vegetables, including potato chip, fried potato, tomato paste, tomato juice and some pickles, has increased in recent years. Prices of vegetables as raw materials for processing are required to be lower than those for fresh eating.

3.1.3 Harvest and Shipment

(1) Harvest

Most fruit and vegetables are harvested manually. For the targeted commodities, harvest of potato is partly mechanized with “potato diggers”, while that of the others is manual. Apple seems to be harvested more carefully than other commodities. The majority of orange farmers drop picked fruits directly on the ground. Rough picking is common in harvesting tomato. Olive farmers usually pick fruits by stripping off.

Rough or careless handling of produce in harvest causes physical damage to fruit or tubers.

Such damage leads to increase of respiration, moisture reduction by heat, easier invasion by microbes and consequently, further losses in later stages, in addition to inferior appearance. In many cases, physical damage does not appear immediately, but becomes visible long after it has occurred or only when skin has been peeled.

In determining the time of harvest for each commodity, farmers give priority to market prices, in addition to maturity (color, taste, hardness, etc.).

Orange

The majority of orange farmers pick fruits by scissors from the tree, drop them on the ground and then collect for sorting. This is the typical harvesting method for domestic marketing. Plastic sheeting is sometimes placed on the ground, although its buffering effect is limited. Dropping picked fruits on the ground causes physical damage by shock. A second way for collection of picked fruits, mainly for export or making juice, is the use of small containers,.

Potato

Potato farmers usually cut foliage by sickle, remove it by hand, dig out tubers by “potato diggers” and collect them in a shaded place for sorting. Rough or careless handling, which is common in mowing, digging and collection, results in physical damage to tubers. In harvesting, potato tubers are often exposed to sunshine for a long time, leading to deterioration (formation of solanin) and weight loss.

Apple

Apple farmers usually pick fruits by hand to small containers hung on a branch nearby, then transfer them to bigger containers on the ground for sorting. Apple is mostly harvested properly, although there is some careless picking.

Tomato

Tomato farmers, either in greenhouse or open field, pick fruits by hand to containers nearby, then transfer them to a nearby place for sorting. Rough or careless picking and collection within narrow working spaces, which cause physical damage to fruit, are common. Usually, matured red fruits are picked for shipment to domestic market as fresh tomato or for processing, while matured red-green or green fruits are for export, depending on the “after-ripening period” and temperature in destination countries.

Olive

Farmers usually strip olive fruits manually, drop them to mats on the ground and then collect them for sorting. However, improper picking, such as shaking branches by hand or hitting by

stick, is widespread. Farmers determine the time of harvest by considering weather conditions (rainfall before harvest is preferred for oil extraction), market prices and maturity of fruit.

(2) Shipment

Syrian farmers usually ship their fruit and vegetables to wholesale markets directly and individually soon after harvest, for sale by wholesalers on commission.

The basic shipping pattern for targeted commodities other than olive is similar. After harvest, farmers sort their produce, by sight and size, on the farm. Use of tools or machines for sorting is very limited. Standards and specifications are not precisely applied. Generally, large products are for marketing and small products for farmers' own consumption or animal feed. The proportion of direct marketing to wholesale markets is estimated as 60 % for apple and tomato, 55% for orange and 80% for potato. Other marketing channels are traders, collectors or damman. Farmers usually make frequent trips (more than 10 per season) to the market by small open trucks, thereby causing quality damage, increasing cost and spending much time for marketing.

Fresh olive fruit is usually processed to oil or table olive for consumption; the former accounts for about 80% and the latter for about 20%. Generally, oily varieties (more oil content) or smaller, lower grade fruits are for oil extraction. Fresh fruit for table olive is mostly shipped to wholesale markets soon after harvest, like other commodities.

Orange

Orange farmers usually ship their produce to wholesale markets soon after harvest. Of the other marketing channels, "damman" are most important. The damman are traders who buy farmers' produce before harvest. They are preferred by those farmers who need money urgently or have limited labor. Cold storage facilities are used mainly for export or juice factories. Many advantages are being recognized for waxing, in keeping quality of fruit. However, this treatment is not practiced at farmers' level.

Potato

Most farmers ship their table potato to wholesale markets soon after harvest. Damman are rare, because of the difficulty of prior assessment of the product. Some farmers multiply seed potato on contract with GOSM. Only quality multiplied seeds complying with its requirements (mainly size) are delivered to GOSM. Some 50% of multiplied potatoes are accepted by GOSM; the remainder is mostly sold as ordinary potato at wholesale markets.

Apple

Fresh apple deteriorates quickly in the natural atmosphere and the harvested product must be

kept in cold storage for long term preservation. However, the capacity of storage facilities differs much by area. Farmers usually determine whether to use cold storage by factors such as market price, availability of storage, storage fee, possible loss in storage, risk by unpredictable prices and urgency for money. After harvest or from cold storage, most apple farmers ship their produce to wholesale markets. Of the other marketing channels, damman are the largest.

Tomato

Tomato farmers mostly ship their produce to wholesale markets soon after harvest. Damman are rare, because of the difficulty in prior assessment of the product. Farmers see marketing as their major problem, under competition between greenhouse and open field, significant price fluctuations and inflow from neighboring countries.

Olive/Olive oil

<Olive oil>

There are 808 oil mills in Syria (as of year 2000). The majority of olive farmers deliver fresh olive to these mills, for oil extraction on commission. Farmers also sell fresh olive to traders or collectors for oil extraction. Inferior raw materials and frequent long waiting times result in fermentation of fruits and degradation of oil. Inefficient and quantity-based operation of the mills also leads to degradation of oil. Extracted oil is usually packed in 16kg tin cans, mostly without anti-rust coating, for storage, transport and marketing. Farmers sell oil mostly to “oil traders” and sometimes, to oil mills. Direct sales from farmers to consumers are common. Damman are few, because transformation of the product from fruit to oil gives little room for damman to stand between farmers and mills and the risk of unpredictable weather (rainfall before harvest). Farmers raise declining price as a major problem in olive oil, under increasing production, as the scope for cost reduction is limited.

<Table olive>

Olive farmers mostly sell their produce (fresh fruit for table olive) at wholesale markets, like other commodities. There are 11 factories and 95 workshops producing table olive. However, the majority of table olive is produced by consumers themselves from fresh fruit.

(3) Losses

1) Losses at harvest

Losses of fruit and vegetables occur at all stages: production, harvest, transportation, storage, marketing and consumption. However, available data are limited and the definition of “loss” is not clear.

To clarify losses of targeted commodities, a field survey (for 32 samples in total) focused on the harvesting stage. Data were collected on-farm for the product harvested. The survey schedule for each commodity was:

Commodity	Place (governorate)	Time	Number of Samples
Orange	Lattakia & Tartous	November 2001	6
Potato	Hama & Idleb	June & July 2001	6
Apple	Damascus (rural) & Homs	October 2001	6
Tomato	Dar'a & Tartous	Oct. & Nov. 2001	7
Olive	Aleppo & Idleb	November 2001	7

The survey revealed:

- Losses caused by harvesting methods (physical damage) are sizable in orange, tomato and potato, but not much in apple. Such losses can be reduced by more careful handling in harvest.
- Losses caused by other than harvesting operation, such as diseases/insects damage, serious deformity and immaturity, are substantial in apple, orange and olive. Reduction of such losses depends on improving pre-harvest technology.
- Rough harvesting methods lead to more losses than careful ways, in orange.

Orange

Losses caused by harvesting operations range from 1.8-6.0%. The survey also suggests that losses are more in rough harvesting methods (dropping picked fruits on the ground or hitting by stick) and less in careful methods (use of small containers in picking). Losses arising from rough harvesting range from 2.5-6.0%, while those with careful harvesting are 1.8-3.1 %. This difference becomes more, if "invisible damage" (described before) is considered.

Losses caused by other than harvesting operations are also sizable. This becomes significant (20-30 %), when losses are defined to include marketable but low grade product (very small or damaged fruit). Generally, low grade fruit is produced by improper technology at pre-harvest stage. Reduction of losses at harvest depends improving production technology, in addition to more careful harvesting.

Potato

Losses caused by harvesting operations are sizable, from 2.5-4.0%. Physical damage is caused mainly by rough or careless harvesting. Reduction of losses can be achieved by more careful handling of tubers in mowing, digging and collection, in addition to improvement of "potato diggers" (covering of the parts that are likely to contact tubers).

Apple

Losses caused by other than harvesting are sizable and become significant (20-30%), if losses are defined to include marketable but low-grade product. Reduction of such losses depends on improvement of pre-harvest stage. Losses caused by harvesting seem to be 1.5-2.0%.

Tomato

Losses caused by harvesting operation (physical damage) range from 1.4-4.2 % for open fields and 3.0-5.6 % for greenhouses. Losses seem to be more in greenhouses than in open fields. Physical damage is mainly caused by trying to raise harvesting efficiency within narrow working space on the farm. Reduction of such losses is possible by more careful picking and collection of fruit in harvest, in addition to expansion of working space.

Olive <The survey was conducted for fresh olive for oil>

Losses at harvest, if defined as waste or unmarketable olive fruit, were found to be nil. However, when losses are defined to include “marketable” but low-grade fruit, the rate of losses rise to the very sizable range of 30-50%.

Farmers usually do not separate low grade fruit, but mix it with normal fruit for delivery to mills for oil extraction. Therefore, there is no waste or unmarketable olive at harvest. However, this practice leads to degradation of oil (quality loss).

Reduction of losses at harvest can be achieved by <1> improvement of pre-harvest technology (reduction of low grade product) and <2> processing low grade fruit separately from normal one (quality improvement as a whole).

2) Losses in storage and transportation

For losses in storage and transportation, interviews with concerned parties including farmers suggest:

- Weight loss (moisture loss) in storage is sizable in apple (5 % for 4 to 5 months) and potato (3 to 4 % for 3 months).
- Weight loss in transportation is much in potato (3 to 4 %), when transporting over long distances.
- Quality losses may be more serious than weight loss.

Further study and research are needed into ways to improve the storage system and transportation method (packing, loading and covering) of each commodity.

3.2 Marketing and Processing

3.2.1 Overview of Fruit and Vegetable Marketing

(1) Unlike major cereal and other strategic crops, fresh fruit and vegetables trading has been in the private sector for a long time; the wholesale markets were established in the 1960s.

Import of these commodities by the private sector has been permitted since 1985 and export since 1987. Almost all foreign trade in fresh fruit and vegetables is now by the private sector.

Until the latter part of 1980s, processing into tomato paste, olive oil and others was by government enterprises. After the Investment Law was enacted in 1991 and as the production of these commodities increased rapidly, many factories emerged in the private sector for processing juice, paste and others.

(2) Around 3.2 million tons of fresh fruit and vegetables were estimated to have been traded through the wholesale markets in 2000. Other marketing channels include direct sales of farmers to processors, exporters and consumers, though their amount is rather limited.

As there are no large-scale supermarkets or chain retailers in Syria, the wholesale markets are the major channels connecting producers and consumers. Almost 80-85% of the total production is estimated to be sold by producers, though varying by commodity.

Most producers sell their produce at wholesale markets individually, although there are middlemen who collect and deliver the produce to the wholesale markets. Such commodities as apple and potato are often stored temporarily in cold storage owned by private companies. Marketing channels of fresh fruit and vegetables are illustrated in Fig.3.15.

The “damman”, who is an important player in marketing, buys the produce one month before harvest. At the point of deals, damman pay the amount agreed in cash or in kind and ownership of the expected product is transferred to them. Farmers who face shortage of funds and labor may prefer to sell to damman to obtain cash in advance. The damman takes the risk for actual harvest (volume and quality) and market price to be realized at the time of harvest. After conclusion of deals, the damman becomes responsible for crop management. Damman are multifunctional, as they are often wholesalers, exporters and others. They are considered to be closely connected to the wholesalers. This system seems to be adopted widely, but the magnitude is not clear. Various forms of this system are observed for fruit and vegetables. A popular one is that the traders by their own fund or others make damman contract with

producers. Another type is the trader to make damman contract with producers based on the request from exporters, processors and wholesalers on commission basis. In case of the former, the risk is borne by traders while in the latter risk will not be borne by the traders who make damman contracts.

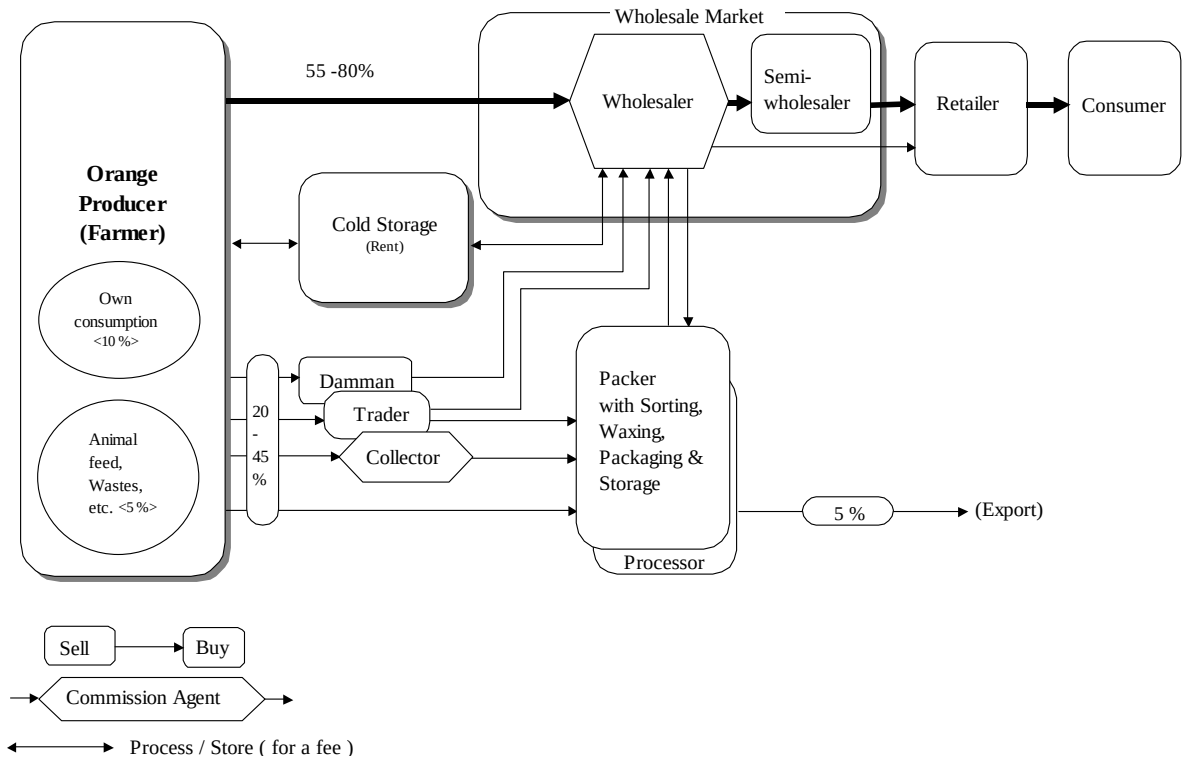


Fig.3.15 Market Channel of Fruit and Vegetables

(3) The major trade flow of fresh fruit and vegetables is from producer to wholesale market, from wholesale market to retailers, processors and exporters, and from retailers to consumers (as shown in Fig.3.15). In the wholesale market, commodities brought in by producers, middlemen or transporters, is sold by the wholesalers at the price agreed by both sides, on commission. It seems to be common for wholesalers to have strong ties with specific suppliers. The wholesalers seem to have the initiative in deciding prices, as they have experience and wide information on market conditions. Wholesalers and semi-wholesalers sell to a limited number of retailers, exporters and processors, but without the strong ties they have with suppliers.

Payment to the suppliers (producers, middlemen etc) by wholesalers is usually weekly, on Thursday or Friday. However, in cases where the producers borrow money from the wholesalers, payment is monthly. In case of exporters, extension of payment clearance seems to be permitted as the collection of export bill may take a couple of weeks.

The dominant transaction method is face-to-face negotiation for sale on commission; auction is not used. Wholesalers take the initiative in price determination and producers may be at a disadvantage in the negotiations. An auction system would provide transparency in trade and contribute to fair price formation. However, the auction system requires sorting, grading and packing to be effective and most of are difficult practices for small scale producers.

Wholesalers often provide loans to producers, in material or in cash. One wholesaler in Aleppo provides loans to 20-50 producers among his 200 clients, with loans to individual producers ranging from SYP 70-100,000. Although the loan does not require interest, wholesalers recover the cost of loan in one way or another, including the price of products or materials.

Framers deliver their produce to wholesale market both within their own Governorate and elsewhere, relying on market information provided personally by mouth to mouth. As no official information is available, the scope and quality of market information are limited.

3.2.2 Domestic Supply of Major Fruits and Vegetables

Production, exports and imports of the five target commodities for the past 20 years are shown in Table 3.1; detailed data is in Annex Table 3.13. The overall time frame is divided into four periods: 1981-85, 1986-90, 1991-95 and 1996-2000.

Table 3.1 Domestic Supply of Five Commodities

(unit : 000tons)

	Citrus				Apple				Olive				Tomato				Potato			
	P	I	E	B	P	I	E	B	P	I	E	B	P	I	E	B	P	I	E	B
1981-85 (I)	87	80	2	165	125	11	1	135	259	3	0	262	770	38	1	807	302	3	8	297
86-90 (II)	262	27	1	288	167	0	13	154	356	0	0	356	559	5	9	555	400	8	40	368
91-95(III)	499	1	5	495	234	0	4	230	402	0	0	402	431	0	57	374	412	5	60	357
96-00(IV)	701	0	24	677	322	0	11	311	620	0	0	620	547	0	131	416	436	4	26	414

Note : P = Production, I = Import, E = Export, and B = Balance of Supply and Demand

Source: The Annual Agricultural Statistical Abstract 1980～2000

1) Citrus

In the first period, nearly half of the total supply came from imports. Sharp increases in production later contributed to self-sufficiency and the creation of export capacity. Production increased by more than eight times over the past 20 years, from 87,000 to 701,000 tons, while the total supply rose from 165,000 to 677,000 tons.

2) Apple

Apple production increased during the past 20 years, although not as much as that of citrus.

Apple production increased 2.6 times in the 20-year periad, while total domestic supply increased by 2.3 times as exports expanded and imports almost disappeared.

3) Olive and Olive oil

Fresh olive production increased by 2.4 times during the period. As olive fruits are not usually imported or exported, production basically equals domestic supply. Olive oil production increased in parallel to that of olive fruit. However, export performance so far is not significant.

4) Tomato

Tomato production has not increased over the past 20 years. Total domestic supply in the first period was 807,000 tons. In the fourth period, domestic supply decreased to 416,000 tons, with exports of 131,000 tons. Tomato has the biggest export volume of all fresh fruit and vegetables.

5) Potato

Potato production increased gradually over the past 20 years. Domestic supply also increased. Exports are increasing, although rather erratically.

3.2.3 Wholesale Markets

(1) Overview of the wholesale markets in Syria

There are 12 major wholesale markets, each one for each governorate except Sweida and Quneitra. There are also small-scale wholesale markets in major producing governorates such as Aleppo and Lattakia. These markets were established in the 1960s and 70s, except those in Tartous and Lattakia, which were relocated in 1997 and thereafter.

The owners of the wholesale markets are local governments (Governorates), which are responsible for maintenance of their facilities. Outlines of the 12 major wholesale markets are in Annex Fig. 3.1 and Annex Table 3.14-16.

The markets have average land area of 3.3 ha and building space of 6,000 ㎡. Market participants average 74 wholesalers, 155 semi-wholesalers and 820 shippers (suppliers). Buyers average around 240, although widely varying by market. Usually, wholesalers rent their shops (called booths) of 30-50 ㎡ for their business. Rent is usually SYP 15-30,000/year and increasing. In some markets, booths are sold to wholesalers by the local governments.

Local governments are responsible for conclusion of lease contracts on booths, collection of fees and charges, regulation and traffic within the markets. Each wholesale market has a market committee, consisting of 4-13 members chosen from among wholesalers and semi-wholesalers, to deal with liaison and negotiation with local government and solution of conflicts among

market participants. Wholesalers are required to hold commercial certificates issued by the Chamber of Commerce.

(2) Handling volume of 12 major wholesale markets

Daily total volume of trade in the 12 markets is estimated as 12,619 tons. Damascus City market has the highest volume of 3,900 tons, followed by Aleppo (1,354 tons), Lattakia (1,092 tons) and Hama (1,072 tons). The five target commodities share about 50% of the total volume. Tomato has the highest share of 18% (2,276 tons) followed by orange of (10.8%, 1,356 tons) and apple (6.2%).

Total yearly volume of the 12 markets is estimated as 3.6 million tons. This figure is higher than the estimated total traded of 3.2 million tons, implying that significant amounts of fruit and vegetables are traded among wholesale markets. Monthly handing volumes by governorate are shown in Annex Table 17-21.

Table 3.2 Handling Volumes of Commodities by the Governorates

(Unit: ton per day)

	Orange	Apple	Fresh Olive	Tomato	Potato	Others	Total	Yearly	
Damascus City	462	226	35	550	268	2,359	3,900	1,123,200	31%
Damascus Rural	42	56	0	383	85	192	758	218,304	6%
Aleppo	123	85	29	154	188	775	1,354	389,952	11%
Homs	75	98	13	204	188	258	836	240,768	7%
Hama	46	50	10	102	181	683	1,072	308,736	8%
Tartous	135	41	17	147	77	616	1,033	297,504	8%
Lattakia	298	54	21	196	73	450	1,092	314,496	9%
Idleb	46	57	71	165	350	125	814	234,432	6%
Al-Raqqa	21	23	5	80	58	111	298	85,824	2%
Deir-Ezzor	60	54	6	123	100	111	454	130,752	4%
Al-Hassake	13	13	3	77	61	378	545	156,960	4%
Dar'a	35	25	13	95	76	219	463	133,344	4%
Total	1,356	782	223	2,276	1,705	6,277	12,619	3,634,272	100%
Yearly	412,608	226,368	62,928	653,400	543,365	1,807,776	3,634,212		

Source : Study Team

(3) Activities of major players at wholesale markets

Major players in wholesale markets include shippers (producers and traders), wholesalers, semi-wholesalers and buyers (retailers and others).

1) Wholesalers and semi-wholesalers

Wholesalers and semi-wholesalers do business in the wholesale markets, renting the booths from the local governments. There seems to be no clear difference between wholesaler and semi-wholesaler in terms of role and function. However, it is noted that the wholesaler has more funds and experience and is more trusted than the semi-wholesaler. Many wholesalers and semi-wholesalers have multi-functional characteristics, doing other related business such as

export, processing and retailer.

The wholesalers and semi-wholesalers in the 12 major markets total about 1,500, with a range of 28- 400 inn each. Their daily volume of trade by season is shown in Table 3.3. Average volume daily traded by each wholesaler was 58 tons, being highest in summer (69 tons) and lowest in winter (50 tons). Each wholesaler/semi-wholesaler has an average of 124 shippers who regularly supply the produce.

Table 3.3 Handling Volume of Major 5 Commodities by Season

(Unit: ton per day)

	Orange	Apple	Fresh Olive	Tomato	Potato	Others
Winter Season	12.5	4.8	1.8	7.9	13.8	7.3
Spring Season	7.9	2.0	0.0	10.8	15.7	17.9
Summer Season	0.5	9.3	0.0	28.2	12.2	19.5
Autumn Season	9.5	7.5	4.7	11.2	16.2	10.3
Average	7.6	5.9	1.6	14.5	14.5	13.8

2) Shippers

Shippers to the wholesale markets consist mainly of producers (83%) and middlemen (8.6%). There are transporters who transport the produce to wholesale markets at the request of producers. Shippers usually deliver the produce to the wholesale markets in their own governorates (62%), with the remainder being shipped to other markets outside their governorates. Distance of transportation often exceeds 100km.

Daily amount of shipment by commodity by one shipper is shown in Table 3.4. Due to the time of survey in summer (July-September), tomato and potato have higher share than usual.

Table 3.4 Shipping Volume by Commodities

(Unit: ton)

	Orange	Apple	Fresh Olive	Tomato	Potato	Others
Damascus City	0.5	0.5	0.5	1.7	2.4	1.3
Aleppo	0.3	0.1	0.2	2.6	4.1	4.7
Homs	0.0	0.6	0.0	0.9	1.1	0.6
Tartous	0.4	0.0	0.0	1.4	0.0	1.5
Lattakia	1.6	1.4	0.4	1.7	1.6	0.0
Al-Raqqa	0.8	0.7	0.2	1.8	1.1	1.3
Average	0.6	0.6	0.2	1.7	1.7	1.6

Source : Study Team

3) Buyers

Buyers consist of grocery store owners (87%), juice stand owners (8%) and others. Many of the buyers (58%) live within 5 km of the market and 31% within 5-10 km; only 11% are beyond 10 km. Transportation from markets to shops is by rented pick-up trucks or vans. Only 11% of the buyers have their own vehicles. Average daily purchases by buyer are shown in Table 3.5.

Table 3.5 Purchasing Volumes by Commodity

(Unit: kg per day)

	Orange	Apple	Fresh Olive	Tomato	Potato	Others
Damascus City	80	49	4	196	148	304
Aleppo	108	98	0	73	73	80
Homs	73	55	7	94	65	36
Tartous	123	113	0	160	60	300
Lattakia	220	138	20	315	197	260
Al-Raqqa	75	88	0	135	103	345
Average	113	90	5	162	124	221

Source : Study Team

(4) Losses at marketing

Losses at marketing of fresh fruit and vegetables are divided into those at the farm stage, at wholesale and at retail market. At the wholesale market, losses occur at unloading and dividing of cargo. However, losses at this stage are very limited as the commodities are usually disposed within a day. Losses occur at each stage of retailing: transportation, storage and sales; losses by transpiration during storage, depending on the period, can be substantial. Very few data on the losses of fruit and vegetable at this stage in are available. Therefore, surveys of losses in retailing have been conducted by questionnaire to 10 retailers in each of 7 governorates. The losses occur in transportation and storage, through produce being unsold and in others.

Table 3.6 Losses in Marketing

(Unit: %)

	Orange	Apple	Tomato	Potato
Transportation	1.0	0.7	2.0	1.0
Storage	1.8	1.9	1.6	0.7
Unloading	0.6	0.0	0.0	0.3
Unsold	3.1	1.8	4.1	2.2
Others	0.2	0.5	0.3	0.4
Total	6.7	4.9	8.0	4.6

Source : Study Team

3.2.4 Price

(1) Farm gate price

Farm gate price of fresh fruit and vegetables is rather difficult to grasp accurately in Syria, as most farmers ship their produce directly to the wholesale market. It may be calculated by deducting the transport cost and the commission to be paid to wholesaler from the price obtained at the wholesale markets. However, in case of damman contract, as produce are sold prior to harvest, the price will be far lower, possibly around 65-80 % of the wholesale price, than that of sales on commission.

Wholesale price are realized by face to face between sellers and buyers, based on the agreed price with shippers. In deciding the offer price at wholesale, wholesalers have initiatives and advantages to shippers in general.

Retail price is decided by adding cost and profit of retailers to the wholesale price. The commission of wholesalers and margin of retailers are regulated by law and supervised by the Ministry of Supply and Internal Trade, but application of the regulation seems to be lax.

Export price depends mostly on the wholesale price of the destination country. Major foreign markets are Arab countries where produce is sold, in many cases, at wholesale markets on commission. Price is 15-30% higher than in domestic markets, but quality standards are strictly applied. Quality standards are especially strict in EU markets.

(2) Wholesale price

Trends of wholesale prices over the past 10 years differ by commodity. Wholesale prices of orange and potato remained rather constant, while those of apple and olive oil have significantly increased. Wholesale price of tomato declined gradually. Wholesale prices do not correlate to production and supply, as all commodities have shown increased supply.

Seasonal fluctuation is conspicuous, particularly for tomato and orange. Winter season tomato grown in greenhouses is much higher than that grown in open fields. As apple, olive oil and potato can be stored for longer periods, seasonal fluctuations of their prices are minimal compared to those of other perishable fruit and vegetables such as orange and tomato.

Table 3.7 Wholesale Price of Five Commodities in 1991 - 2000

(Unit: SYP/kg)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Orange	17	21	23	24	19	23	20	21	22	18
Apple	19	21	21	26	28	32	29	29	27	28
Olive Oil	92	103	117	117	117	155	151	150	131	127
Tomato	15	17	18	18	15	15	15	15	11	10
Potato	9	6	9	12	12	9	20	17	9	11

Source : The Annual Statistic Abstract

Table 3.8 Wholesale Price by Month in 2000

(Unit: SYP/kg)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct	Nob.	Dec.
Orange	14	22	15	15	18	19	25	23	21	16	14	14
Apple	27	26	27	30	32	32	28	25	26	26	29	30
Olive Oil	128	129	128	128	138	129	129	128	128	123	120	114
Tomato	17	14	16	18	14	6	5	6	7	6	6	7
Potato	10	10	10	11	11	9	10	13	15	15	10	10

Source : The Annual Statistic Abstract

(3) Retail price

Long term trends in retail prices and their seasonal fluctuations follow closely those of wholesale prices, as shown in Table 3.9 and 3.10.

Table 3.9 Retail Price of Five Commodities in 1991 - 2000

(Unit: SYP/kg)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Orange	20	25	27	29	24	28	24	25	27	22
Apple	22	25	26	32	34	39	35	31	33	34
Olive Oil	101	113	126	126	126	172	166	165	146	142
Tomato	18	21	22	22	19	18	19	18	14	13
Potato	11	8	11	16	16	11	24	23	12	14

Source : The Annual Statistic Abstract

Table 3.10 Retail Price by Monthly in 2000

(Unit: SYP/kg)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct	Nob.	Dec.
Orange	18	18	19	20	23	23	30	28	27	18	18	18
Apple	33	32	33	35	39	38	34	30	31	32	34	35
Olive Oil	145	145	147	145	145	145	145	143	143	138	133	127
Tomato	21	18	21	23	18	8	7	8	9	8	8	10

Source : The Annual Statistic Abstract

(4) Ratio of retail price to wholesale price

Ratio of retail price to wholesale price for five commodities is shown in Table 3.11. In general, ratio for each commodity is rather constant during the past 10 years, being higher for tomato

and potato and lower for olive oil and apple. The ratio also differs by the amount dealt by retailers, being higher in cases of small amounts.

Table 3.11 Ratio of Retail Price to Wholesale Price

(Unit: %)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Orange	118	119	117	121	126	122	120	119	123	122
Apple	116	119	124	123	121	122	121	106	122	121
Olive Oil	110	110	108	108	108	111	110	110	111	112
Tomato	120	124	122	122	127	120	127	120	127	130
Potato	122	133	122	133	133	122	120	135	133	127

Source : Based on the Annual Statistic Abstract

(5) Export price

Export prices of the five commodities in the past five years are shown in the table below, compared with wholesale prices. It should be noted that until 1999, the value of the Syrian pound, as applied to foreign trade, was fixed above its actual value. Since 2000, the exchange rate applied for export has been modified to the neighboring exchange rate of SYP 46 = USD 1.00. As the quality standards applied to export is fairly strict, direct comparison seems not to be appropriate. The timing (season) of export and quality of commodity need to be considered to evaluate the profitability of export.

Table 3.12 Export Price of Five Commodities

(Unit: SYP/kg)

	1996		1997		1998		1999		2000	
	E.P	W.S.P	E.P	W.S.P	E.P	W.S.P	E.P	W.S.P	E.P	W.S.P
Orange	9.2	23.0	8.6	20.0	8.3	21.0	8.4	22.0	25.7	18.0
Apple	12.4	32.0	8.5	29.0	5.2	29.0	6.0	27.0	23.7	28.0
Olive Oil	29.8	155.0	35.5	151.0	35.9	150.0	36.2	131.0	-	127.0
Tomato	6.2	15.0	6.3	15.0	6.6	15.0	7.4	11.0	18.9	10.0
Potato	5.0	9.0	7.0	20.0	5.0	17.0	5.0	9.0	20.0	11.0

E.P : Export Price W.S.P : Wholesale Price

Source : Based on the Annual Statistic Abstract

3.2.5 Processing

The recent history of fresh fruit and processing in Syria can be divided to three stages. The first stage covers the years from 1946 to 58, when promotion of processing industries for import substitution was encouraged. In the second stage (1960-85), state enterprises were given preferential treatment and enjoyed rapid increases in demand. However, modernization of facilities and quality improvement of the products was not realized. In the third stage, starting from 1985, significant change has occurred. Due to the policy shift to a market-oriented

economy, the private sector is encouraged to participate in the processing industry. Investment Law No. 10 further encouraged investment in this sector. To the end of the year 1998, around 338 companies for food processing had obtained licenses.

State enterprises are dominant in processing of cereals and edible oil. In the case of fresh fruit and vegetable processing, the private sector has the majority, except for tomato paste. Currently there are 10 state enterprises for fresh fruit and vegetable processing, while private companies number nearly 40.

(1) Processing industry by commodity

1) Juice processing

There are 15 private fruit juice companies in Syria, producing natural and concentrated juice from orange, apple, tomato, grapes and others. Yearly production of juice in the past 5 years is shown in the Table 3.13.

Table 3.13 Production of Fruit Juice

(Unit: ton)

	1995	1996	1997	1998	1999
Orange	1,421	1,463	1,858	3,253	3,374
Apple	813	836	1,593	1,859	1,928
Others	1,826	1,882	1,859	4,184	4,337
Total	4,060	4,181	5,310	9,296	9,639

Source : Study Team

2) Tomato processing

Around 50,000 tons of fresh tomato is processed in Syria yearly. Processed tomato includes paste, ketchup and juice, although the last-named is very limited. Tomato paste is one of the major food processing industries in Syria and is made mainly by six state enterprises.

3) Olive oil

Some 80–85% of fresh olive is used for oil extraction. Oil mills in Syria at the end of 2001 totaled 808, as shown in the table below. The number of the oil mills did not change much in the past five years in spite of the increase in olive production. However, the capacity has increased and quality has been improved by replacement of press type systems by centrifugal systems. Capacity by the type of mills is estimated as:

Old hydraulic type	1.5-2.0 tons/day
New hydraulic type	6.0-7.0 tons/day
Centrifugal type	23.0-35.0 tons/day

Table 3.14 Number of Oil Mills and Capacity

	Continuous system	New Hyd. Press	Old Hyd. Press	Total	Capacity (ton/day)
1991	76	486	140	702	6,447
1995	128	498	107	733	7,942
1996	145	500	106	751	8,543
1997	154	501	105	760	9,096
1998	177	505	105	787	9,954
1999	189	545	61	795	11,209
2000	201	546	61	808	11,733

Source : Agricultural Statistics, data of Olive Bureau etc

4) Potato chips

Potato chip, a new product in Syria, is made by five companies, one in Aleppo and four in Damascus. As an example, one company in Damascus produces one ton of chips daily using 4-5 tons of fresh potato, which is procured daily from the wholesale market. Employees total 150, of whom 120 are workers at the factory.

3.2.6 Export

(1) Foreign trade of fresh fruit and vegetables

In the early part of 1980s, when foreign trade in fresh fruit and vegetables were conducted by state enterprises, major import items were citrus and apple and major export items were tomato and potato. In 1985, the private sector was permitted to import industrial equipment and material and in 1987, to export fresh fruit and vegetables. Investment Law No.10 (in 1991) also encouraged the private sector to enter into processing and export business.

As Syria has achieved food self sufficiency production of fruit and vegetables is increasing, export promotion is now a matter of priority. Most fruit and vegetable exports started in 1990s and their rather short history limits the experience and expertise of exporters.

The share of fruit and vegetables in Syrian exports is gradually increasing. In 1999, of total exports of SYP 38.9 billion, agricultural products accounted for SYP 6.5 billion, or 16.7% and fresh fruit and vegetables accounted for SYP 4.3 billion, or 11.1%. Petroleum and related products are the dominant export items of Syria, accounting for SYP 26.1 billion or 67% of the total. Export of agricultural product, particularly of fruit and vegetables, are a very significant part of non-petroleum exports.

(2) Export of major commodities and their destinations

・ Orange

Export volume of orange increased from 7,300 tons in 1995 to 24,000 tons in 2000. The largest

destination over the five years from 1995 to 1999 was Saudi Arabia (17,900 tons, 45%), followed by Kuwait (6,000 tons, 15%), UAE (5,800 tons, 4%) and Jordan (3,500 tons, 9%). More than 90% is shared by the Gulf and neighboring countries.

・ Apple

From 5,800 tons in 1995, apple export increased to 24,000 tons in 1999 and then fell to 15,300 tons in 2000. The largest destination by five-year total is Egypt (32,300 tons, 56%), followed by Saudi Arabia (15,100 tons, 26%), Kuwait (7%), UAE (4%) and Jordan (3%).

・ Olive oil

Olive oil export volume was about 5,000 tons in 1995 and 1996, but declined to 2,300 tons in 1999. Lebanon (6,100 tons, 39% over the five years) is the highest destination, followed by Spain (4,200 tons, 26%) and Saudi Arabia (2,300 tons, 15%). However, as there were no exports to Spain and Lebanon in 1998 and 1999, Saudi Arabia and UAE share 56% of the total.

・ Tomato

From 72,900 tons in 1995, tomato exports increased to 189,600 tons in 2000. The five-years total was highest for Saudi Arabia (441,000 tons, 76%), followed by the Russian Federation (7%) Kuwait (3%) and Lebanon (2%). From 1998, the Russian Federation emerged as one of the major destinations.

・ Potato

From 42,000 tons in 1995 potato export increased to 58,800 tons in 1999. However, yearly fluctuation is significant. Potato export has a longer history than the other commodities, starting in the 1980s. In 1990 and 1992, potato export exceeded 100,000 tons. The highest five-year destination is the UAE (35,400 tons, 24%), followed by Greece (32,000 tons, 20%), Lebanon (23,900 tons, 16%) and Kuwait (19,800 tons, 10%). Destinations are numerous, including EU.

(2) Exporters, packers and cold storage operators

・ Exporters

Exporters are increasing in parallel to the increase in exports of fruit and vegetables and in the year 2000, totaled 178. As shown in the table below, more than 40% are in Damascus.

Table 3.15 Number of Exporters and Export Volume in 2000

	Exporters	Export Volume (ton)
Damascus	70	192,800
Dar'a	6	22,700
Sweida	4	17,000
Homs	14	28,300
Hama	15	39,700
Idleb	6	11,300
Aleppo	35	124,700
Lattakia	12	56,700
Tartous	9	4,900
Banias	7	39,700
Total	178	537,800

Source : Study Team

・ Packers

There are 110 packing companies for export of fruit and vegetables in Syria. Number and daily capacities of these companies are listed in the table below. As most of the packing operations are done manually, actual capacity is fairly flexible.

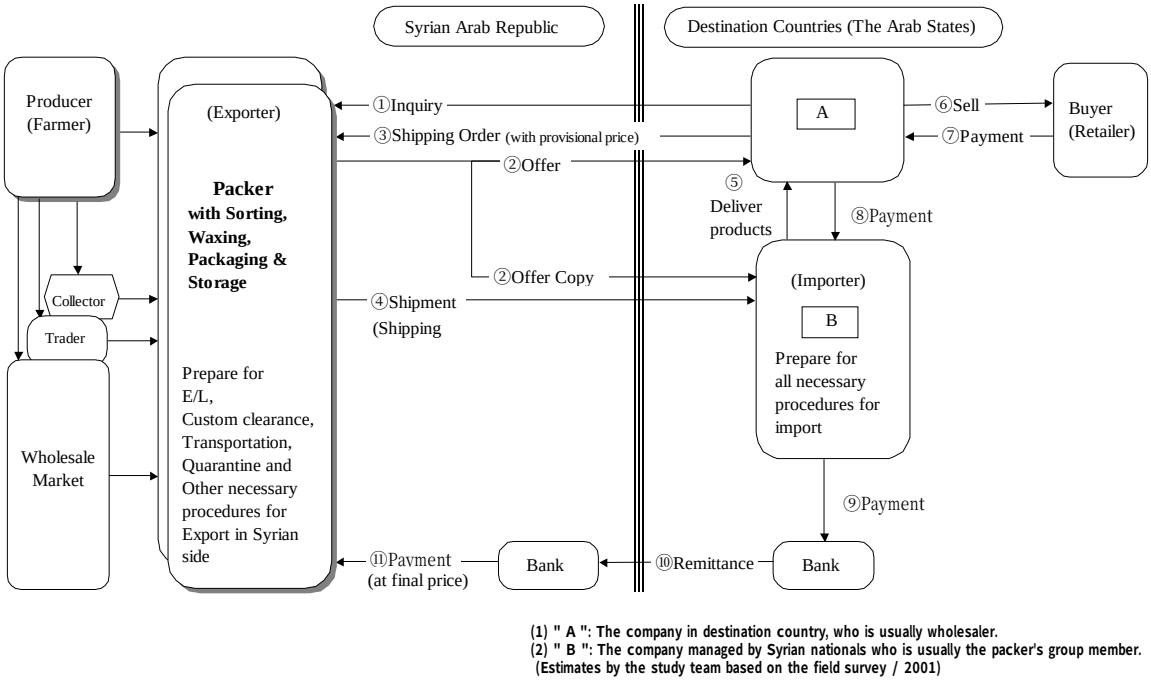
Table 3.16 Number of Packers and Daily Capacities in 2000

	Packers	Daily Capacity (ton)
Damascus	35	5,500
Dar'a	8	2,800
Sweida	4	4,300
Homs	9	3,100
Hama	11	3,600
Idleb	4	2,800
Aleppo	16	7,800
Lattakia	9	6,300
Tartous	7	4,900
Banias	7	3,700
Total	110	44,800

Source : Study Team

・ Cold storage operators

Supply of commodities to markets can be adjusted by cold storage, taking account of the market situation, particularly of price. This also applies in case of export. Apple and potato are commonly stored for longer periods. There are 712 storages in total, of which 684 are of private and 29 are of state enterprises. Total capacity is estimated at 1,166,000 tons for the private sector and 60,000 tons for state enterprise.



(1) " A ": The company in destination country, who is usually wholesaler.
(2) " B ": The company managed by Syrian nationals who is usually the packer's group member.
(Estimates by the study team based on the field survey / 2001)

Fig.3.16 Market Channel of Fruit and Vegetables for Export

Chapter 4 FINDINGS OF COMMODITY STUDIES

4.1 Orange

Syria's success in expanding orange production over the past three decades has benefited producers and consumers and created opportunities for further development, but has also brought challenges to improve production and marketing systems. There will be substantial further increases in production in the immediate future, as recently planted trees reach fruit bearing age and those already giving fruit become more mature. However, the recent rates of expansion of planted area of orange will not be sustainable as suitable land is limited to Lattakia and Tartous Governorates and there will be increasing competition from other uses. Potential for increasing the value of orange production thus rests mostly on improving quality of the product and efficiency of handling, both on-farm and through the marketing chain.

Almost all the recent increase in supply of orange has been absorbed by the domestic market, although with a fall in price of about 25% over the last ten years. Increases in demand to result from population growth and rising incomes in the next few years are likely to be less than needed to absorb the expected greater production. The domestic market must be developed further and the quantity exported must be increased to balance supply and demand.

4.1.1 Production

Production of orange, which is about half that of all citrus, almost doubled over the past decade and reached 382,000 tons for the two-year average of 1999 and 2000. Most of the 27,000 growers have orchards of less than one hectare and although yields appear high by world standards, their incomes are limited by their small holdings.

The quality and consistency of orange fruit leaving farms is limited by a number of husbandry practices. Most growers, with a mix of citrus varieties in their groves, are not able to pay enough attention to the needs of individual species for fertilizer and water. Few farmers pay serious attention to important tree husbandry techniques such as pruning and thinning. Pruning is necessary for appropriate foliage formation of young trees, higher yield of fruit-bearing trees and rejuvenation of aged trees.

The quite long harvesting period and the mix of species allows the supply of fresh orange to markets from November to June. However, there are few plantings of late-maturing varieties to meet consumer demand from April to June.

4.1.2 Harvesting and Shipment

Farmers have been slow to adopt the careful harvesting and handling techniques which are essential for competitive and commercial fruit production. The present harvesting and collection methods adversely affect the quality of orange; for example, the widespread practice of dropping fruit to the ground, even when mats are used for buffering, leads to physical damage by shock.

Some farmers, notably those with large holdings, have been able to increase returns significantly by grading their fruit before shipment. However, sorting of orange has not been widely applied by farmers.

Farmers transport their orange to wholesale market in open trucks, where it is exposed to weather conditions leading to loss of moisture and overall deterioration. The small scale of farms results in farmers making several trips to market with their produce; this increases costs and limits their bargaining power with buyers.

4.1.3 Marketing and Processing

(1) Market channels

About 55% of orange production is sold direct to wholesalers at the 12 wholesale markets. Most of the remainder is bought from farmers by various traders including especially “damman” (who buy the standing crop in advance), for delivery to wholesale markets and exporters. A small proportion is procured directly by processors.

(2) The domestic market

Domestic consumption has risen to about 20.1 kg per person in 2000, similar to that in other producing countries, almost all which is consumed in fresh form. Commercial processing of orange to juice, marmalade, jam and oils is in its infancy. Substantial quantities of freshly squeezed juice are consumed at stands, mostly in Damascus and other large cities. There is some prospect that the market for juice will grow as incomes rise and urbanization proceeds.

(3) Foreign markets

Syria has expanded orange exports in recent years, to 20-25,000 tons, or 5-6% of production, with the dominant destination being the Gulf States. Syria’s market share in the Gulf States is low, giving rise to the possibility of increasing exports there. Although other export markets, such as the Russian Federation, might be exploited, consolidation of recently-won markets in the Gulf is the highest priority, to stabilize the orange industry and set a sound base for further expansion. However, Syria faces the difficulty of being a high-cost producer, with the margin

between its wholesale and world export prices being probably too narrow to cover the costs of exporting.

(4) Quality standards and specifications

Syria's standards for citrus fruits including orange specify ripeness, external appearance, size, packing, transporting and storing. It appears that the standards are not strictly applied or observed for domestic produce. More attention is apparently paid to quality standards for export produce, which are fixed in the contracts between Syrian exporters and importers in destination countries and seem more rigorous than those established by SASMO.

4.1.4 Supply and Demand Forecasts

Production for 1999-2000 of 382,000 tons gave supply of about 344,000 tons, after losses between the tree and the consumer. Simulation of the age structure of the national tree stock and application of expected yields give a production forecast for 2010 of about 570,000 tons, almost 50% above that for 1999-2000, which would give supply of about 513,000 tons.[1]

The expected increase in population between 2000 and 2010, of about 4.1 million, will add about 80,000 tons to domestic demand at current consumption of 20.1 kg per person. If the trends of the 1990s are continued, incomes will rise by about 34% between 2000 and 2010, but the likely impact on demand can not be forecast, because of data limitations. If the income elasticity of demand is between 0.20 and 0.70 (an arbitrary range), then increasing incomes should lift demand by somewhere in the range 30-95,000 tons. Total domestic demand in 2010 is thus likely to be 432-497,000 tons.

The forecasts suggest that supply of orange in 2010 will exceed demand by somewhere in the range from 18-83,000 tons. As exports are now 20-25,000 tons, the gap between supply and domestic demand is likely to be up to about 60,000 tons. Some expansion of exports or further increase in domestic consumption will be necessary to balance supply and demand if production is near the upper end of the forecast range.

4.1.5 Potential

The prospects for orange production, processing and marketing are, on the whole, bright. Domestic demand should remain strong, although it will be influenced by the demand/supply and price situations of other fresh fruits and vegetables, as consumers vary purchases within their "food baskets". The domestic market can be further developed by introduction and enforcement of national grades of orange and by greater processing.

[1] The Syria side estimated the different production forecast as shown in Annex table 4.1.

Farmers will come under some pressure as falling prices affect profitability and should be increasingly receptive to proposals to help them to become more efficient. The quantity and value of farmers' orange output could be increased by better farming technology and on-farm handling methods, both of which should be encouraged by extension services.

The quality and value of output of orange could be raised by improving handling at every stage between harvest and the wholesale market. Better collection and sorting practices and improved transport techniques could reduce damage and loss of fruit. Many of the farmers' marketing problems could be addressed by introduction of collective marketing, which could increase choice of marketing time, reduce transport costs and strengthen bargaining power with buyers.

Syria's preservation and development of the export markets it now holds depends on improving its competitive strength and on meeting the specific needs of consumers in destination countries. The two areas to improve competitive strength are (i) reduction of production and marketing costs to enable lower prices to be offered; and (ii) raising further the quality of produce. Meeting consumers' needs and thus securing markets and maximizing prices depends on the gathering of timely, accurate and relevant market intelligence in destination countries, for rapid dissemination to farmers, traders and processors within Syria.

4.2 Potato

Syria's potato farming and marketing have performed very consistently over the last decade, although output has increased only slowly – by less than population growth. There have been two changes to farming and marketing. First, production has shifted substantially away from summer/autumn towards spring, leading to higher overall average yield. Second, potato sales shifted away from export and to domestic markets, in response to strong demand from Syrian consumers. Potato appears to have a growing future as domestic demand is likely to be lifted greatly by population growth and as small export opportunities are taken up.

4.2.1 Production

Potato as a rotational crop has been consistently profitable. Total production increased by about 1.7% annually from 421,000 tons in 1991 to 491,000 tons in 1999 (three-year averages). Yield steadily increased from 17.7 to 21.2 tons per hectare, because mostly of the shift from autumn to spring/early summer production.

4.2.2 Harvesting and Shipment

Current harvesting and on-farm handling methods lead to some damage to potato and reduce its marketability. Improvement of all operations carried out by the farmer, from crop husbandry to marketing, would lift efficiency and give better product with reduced losses. Improvements could be made to harvesting techniques and equipment, to on-farm handling and short-term storage and to transport to market. With increased cold storage capacity, farmers could harvest the crop at its optimum, rather than by necessity, and sell when prices were highest. Better sorting, into widely-known and accepted grades would increase the overall value of the crop.

4.2.3 Marketing and Processing

(1) Market channels

Market channels are similar to those of most fruit and vegetables, with wholesalers at regional markets being the most important buyer from farmers. Various traders (mostly for subsequent delivery to the regional markets) are the second important channel. Potato is also sold direct to consumers who visit farms, especially in the autumn. Potato has the distinct characteristic of being able to be left in the ground for considerable periods, thus giving farmers flexibility in marketing and minimizing monthly variation in deliveries to markets.

(2) Processing

Fresh is by far the most preferred form for consumption in Syria and processed potato has not become popular. Fried potato is very common to the diet; restaurants and pizza shops serve much fry, which they prepare from purchased fresh, whole potato. Five new companies have emerged to make potato chips; their share of the domestic potato market is less than 10%.

(3) Consumption

Domestic consumption has risen by about 20% over the last ten years, to about 24 kg per person. This has resulted in a substantial shift away from export, to domestic sale. Future increase in domestic demand will depend mainly on population growth, with only limited amounts expected to be generated by rising incomes. There is a need to further develop production for the domestic market, to ensure that farming remains profitable and that consumers' needs are satisfied. More needs to be done to increase domestic consumption of processed potato, especially fried. There should be a determined effort to reduce production and marketing costs to stimulate domestic sales.

(4) Foreign markets

Syria's potato exports have fluctuated over the past ten years. The most important and consistent buyers are the Gulf States, although occasional large single sales are made to various

other countries. Syria has established a small foothold in the EU market, specifically Germany, because it is able to supply when there is little competition. There are important difficulties in exporting potato. First, potato is not widely traded internationally because of its very low value relative to volume and because it can be grown in many different environments to meet domestic demand of most countries. Second, Syria is a high-cost producer, with its wholesale price in recent years very near and sometimes above, the world export price.

(5) Quality standards and specifications

Syria has established standards for "Potatoes", "Ware Potatoes", "Potato Chips", "Quick Frozen Fried Potatoes" and "Dried Potatoes". The standards are not, however, strictly applied or observed. Specifications for export are fixed in the contracts between Syrian exporters and importers in destination countries. These specifications, which are usually set by the importers, seem more rigorous than those established by SASMO.

4.2.4 Supply and Demand Forecasts

There are no foreseeable domestic or external developments, which might disturb the established production trend, of increase of about 1.7% per year. There is no apparent reason why farmers' view of potato, as a profitable crop well suited to inclusion in rotations and which can be steadily expanded, should change. If the trend of the past ten years continues, the preliminary forecast of annual production for 2010 is of an increase of 95,000 tons above the year 1999 base of 479,000 tons - to about 575,000 tons.

In the absence of any increase in consumption per person (24 kg), the additional population expected for 2010, of about 4.1 million, might consume about 100,000 tons of potato. The influence of rising income on demand can not be calculated accurately; it is therefore assumed that its likely impact might be induce demand to increase to the highest level previously recorded, of about 27 kg per person; if so, the impact would be a further increase in demand of 60,000 tons. The basic demand forecast for 2010 is thus about 535,000 tons.

Production required to meet demand of 535,000 tons, allowing for retention of seed and losses between the field and the consumer, would be about 630,000 tons. If further price falls are to be avoided, any production exceeding 630,000 tons will have to find export markets. If current exports, of about 30,000 tons, can be maintained, then the supply from total production of about 660,000 tons of potato might find markets within Syria or abroad, without significant fall in price.[2]

There appears little danger that either potato production will expand to such an extent that there

[2] The Syria side estimated the different production forecast as shown in Annex table 4.1.

is great difficulty finding markets at acceptable prices or that it will be insufficient to meet the food needs of the Syrian people. Available information suggests that the supply/demand relationship is currently a little in favour of the producer and that the rate of increase of production can be lifted from that of the last ten years, without endangering farm profitability.

4.2.5 Potential

The prospects for successful potato and domestic marketing are bright. Production is likely to continue its steady expansion, as potato is profitable to farmers. Domestic demand should remain strong, as it is in most parts of the world, although it may be affected by the supply and price of other fresh vegetables and fruits, as consumers vary the mix of their total purchases.

With very good domestic market prospects for potato and limited export prospects, the strategic question for planning is the appropriate scale of production in Syria, to balance supply and demand while taking greatest advantage of opportunities. The most important potential for development of potato comes from the possibility to increase its value by reducing production and marketing costs and by raising further the quality of produce, both fresh and processed.

The Government, through GOSM, can support potato growing through a strong and continuing commitment to providing farmers with more productive and safer seed, through applied research and development. GOSM plans to increase the supply of virus-free seed to farmers by local production on its own farms.

There is potential for farmers to increase output and raise quality by improving handling of the crop at every stage under their control, from the field to the wholesale market. Better harvesting, collection, sorting and transport techniques could all be used to reduce damage and losses. The extension services can play an important role by providing to farmers the knowledge needed to improve these techniques.

Population increase will lead to continuing, but modest, expansion of domestic demand for potato. There is scope to increase demand for potatoes through such methods as grading and segmenting markets. Expansion of the domestic market will depend on private sector initiatives to promote new products which are attractive to consumers, such as “fry”, which has already started.

The basis for expansion within the 5-10 year future should be the domestic market, primarily because Syria does not seem to have competitive advantage in potato production – prices in wholesale markets for 1997 to 1999 were generally above the world average export price. In the longer term, there may be opportunities for export to the developed countries if pressure in

these countries builds to divert land from production of low-value crops, such as potato, to more remunerative crops.

Nevertheless, there is scope for small expansion of exports. The disadvantages suggest that Syria should concentrate on markets which are nearby with low transport costs, or where markets are already established. Syrian exporters have found markets in nearby countries, especially the Gulf, and in Germany where they have capitalized on the seasonality of supply. Syria's share of imports in these markets is low, giving the possibility for greater sales. Syria can find small and profitable export markets where supply is seasonal; this is especially true for the EU and in countries sharing land borders with Syria, where transport costs are lower. The trade being encouraged by the "Agricultural Calendar" arrangements of the Grand Arab Free Trade Zone might create important opportunities.

4.3 Apple

Syria's apple production increased modestly in the past 10 years, reaching a peak in 1998 of 362,000 tons and then falling to 287,000 tons in 2000. Physical conditions such as altitude and precipitation may limit the rapid expansion of new planting of apple trees. Apple farming has been profitable in recent years, largely because of strong domestic demand and rising, though small and erratic, export volumes. As the current consumption per person is high, future increases in domestic demand will come primarily from rising population, rather than increasing incomes. Prospects for expansion of Syrian apple production will depend in part on external markets, in which there is severe competition.

4.3.1 Production

Tree husbandry and the use of irrigation are among a number of farming technology issues that should be addressed. Pruning and thinning, although essential to stabilize yield and secure high quality of fruit, are now not practiced sufficiently by producers. While irrigation is very important for high yield and quality, Syria's water resources are very limited. There is thus need for water saving irrigation technology within the context of improvement to overall use of water resources.

Major apple varieties such as Golden Delicious and Starking are high yielding and early maturing and have generally good texture and taste. These varieties easily change texture under normal temperature and are not highly storable, which limits marketability, domestically and abroad.

Production cost of apple is generally higher than that of competitors within the region.

Retention of existing exports and development of new markets will depend on reducing costs to make Syrian apple competitive in regional and other markets.

4.3.2 Harvesting and Shipment

While apple farmers are generally more careful with harvesting and handling than are growers of other fruits, there remains a need to improve the methods used.

The existing cold storage facilities do not meet the requirements of producers in capacity, location and quality. Therefore, farmers are often forced to sell just after harvest, without the opportunity to hold their produce for placement when and where prices are best.

Most apple farmers, who have small land holdings, sell their product individually at wholesale markets. This practice leads to higher marketing cost, including unwarranted sorting and transportation which affect the quality of the commodity to be marketed.

4.3.3 Marketing

(1) Market channels

About 60% of apple production is sold by farmers direct to wholesalers at the regional markets. The remainder is sold to a variety of traders or to packers for export.

(2) Domestic market

The high storability of some varieties of apple enables them to be supplied almost throughout the year and is reflected in the seasonal stability of price. This contributes to strong acceptance by consumers and leads to greater potential profitability for producers. With apple in the markets for most of the year, consumers have strong preference for the fresh product. Some of the fruit juice factories have included apple in their range of products and food processing companies make some apple jam and marmalade.

(3) Export markets

The sharp increase in the export of apple in the past 2-3 years provides a useful base for future expansion, although the total volume of export is still less than 10% of total production. The destinations are mostly Arab countries, reflecting the severe competition in apple trade elsewhere. Exports are by many private traders and mostly in small lots.

(4) Quality standards and specifications

Quality standards of apples in Syria, established by SASMO and with reference to those developed by UN/ECE and FAO/WHO, include “ Apples” and “ Apple – Guide to Cold Storage”. However, it is not apparent that these standards are applied and observed. In many

cases, particularly for export, traders follow the specifications of the contracts. These are generally more rigorous than the standards of SASMO. Quality standards need to be given more attention for quality improvement of Syrian product, particularly for export.

4.3.4 Supply and Demand Forecasts

In the year 2000, there were 16.2 million apple trees planted in Syria, with 66% bearing fruit and 34% yet to bear; production was 287,000 tons. Average yield for all trees bearing fruit in 2000 was 34 kg per irrigated tree and 22 kg per non-irrigated tree. Simulation of the ages of trees and application of assumed yields gives a forecast of production of about 440,000 tons in 2010.[3]

The forecast increase in population from 1999 to 2010, of 4.1 million, would add about 65,000 tons to domestic demand for apple if consumption stayed at 16.5 kg per person. The available data suggest that income elasticity of demand for apple in Syria in the 1990s was about 0.25. If incomes continue to rise annually by 3.0%, as they did over the 1990s, the total increase in income between 1999 and 2010 will be about 38%. If the income elasticity of demand is 0.25 over the next 10 years, there will be an increase in domestic demand per person of about 10%, or 1.6 kg. This would translate into an increase in total demand of about 30,000 tons. Total domestic demand in 2010 might therefore be about 380,000 tons.

The basic forecast for production in 2010 of 440,000 tons would give supply, after losses between the tree and the consumer, of about 400,000 tons, compared to domestic demand of about 380,000 tons. This rreliminary analysis suggests that supply in 2010 might exceed domestic demand by about 20,000 tons. This volume would be the export target.

4.3.5 Potential

Increases in apple production over the past ten years have not placed pressure on domestic demand to the extent that prices have fallen. Yield is fairly high, in spite of physical limitations such as water and temperature. There is potential to stabilize the annual yield by improved farming technologies. Current efforts by extension units and farmers to promote biological control of pests and diseases or integrated pest management will contribute to environment-friendly apple production and quality required by health-conscious consumers. All these features contribute to the outlook for increased production being bright.

Future prospects for apple production will depend on foreign markets, where competition is expected to increase further. The potential for advance in such markets depends on actions to

[3] The Syria side estimated the different production forecast as shown in Annex table 4.1.

improve apple quality and reduce costs and on marketing strategies.

Production cost needs to be reduced, to increase the competitive power of Syrian apple in foreign markets. Means to reduce costs include improved farming technologies (pruning, thinning, biological controls) and more efficient marketing practices.

As Syrian apple for export is limited in quantity and markets are very competitive, the export marketing strategy should be tightly focused. The marketing strategy should focus on Gulf and other Arabic countries, which are already the most important markets, with intensive market intelligence. The first step would be to survey the quantities and prices in the markets and to determine the consumers' preferences in taste and texture. Subsequently, action could be taken to ensure that Syria's varieties are those best suited to the market's needs. Continuing market intelligence gathering – of such factors as import varieties, volumes and prices and of the performance of competitors – would be needed for required actions on the part of Syrian exporters. Quality standards should be developed and applied continuously to keep Syrian produce in a secure position in competitive markets.

4.4 Tomato

Tomato production has expanded greatly in the past ten years and the crop is now among the most important in Syria. Investment in green houses by many farmers, almost all in Lattakia and Tartous Governorates, has seen this form of production lift with its share of the total being to nearly 40%. Tomato farmers, while increasing production greatly, are now facing pressure on profitability as prices have been forced downwards. The declining prices have not yet had significant negative impact on production - the supply response to falling prices over the past few years has been a large increase. Low prices are now, however, perceived as a threat to profitability of tomato growing and there is now some possibility that farmers will respond by reducing supply.

Consumers in Syria have responded to the increased output and falling prices by making slightly greater purchases of tomato. Exports have grown consistently and now exceed a quarter of all production. Syrian producers have been able to supply large quantities to nearby markets, especially the Gulf States, at competitive prices. With the domestic market apparently well supplied and possible export markets being very competitive, there is now a challenge to reduce production and marketing costs and improve quality of the product to enable tomato production to be profitable to the farmer.

4.4.1 Production

The overall supply and the length of the supply season of tomato have been expanded, particularly by increased production in green houses. Field tomato is produced mostly in the summer and the spring and autumn crops are limited, leading to large seasonal fluctuations in supply and hence, price. Wholesale and retail prices rise sharply from January to March and fall sharply in July and August. More even distribution of supply from field growing and increased green house production would ease the fluctuation of prices within each year.

There are 30 tomato processing factories, including six operated by state companies, most producing tomato paste. Some processing companies face difficulty in procuring adequate supplies of tomatoes as raw material. Some growers, particularly those who produce summer tomato, face difficulty in finding markets. Contract farming may address these problems.

Tomato cropping is continuous in the major producing areas. Although most farmers use hybrid seeds which are resistant to major diseases, many types of chemicals are applied. Continuous tomato cropping should be replaced by rotational cropping, to avoid excessive application of agricultural chemicals and to contribute to greater food safety and acceptability to consumers.

Most tomato seeds are now imported hybrids, with high costs which lead to higher production costs. Domestic production of improved seeds should be considered, to lower costs and increase their quality and supply.

4.4.2 Harvesting and Shipment

Losses caused by harvesting operations are substantial, particularly in the case of green house production. Workers, operating in narrow spaces, tend to damage tomatoes by rough handling in their efforts to save time in harvesting.

Most farmers sell their produce individually at wholesale markets. Transportation is costly, as farms are small and farmers make many trips to markets in small, open trucks to sell their crops. Collective marketing by producers should be considered to overcome these problems and increase the bargaining power of producers in the marketplace.

4.4.3 Marketing and Processing

(1) Market channels

The wholesale markets take about 60% of production, through deliveries by farmers to wholesalers for sale to retailers. The remainder is sold to collectors and traders, for on-sale to

processors and exporters.

(2) Domestic market

Domestic consumption is already high, at 24.6 kg per person (three-year average for 1999), compared to the world average of about 19 kg. As with most commodities, Syrians prefer fresh tomato which accounts for the great majority of consumption. Processing is becoming more important, especially for paste which is more storable than fresh tomato and has some export potential. About 50,000 tons of tomato go to food processing companies which make tomato paste, among other food products. In addition, about 50,000 tons are made into paste by households for home consumption and petty trade. There is some potential for increased sales of processed tomato products in the domestic market.

(3) Export markets

Syria in the past few years achieved remarkable progress in tomato exports, which rose to about 176,000 tons, or 28% of total production, in 2000. The major destinations of exports are nearby countries, particularly Saudi Arabia.

(4) Quality standards for tomato

Syria's standards for tomato, established by SASMO, include Fresh Tomatoes, Tomato Paste and Tomato Ketchup. The fresh tomato standard specifies ripeness, external appearances, size, packing and packaging. However, it is not clear that the standards are applied or observed. It seems that more attention is paid to quality standards in the case of export produce than in that for domestic consumption. Specifications for export are fixed in the contracts between Syrian exporters and importers in destination countries. These specifications, which are usually set by the importers, seem more rigorous than those established by SASMO.

4.4.4 Supply and Demand Forecasts

The available estimates of costs and returns indicate that low prices may pose a threat to increased tomato production. Costs are unlikely to fall without determined action by farmers and the Government of Syria and prices are likely to rise only if supply is reduced substantially. The overall outlook must be that, in the absence of new influences, production will remain about constant or vary a little - upwards or downwards. The policy questions which arise are therefore (i) by how much tomato growing, both field and green house, can be increased while maintaining profitability; and (ii) how to reduce costs of production and marketing.

The forecast additional 4.1 million Syrians from 1999 to 2010, if consuming 24.6 kg per each, would add about 100,000 tons of tomato to 1999 (three-year average) consumption of about 390,000 tons. The available data do not permit estimation of future demand for tomato by measuring the income elasticity of demand and applying it to forecasts of income levels. The

highest consumption of tomato per person in the 1990s was 29 kg in 1992. It is therefore assumed that the tastes of the Syrian people put an upper limit of demand of 29 kg per person, which is unlikely to be exceeded without either a large increase in supply or a large reduction in competition from other foods. The increase in total domestic demand from a rise in consumption to 29 kg per person in 2010 would be about 90,000 tons. The basic total domestic demand forecast for 2010 is thus 580,000 tons.

Production required to meet demand of 580,000 tons, allowing for losses between the field and the consumer, would be about 680,000 tons. Any production exceeding 680,000 tons will have to find export markets or go to domestic markets at lower prices. If exports can be maintained around 176,000 tons, then the supply from total production of about 860,000 tons of tomato might find markets within Syria or abroad, without a large price fall.[4]

4.4.5 Potential

Green house tomato production has increased rapidly in recent years and it has partly replaced field-grown tomato. This has enabled tomato supply almost throughout the year in Syria.

Yield of field tomato in Syria has increased in the past 10 years, due to improved farming technologies. Production has also been intensified by the expansion of green houses, which give very high yield. Further increases in yield and production of tomato in the future are possible, provided that they are justified by market outlook, both domestic and abroad.

Population increase will lead to significant expansion of domestic demand for tomato. As the consumption per person in Syria is already high, further increase arising from higher income per person will be small and mainly for processed tomato.

The major destinations for Syria's tomato exports are essentially Gulf and other neighboring countries, where its market shares are high. The currently low per person consumption in these countries raises the possibility of greater exports in the future, if these markets can be further developed. There are also opportunities for sale of processed tomato to these countries, provided that products can be supplied at competitive quality and price.

Syrians have shown, over the past ten years, their willingness to consume up to 29 kg of tomato per person provided that price falls substantially. It seems clear that caution should be exercised before farmers are encouraged to expand tomato production. Production exceeding that which can be placed in export markets and domestic markets such that consumption per person

[4] The Syria side estimated the different production forecast as shown in Annex table 4.1.

remains below 29 kg per person is likely to result in sharp price falls.

Syria's producers have found substantial export outlets in recent years. Syria's fresh tomato exports to the Gulf in 1999, of 120,000 tons, represented just over 40% of the total imports to the region. Syria exported 100,000 tons to Saudi Arabia, giving it a very high share (two thirds) of all tomato imports to that country. Syria has also exported varying amounts of tomato paste to the Gulf. It is very important that Syria retain the position it has established in these markets.

Eastern Europe offers potential as an export destination. The greatest opportunity is to build on the success achieved recently in the Russian Federation, where Syria's 19,100 tons of tomato exports in 1999 gained 10% of the imports to that market. It is of high priority that the Government of Syria facilitates private sector trade to the Russian Federation. A detailed investigation of the opportunities is warranted. Most importantly, GOS should consult its tomato exporters to identify and remove constraints to export to the Russian Federation.

Syria's best export market opportunities for tomato appear to be (i) to build on what has been achieved in the Gulf region and Eastern Europe in recent years; and (ii) to exploit opportunities created in nearby countries by the "Agricultural Calendar" of the Grand Arab Free Trade Zone. The latter opportunities are likely to be small, but important at selected times each year.

4.5 Olive / Olive Oil

The dramatic changes in Syria's olive and olive oil production over the past decade now pose considerable challenges if the industry is to reach its full potential. The Government's active promotion of olive growing has led to continued new planting and production is expected to grow strongly in the immediate and foreseeable futures, as many trees recently planted gradually reach their fruit bearing ages and those trees already giving fruit become more mature. The great majority of increasing supply over the years has been absorbed by the domestic market and only very small portions have been exported. Now, however, the immediate prospect is that production will far exceed domestic demand. Expansion of exports is an urgent issue for Syria's olive industry.

Syria's olive oil exporting started only in 1995 and has since been 2-5,000 tons annually. Major markets of olive oil are Lebanon, Saudi Arabia and Spain. Spain and Italy are also leading producers and exporters in the world market. Due to its limited access to the EU market and its being a late entrant, Syria faces severe competition in global markets. If olive oil exports are to be worth while economically, then large quantities will have to be sold at best possible price. This will require an appropriate and aggressive export strategy.

4.5.1 Production

(1) Farming

Syria has continuously expanded planting of olive which is, among tree crops, by far the largest user of land. While most plantings are in very suitable areas, new planting is now being made in de-rocked areas, sometimes in infertile land. Careful cost/benefit analysis should be made before new planting of olive on these marginal lands, as rapid increase in supply in the near future is expected to lead to declining olive price.

The harvesting period in the year is now limited, due mainly to the same or similar varieties being grown by all farmers and all districts. This concentrates harvesting and extraction operations into a limited period, leading to very inefficient handling and processing.

Irrigation is very valuable in lifting yield of olive. However, over 90% of Syria's olive trees are not irrigated. While it is difficult in Syria, with very limited water resources, to provide cost-effective irrigation, the issue needs to be addressed. As a first step new planting should not be in areas where access to water resources at reasonable cost is not possible.

Pruning of olive trees is necessary for appropriate foliage formation of young trees, higher yield of productive trees and for rejuvenation of aged trees. The pruning practice is not well performed by most farmers.

(2) Olive oil extraction system

Farmers and oil millers have little incentive to lift the quality of oil they produce. This may be due partly to the major portion of oil going to the domestic market, where the concern for quality is not so serious. Consumers may have become accustomed to the current quality of olive oil, as a traditional edible product. Mills, as their fee is a proportion of output, in either cash or oil, are much more concerned with the quantity of oil extracted than with its quality.

Three quarters of the processing systems for oil extraction are currently old types, such as batch and press. These should be replaced by modern centrifugal systems, for more efficient extraction and better quality of oil.

The existing mill facilities are not appropriately located to meet the needs of farmers and their capacity is far below that needed, particularly in "high yield" years. This causes deterioration of the olive raw material due to longer waiting times and leads to degradation of the oil extracted.

(3) Storage of olive oil

Most of the olive oil extracted is kept in the hands of producers/farmers. The practice of storing

oil in tin cans of 16kg without anti-rust coating is a serious problem for maintaining quality in long storage periods.

4.5.2 Marketing

(1) Market channels

The marketing of olives and olive oil are quite different. About 70% of olive for the table is shipped by farmers to the regional wholesale markets and the remaining 30% is sold to processors (of salted or pickled olive) or direct to consumers. Olive for oil extraction is handled very differently. Farmers take their olive to mills which extract oil, for a fee of either cash or oil. The farmers take the oil back to their farms, in 16 kg cans, for storage and sale. Sales are made progressively, starting with about 30% in the first month and continuing for up to a year. Sales are mostly to specialist olive oil "warehouses" in major cities, where wholesalers deal with retailers on behalf of the farmers. The warehouses obtain about 75% of their supply direct from farmers and the balance from various traders.

(2) The domestic market

The great majority (about 82%) of olive fruit is used for oil and the remainder (18%) for the table as fresh, pickled or salted. Consumption is very high, for 1999-2000 averaging the equivalent of 39.3 kg of olive fruit equivalent, made up of 7.6 kg of oil and 6.6 kg of fruit, compared with 27.2 kg in 1990-91. The world average olive oil consumption (for 1997-99) was 0.4 kg and in only four countries did the average exceed that of Syria: Greece, Spain, Italy and Portugal.

(3) Olive oil export

The very large expansion of olive production has yet to be reflected in exports, as domestic consumers have been willing to pay very much higher prices than those in overseas markets. Official statistics show that significant olive oil exports started only in 1995 and that since then no substantial increase has been achieved. No stable destinations have been identified so far.

(4) Quality standards

The assurance of quality of product for consumers is one of the most important issues for development of the olive oil industry. There are quality standards on olive oil in Syria. However, quality evaluation and standards of olive oil in the world market, notably in the EU, is moving ahead quickly. The EU, which dominates the world olive oil market, is continually trying to improve the standards of olive oil, in cooperation with FAO/WHO and IOOC (International Olive Oil Council). Syria's success in exporting will depend on keeping pace with these efforts.

4.5.3 Supply and Demand Forecasts

In the year 2000, there were 64.3 million olive trees in Syria, with 63% bearing and 37% yet to bear. Two-year average production for 1999-2000 was 633,000 tons. Production is forecast by simulating the age structure of Syria's current olive tree stock and projecting it to 2010 and applying assumed yields. The result is a production forecast for 2010 of about 1.065 million tons, about 68% over that of 2000, in two-year averages.

Consumption per person for 2000 (two-year average) was about 39.3 kg. Population is forecast to increase between 2000 and 2010 by about 3.7 million. With no change in consumption per person resulting from income changes or other factors, population growth alone might lead to an increase in demand of about 145,000 tons of whole olive equivalents (two-year average).

As the relationships between demand, price and income are not clear, a range is considered for income elasticity in forecasting demand. The range is 0.2 to 0.7. If income per person rises by 3% per year (as in the 1990s), then the total increase in income between 2000 and 2010 will be 34%. With income elasticity of demand at the lower end of the selected range, the increase in demand in 2010 would be 6.8%, or 2.6 kg per person, which would add about 50,000 tons to total demand in 2000. With income elasticity of demand at the upper end of the selected range, the increase in demand in 2010 would be 24%, or 9.3 kg per person, which would add 185,000 tons to demand.

The influences of population and income are expected to lift domestic demand by somewhere in the range 195-330,000 tons, to bring it to somewhere in the range from 825-960,000 tons.[5]

4.5.4 Potential

Syria's olive oil industry is large by world standards and has the potential to generate very significant income. The foundations of the potential are the large tree plantings and strong domestic demand for olive and olive oil. International market conditions add to the potential, but present a difficult strategic choice between sale of oil to Italy and Spain for refinement and marketing or production of high value oil to enter markets with a distinctive Syrian brand. There is potential for improvement in farming, in processing and in marketing at home and abroad.

Olive has been planted in many areas which are unsuitable for most other crops, as it is generally highly adaptable to severe conditions of soil and water. Syrian olive farmers do not

[5] The Syria side estimated the different production forecast as shown in Annex table 4.1.

use pesticides, relying on biological control. This conveys one of the advantages of Syrian olive, as being free from chemical residues and avoiding negative effects to the environment.

Production cost of olive oil in Syria is comparable to that of the major producers in EU, despite the vast difference in labor rates. Farming efficiency could be improved by better management and technology. There is scope to increase efficiency of extraction and improve quality of oil by shifting equipment at mills from old type (batch and press) to modern type (centrifugal). The technological base for both farming and processing could be strengthened through comprehensive scientific research for olive and olive oil. The Olive Bureau in Idleb is well suited to leading the way in developing the industry.

There is potential to improve processing by coordinating the operations of farmers and mills, to minimize the waiting time for oil extraction and avoid deterioration of the product. The Extension Units would be able to provide necessary advice and assistance to establish the coordination framework.

Domestic demand has absorbed almost all the olive and olive oil produced. Demand is very strong; the large increase in output in the 1990s and much higher consumption per person did not depress prices. While the impact on demand for olive oil of increases in population and income per person can not be certain, it is clear that demand is very strong and provides a good foundation for the olive industry as a whole.

While it is apparent that the domestic market will grow significantly and remain the foundation of the market for olive oil, export will become increasingly important. The international markets are dominated by EU producers (especially Italy and Spain) but there is potential to export in, basically, one or two forms. First, oil can be sold in bulk to Italian or Spanish companies for refining and sale within Europe or by export; this approach will depend on Syria concluding agreement with the EU to improve its access. Second, Syrian processors might take a high-risk, high-gain approach by producing high quality oil, with Syrian brand and image, to sell in competition with the Italian and Spanish exporters – mostly in neutral markets. The two approaches might be combined.

The private sector is becoming actively and increasingly involved in export, in response to the policy shift to a market- oriented economy. Although many exporters are on a small scale and not well organized or coordinated, the creative efforts of individual firms are contributing to identification of markets for olive oil. The capacity and experience of these private sector interests is an important element of the assets which define the potential for development of Syria’s olive industry.

CHAPTER 5 MARKET INFORMATION SYSTEM

5.1 Present Situation

(1) General

The shift from central planning to a market economy has resulted in the private sector increasing its role in marketing of agricultural commodities. In the centrally planned economy, farmers were simply instructed to grow crops and rear animals. Farmers did not have to worry about marketing their products as the final buyer or processor was decided by the government. Since introduction of the market economy, farmers are faced with the problem of identifying markets for their produce by themselves. Without detailed market information, farmers often have to accept the price offered, without knowing whether or not it is reasonable. To be able to obtain best prices, they need reliable market information.

Urban populations are increasing rapidly in most parts of Syria. This means that a growing proportion of the population is not producing its own food. Every year, more and more people become dependent on farmers to supply their food needs through the market. Farmers who were already growing food specifically for the market have become more commercial; those who previously sold only surpluses over subsistence requirements are now becoming market oriented. Greater reliance on the market by farmers means that they face greater risk. To minimize that risk, they need to make production decisions, based on as much information as possible.

Stabilization of consumer prices is one of the most important policy objectives of the Syrian Government for food security. It is particularly important for perishable foods because their production and supply, and hence price, are prone to a host of factors such as the weather and faulty preservation, deterioration and decay. To stabilize consumer prices against such a back-drop, a state of equilibrium must be established between production and consumption as a whole, and between demand and supply in daily market transactions in consumption centers. Cognizant of this fact, government has to enforce effective measures, aiming at stable production and rational distribution of perishable foods.

These measures include the identification of major vegetable producing areas, consolidation and modernization of wholesale markets, institutional support for the optimum level of consumer prices and consolidation of statistics and information on distribution. At present, there is no effective system in Syria to make comprehensive market information available to concerned parties on a daily basis. Creation of an efficient system will contribute to increasing

net returns to farmers and lead to greater market efficiency.

(2) Market information

1) Fruits and vegetables

Most farmers sell their fruits and vegetables at wholesale markets in major urban centers to which they transport by trucks. Farmers seek to deliver to the market most likely to yield the highest net returns.

Prices at wholesale markets change from day to day. Some farmers telephone commission agents at a number of markets to get an indication of price before deciding where to deliver. Other farmers ask neighbors for price information. However, traders are not always a reliable source of price information and that of neighbors is not fresh and is sometimes limited. There is no formal system giving farmers accurate market information for fruits and vegetables.

The wholesale markets do not have any facilities such as weighbridges and the market authorities collect no records of throughput and prices. MAAR's DAE routinely surveys prices of fruits and vegetables in the main wholesale markets and retail outlets in 14 major cities. MSIT also collects prices at wholesale markets.

2) Olive and olive oil

Fruits of olive in Syria are consumed in the ratio of four as oil to one as fruit. Marketing of fresh and pickled olive is similar to that of other for fruits and vegetables, the major portion being channeled through wholesale markets. Most farmers sell olive oil to wholesalers at specialist warehouses located in major producing areas. However olive oil is not covered in price surveys by MAAR and MSIT.

(3) Other information

Statistical information for crops and livestock is collected by staff of Extension Branch Offices and compiled and analyzed by the Directorate of Statistics. Information on current conditions, crop damage and production forecasts is collected and compiled at the Directorate of Agricultural Affairs. Import and export information for agriculture is collected by the Directorate of Plant Protection through quarantine stations. Weather information is collected by the Meteorological Agency of Ministry of Defense and MAAR's Rain Enhancement Project (REP).

These collections of data are considered as being for administrative and statistical purposes. Farmers and traders are not, or only secondarily, considered as their target group. Access to many of the information bulletins is limited for the public. The published data from these services are usually so out-of-date and so little related to the information needs of market

participants that they are of questionable value.

5.2 Model Market Information System

To develop the market information system for producers and others concerned, establishment of a model computer network was initiated under this study.

Preliminary discussions were held with concerned agencies within MAAR and with others. Cooperative work for the establishment of the model network, particularly with the Directorate of Extension for linkage with mass media, was emphasized. Other ministries and institutions, such as the MSIT, MEET and the Meteorological Bureau are not included for the time being.

(1) Objectives of model market information system

There is no effective system in Syria to make comprehensive market information available to concerned parties including farmers, traders and consumers on a daily basis.

The "Model Market Information System" aims to establish a model for the Directorate of Agriculture Economics (DAE), which centers on collecting market information and providing it to concerned parties through the mass media. This is the foundation of the prospective "Market Information Service".

(2) Sources and contents of information

Treating information for the model started by sorting the useful existing information in MAAR. Sources and contents of the information to be provided include:

Sources	Contents
a. Directorate of Agricultural Economics:	Prices of major commodities in wholesale and retail markets.
b. Quarantine station:	Import and export quantities of major commodities.
c. Directorate of Agricultural Affairs:	Production data and crop prospects.
d. Rain Enhancement Project:	Weekly or monthly rainfall records.
e. Internet:	Foreign information.

The information will be provided to the concerned parties, including general public (consumers) regular and periodical through mass media. Various ways are considered. The proposed ways by the model information system are shown in the following table.

Table 5.1 The proposed ways by the model information system

Contents of Information	Source of Information	Means of Transmission	Frequency	Remark
Retail price	14 Directorate of Agriculture	TV・Newspaper	Every week	It uses the data which each DOA is collecting every week.
Wholesale market price	14 Directorate of Agriculture	TV・Newspaper	Every week	It uses the data which each DOA is collecting everyday from wholesale market.
Volume of import and export	24 Quarantine station	TV・Newspaper	Every month	It is based on the report of DPP's staff who is shifted to each main custom office.
Rainfall record	Directorate of Rainfall	Radio	Every week	It is based on the data which was gathered from the main rainfall observatory.
Sate of crop	Directorate of Agricultural Affair	Radio	Seasonally	It is based on the data which DAA is collecting from the whole country.
Foreign information	Internet			

Forms were designed (as in Fig. 5.1 and 5.2) to provide information to the mass media.

Weekly average of Market price (SYP/Kg) 2002/1/12-1/18

	Southern Region										Middle Region				Coastal Region				Northen Region		Eastern Region				Average	
	Sweida		Dar'a		Dam Rural		Dam CITY		Homs		Hama		Tartous		Lattakia		Idleb		Aleppo		Al-Raqqa		Dair-Ezzor		Al-Hassake			
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
Potato																												
Sponta	10	20																										
Draga																												
Diamonde																												
Tomato																												
Tomato																												
Greenhouse Tomato																												
Apple																												
Starking																												
Goldendelicious																												
Orange																												
Navel																												
Common																												
Jaffa																												
Maourdi																												
Valencia																												
Olive																												
Green Olive																												
Black Olive																												
Olive Oil																												

Fig.5.1 The Form of Retail Price and Wholesale Market

Rainfall rainfall of last w (mm)

	Region	Station	rainfall
Southern	دمشق	st1	10
	السويداء	st2	-
	درعا	st3	20
	القنيطرة	st4	35
Middle	حمص		
	حماة		
	الغاب		
Coastal	طرطوس		
	اللاذقية		
Northern	ادلب		
	حلب		
Eastern	الرقة		
	الحسكة		
	دير الزور		
max			
min			

Agricultural Situation

Title 1
About A crop.....

Title 2
About B Crop.....

Export Qty of last month (ton) 1 2002

	Border													Total
	جمارك حلب	مطار حلب	حمص	باب الهوى	نصيبي	جديدة	دمشق	مطار دمشق	درعا	اللاذقية	حماة	طرطوس	درعا	
Potato														
Tomato														
Apple														
Orange														
Olive														
Olive Oil														

Fig.5.2 The Forms of Rainfall, Agricultural Situation and Export Quantities

(3) Methods of providing market information

Various methods can be used to provide market information to the concerned parties, including the general public (consumers). These include telephone, fax, computer network, newspaper and broadcast.

DAE will be the center of the network, where all necessary information will be collected by telephone, fax and computer network. Therefore, DAE will be connected to the Regional Directorates of Agriculture, DAA, REP and quarantine stations. The Directorate of Agricultural Extension (DAEx) will distribute the information to producers and consumers by regular TV program, radio and daily newspapers.

Necessary arrangements for computer installation at the Center and Governorates have been made already. One set each of computer systems (PC, printer, UPS [Uninterruptible power supply]) is to be installed in the Directorate of Agriculture in each of 14 Governorates. These computers are connected by telephone line through their modems.

In the Central Government office, one server computer system, to receive and accumulate the data from each Directorate, is to be installed. One workstation computer system for managing and using the server's information is also to be installed, connecting with a server by LAN (Local Area Network) by Ethernet.

The operating system used by all computers is "Windows". "Incoming connection" is set up on the server computer. A network is connected by call from each client computer to a server computer.

A protocol which it is used for communication is "Microsoft Network" by "TCP/IP" contained in Windows as standard. The market price information between the office of DAE and the offices of each Drectorate is introduced by the synchronous function of the database system of "Microsoft Access".

Communication of information between other Directorates is performed by copying an electronic file to the "share data" folder. Fig. 5.3 shows the tentative arrangement of the network system.

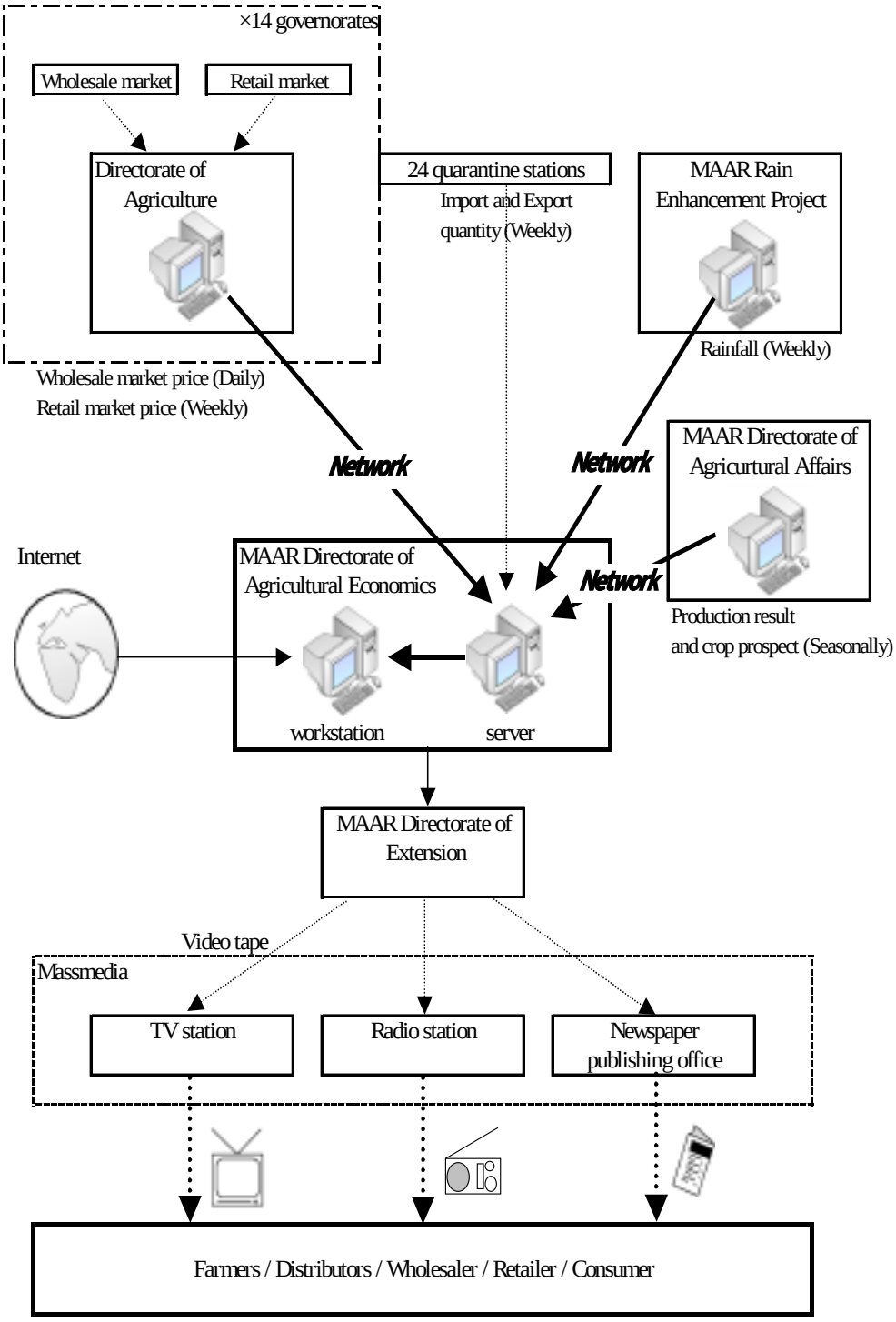


Fig. 5.3 Model Market Information System

Chapter 6 STRATEGIES for QUALITY IMPROVEMENT of AGRICULTURAL PRODUCTS

Strategies for quality improvement of agricultural products, particularly of fruit and vegetables, must cover a wide range of inter-related issues in the general areas of production, marketing and institutional/legal factors. Some of the issues, as outlined in previous chapters, are general to all fruits and vegetables and even to all crops, while others are commodity-specific. The Government of Syria, in formulating policy for quality improvement for fruit and vegetables, will be required to prepare programs and policies for realization of the strategies. Much further work will be needed to prepare suitable programs and projects within each strategy.

6.1 Production

Improvement of the overall quality of fruit and vegetables, to benefit all concerned parties, depends on farmers' timely delivery to the markets of high-quality and uniform products which meet the specifications preferred by consumers. Achievement of this depends on improving the production of crops and the systems by which outputs are shipped to markets. Improvement of quality of produce entering markets requires various efforts by the farmers and by the services supporting them, from the selection of seed to the harvesting and shipment stage, including sorting and grading of produce at farm level.

(1) Seed production and supply

Adequate and regular supply of safe and high-yielding seeds is the foundation for producing high quality fruit and vegetables. The cost of seeds represents a significant, although varying, part of total production cost of vegetables. Many vegetable seeds, including those for potato, are currently imported from abroad. Greater local production might both reduce the production cost and ensure adequate supply of high grade seed. For potato, a project for virus-free seed production is now under way, through GOSM. There is a need to explore the possibility of domestic production of seed for the expanding and diversifying tomato growing. There is need to assess the potential for local production of seed for vegetable crops, in terms of both reducing costs and ensuring supplies to farmers.

(2) Selection and dissemination of new varieties of Seedlings

Many promising varieties of tree crops, including olive, apple and orange are introduced, screened, multiplied and disseminated by research and experiment stations of MAAR. So far, the emphasis in selecting varieties has been firmly on yield potential under Syrian agronomic conditions. Now, however, a broader set of criteria should be applied to selection and

development of varieties. There is a particular need to reflect the requirements of markets, both domestic and abroad, in selecting varieties, as an important part of efforts to ensure marketability of Syrian produce.

(3) Irrigation

Irrigation is one of the most important farming practices to increase and stabilize yield and production. However, available water resources are limited and their allocation is a pressing subject. Water saving technology in irrigation is an important first step which should be promoted, perhaps by subsidies to farmers to invest in appropriate systems. The irrigation issue should also be approached more broadly, in terms of overall national priorities for water use. It is important that a study be made to determine the comparative advantage of irrigation systems by areas and crop, to determine the priorities within the agriculture sector.

(4) Crop husbandry

Syria has made notable progress in improving crop husbandry, especially in the areas of biological pest control and organic farming, both of which have been successfully introduced and should be further promoted. From the environmental concern and as consumers around the world become more conscious of food safety, these farming technologies should be encouraged. Both technologies give a market advantage which may be exploited by labeling Syrian products as being free from chemicals.

Farmers growing permanent crops make large investments in land and trees, which take several years to pay off but continue to produce for many years. Farmers will make the best returns on their investments if their trees give high and consistent yields of uniform and high quality fruits for as long as possible. This requires that farmers pay special attention to the care of their trees. Two important practices which are essential to improving quality but which are not widely applied in Syria are thinning (excluding olive) and pruning. A nationwide program by the extension services to guide farmers in improving the husbandry of their trees might lift the productivity and sustainability of their crops and lead to higher quality of output.

6.2 Marketing

(1) Collective marketing by producers

The great majority of fruit and vegetable is grown by farmers on very small holdings, leading to considerable production, handling and marketing difficulties. From the viewpoint of production, costs are higher and the product is far more variable than for large farms. The stages from harvest to transport to market are inefficient and costly. In marketing, farmers have little bargaining power with buyers of the crops. Collective marketing of crops by farmers is,

potentially, an important option to overcome many of the difficulties. Collective sorting and packing in farming areas would be important to increasing the value of produce.

(2) Wholesale markets

The wholesale markets, although having provided good service for many years, are now under pressure from rising volumes of throughput, ageing of their facilities and increasing competition for land for urban purposes. The wholesale markets need improved operations and management and their facilities should be modernized. Improved facilities, in some cases needing relocation, are the essential basis for development of systems to promote transparency in trade and fair price formulation.

(3) Market Information

The current system for supply of market information to interested parties is largely informal, consisting mostly of individual communications in person or by telephone. Market information needs to be provided quickly and regularly to all concerned and particularly to producers. The supply of information, which needs to be comprehensive to meet the needs of all interested parties, should include wholesale prices and quantities traded, prices and quantities in export markets and short- and long- term production data.

Monitoring of commodity markets and production is an important subject for improving quality of fruit and vegetables. Market information provides the basis for decision-making by producers, traders, processors, consumers and others and informs the administration for its consideration of policy measures for regulation and supervision of marketing.

(4) Quality Standard

Many standards on fruit and vegetables have been established in Syria and their importance for quality improvement is acknowledged. However, in most transactions and particularly those of fresh fruit and vegetables for domestic markets, the standards are not appropriately observed. Commodity standards need to be given due attention, as they are essential for improvement of the quality of the products. This involves public understanding of the importance and effectiveness of standards. Educational programs to motivate the people would be useful for better observance and due respect of standards. Incentives should be offered to encourage all concerned within the market chain to respect the standards and penalties should be applied for breeches of regulations. This will require that quality inspection systems be strengthened, including equipping laboratories to analyze and evaluate the quality of produce.

(5) Processing Industry

Processing of fruit and vegetables is relatively new in Syria and is limited in scope and magnitude. The private sector has gained the leading role in processing as that of state enterprises has declined. However, due to capital market lagging behind, most of the processing

firms are individual or family business on fairly small scale. Demand for processed food will increase in coming years in response to the diversification of the diet pattern of the people, particularly due to urbanization. The potential value added from processing is significant. Processing may help assist in accommodating occasional surpluses in markets. Exports of processed foods may also have opportunities. In the longer term, the opening of capital markets will generate funds for investment in all sectors; however, it will be some time before such funds become available to food processors. Therefore, in the shorter term, there is need for formal credit to support private sector initiatives in food processing.

Strong government support is essential for expansion of processing industries. The supportive policy framework should emphasize assistance for establishment of facilities and financial incentives.

(6) Modernization of transportation

Syria suffers a number of difficulties in transporting its produce internationally. For example, due to their non-compliance with international vehicle criteria, Syrian refrigerated trucks are not allowed to enter Turkish territory on the way to the European Continent. Fruit and vegetables being exported overland to European countries have to be transferred to Turkish refrigerated trucks at the border for carriage to their destination countries. Unloading and loading at the border incur additional cost and deterioration of the products. In the long term, legal control on specification of domestically produced refrigerated truck beds needs to be strengthened to enable compliance with international regulations. In the short term, measures to reduce the damage caused by unloading and loading should urgently be considered; such measures include the use of inexpensive foreign trucks.

(7) Improved access to and expansion of foreign market

Exports of fruit and vegetables have so far been quite limited in volume and value, although there is some difference among the commodities. The major part of exports goes to the Gulf and Neighborhood countries. Yearly performance of the export by commodity and destination are fairly erratic. Advantageous points of Syrian products in these countries need to be maximized through comprehensive efforts by the government and private sector. At the same time penetration to EU market is an important issue to be pursued under the ongoing negotiation on Association Agreement with EU. Some steps towards expanding and stabilizing exports and their destinations to be considered are:

- Systematic collection of market intelligence in Gulf and EU countries by agricultural / commercial attaches
- Establishment of a forum for regular exchange of market information between the government and private sector

- Creation of or strengthening associations of exporters
- Exploration of the possibilities of establishing Syrian common brands
- Aggressive export/sales campaign for priority commodities
- Coordinated work with the tourism industry to promote Syrian produce.

6.3 Institutional or Legal Issues

(1) Long-term commodity demand/ supply projections

With the progressive liberalization of trade under the market economy, the rise in domestic production of many commodities to match domestic demand and increasing international competition, there will be growing need for the Government to formulate and reformulate strategies for fruit and vegetables. It is essential to successful policy formulation in this changing context that the Government continuously projects the demand and supply outlooks for all major commodities. The projections will be useful to other concerned parties including producers, traders and processors.

(2) Research and extension

The national agricultural research system needs to be strengthened with close linkage to extension. Research needs to be tightly targeted at the highest priorities of fruit and vegetable production. At the same time, research and extension activity needs to be expanded to the socio-economic aspect of producers and to handling and transport, processing and marketing. Research and extension agencies should become involved in exercises to forecast continuously likely relevant events and developments.

(3) Legislation of comprehensive law on wholesale markets

The importance of the role of wholesale markets in marketing channels of fresh fruit and vegetables suggests that comprehensive national law governing wholesale markets will be necessary. Placing of different aspects of the authority for market regulation and supervision in different ministries will not be conducive to the effective and transparent commodity flows in the wholesale markets. The major wholesale markets are independently established and operated in respective governorates without any coordination mechanism. Effective demand and supply adjustment for national food security, through trade between the wholesale markets around the country, can be achieved only by cohesive legal arrangement.

(4) Integration of responsibility on food production, supply and marketing

As the shift to market-oriented policy making continues, the roles and initiatives of the private sector are increasing. To encourage the initiatives of the private sector and to simplify administration and procedures, centralizing of responsibilities for all food production and

marketing within one ministry, for example MAAR, should be considered.

(5) Credit for marketing

The Agricultural Cooperative Bank provides loans for only production and not for marketing. Producers, therefore, often rely on loans from middlemen, wholesalers, or damman, for necessary funds before harvest. This often leads the producers to disadvantageous positions on marketing. The formal credit system should be modified to better respond to the requirements of producers, by including loans for running cost, investment for processing and marketing. In this regards, creation of micro credit scheme will be suggested by mobilizing the fund accrued from KR-2 Grant (Food Production Promotion Grant), provided by Japan as an effective option.

(6) Strengthening of the investigation system for the safe farm products

Production and supply to consumers of safe agricultural commodities free from contamination by chemical substances to consumers are now recognized as more important than good appearance and good taste. Though Syria has already taken such measures as the organic farming and/or biological control, further inspection system for the production and distribution of safe farm products should be strengthened by adopting following measures; strengthening of inspection system of agricultural chemicals, regulation on the use of agricultural chemicals before and after-harvest, investigation system of soil and water contamination, etc.

Chapter 7 SELECTION OF PRIORITY PROJECTS

The strategies were examined by following evaluation criteria for selection of priority ones, although all the strategies presented in the preceding chapter need to be carried out as quickly as possible.

7.1 Evaluation Criteria

① Project sustainability and environmental impact
Proposed project/issue with high sustainability and no negative environmental impact shall be given higher priority

② Farmers' benefit
Project with higher response to farmers needs and/or contribution to farmers' income will be given higher priority

③ Harmonization to the current policy direction
Project/issue's consistency and harmonization to the current policy of the Government will be given priority

④ Feasibility
The project/ issue does not have any serious obstacle to be expected in implementation and/or have agreements from related parties will be given priority

⑤ Socio-economic impacts
Such positive socio-economic impacts as poverty eradication and/or improvement of income disparity will be given priority

⑥ To be able to the model of the development effort to other areas
Project/issue expected to be a development model for other regions will be given higher priority

⑦ Economic impacts
Project/ issue with high economic return will be given higher priority

⑧ Multiplier effect
Project/issue expected to bring out ripple effect to the development will be given higher priority.

7.2 Evaluation of the Major Components (Project/issue) of the Strategy

Based on the criteria above, each project/issue is evaluated, by rating A, B, and C

A: high priority
B: medium priority
C: low priority

Evaluation of the Major Components of the Strategy

	①	②	③	④	⑤	⑥	⑦	⑧	Overall
1.Production									
Seed Production	A	A	B	C	B	B	B	C	B
Seedling	A	A	B	B	B	B	B	B	B
Irrigation	B	A	A	B	A	A	B	C	A‘
Biological Control, Thinning and Pruning etc	A	B	B	C	C	B	B	B	B
2.Marketing									
Collective Marketing by Producers	A	A	B	B	A	A	A	A	A
Improvement of Wholesale Market	A	A	A	B	B	A	B	A	A
Market Information Services	A	A	A	A	B	A	B	A	A
Quality Standards and Control	B	A	A	C	B	B	B	B	B
Promotion of Processing Industry	B	B	A	C	B	B	A	B	B
Transportation	B	A	A	B	B	B	A	B	B
Improved access to Foreign Markets	B	A	A	C	B	B	A	B	B
3.Legal and Institutional Issues									
Commodity basis Projection of Demand/Supply	B	B	A	B	B	B	B	B	B
Strengthening Research & Extension	A	A	A	B	B	B	B	B	A‘
Comprehensive Law on Wholesale Markets	A	A	A	C	B	B	B	B	B
Integration of the responsibility on food policy	A	A	A	C	B	B	B	B	B
Credit for Marketing	B	A	A	B	A	B	B	B	A‘

7.3 Selection of the Priority Projects

Overall evaluation was evaluated from all evaluation items, and ranked it in three stages of A-C. Consequently, the following three were selected as priority projects.

1) Collective marketing by producers
2) Improvement of wholesale markets
3) Market information service project

Chapter 8 PRIORITY ISSUES FOR QUALITY IMPROVEMENT

8.1 Collective Marketing by Producers

As described in the commodity reports, most farmers individually sell their produce direct to wholesale markets. Due to the small scale of farms, produce to be shipped is small and further divided into many lots, often without sorting and grading. These factors increase farmers' marketing costs and their bargaining power is naturally limited. To offset these disadvantages, organizing collective marketing by producers' groups is proposed.

Procedures taken for the study for the issue and the ideas for developing the plan are described below.

8.1.1 Background and Necessity of Collective Marketing by Producers

(1) Current situation of marketing of farmers

Syria has over 27,000 citrus farm households, the vast majority (80 %) of which has less than 1.0 ha of citrus field. There are no systems under which their produce is assembled locally prior to shipping to urban markets. This has the following disadvantages:

1) Farmers spend too much time and transportation cost to ship their product.
2) Many farmers face difficulty in obtaining market information, especially on where the most remunerative prices are expected.
3) Due to the limited amount of the produce they deliver each time, farmers have limited bargaining power in marketing.
4) Sorting and grading of the produce, as required at the markets, are rather difficult on individual farms.

(2) Necessity to establish confidence of traders and consumers

World orange production is on a rising trend and there is little prospect of price increasing. Competition among major suppliers is getting fierce, in terms of both quality and price. In response to the rapid increase in production being forecast in coming years, expansion of domestic consumption and improved access to promising foreign markets are matters of concern. As Syria is a small supplier in global markets, specific efforts are required to establish solid markets abroad to obtain consumers' confidence. Establishment of a "Syrian Brand" will be an important option, for which high quality orange with low price is a prerequisite.

(3) Necessity of collective marketing by producers' organization

It is difficult for individual farmers to realize the above by their own efforts. Particularly, for small farmers, collective marketing by their own organizations will be one of the most urgent issues.

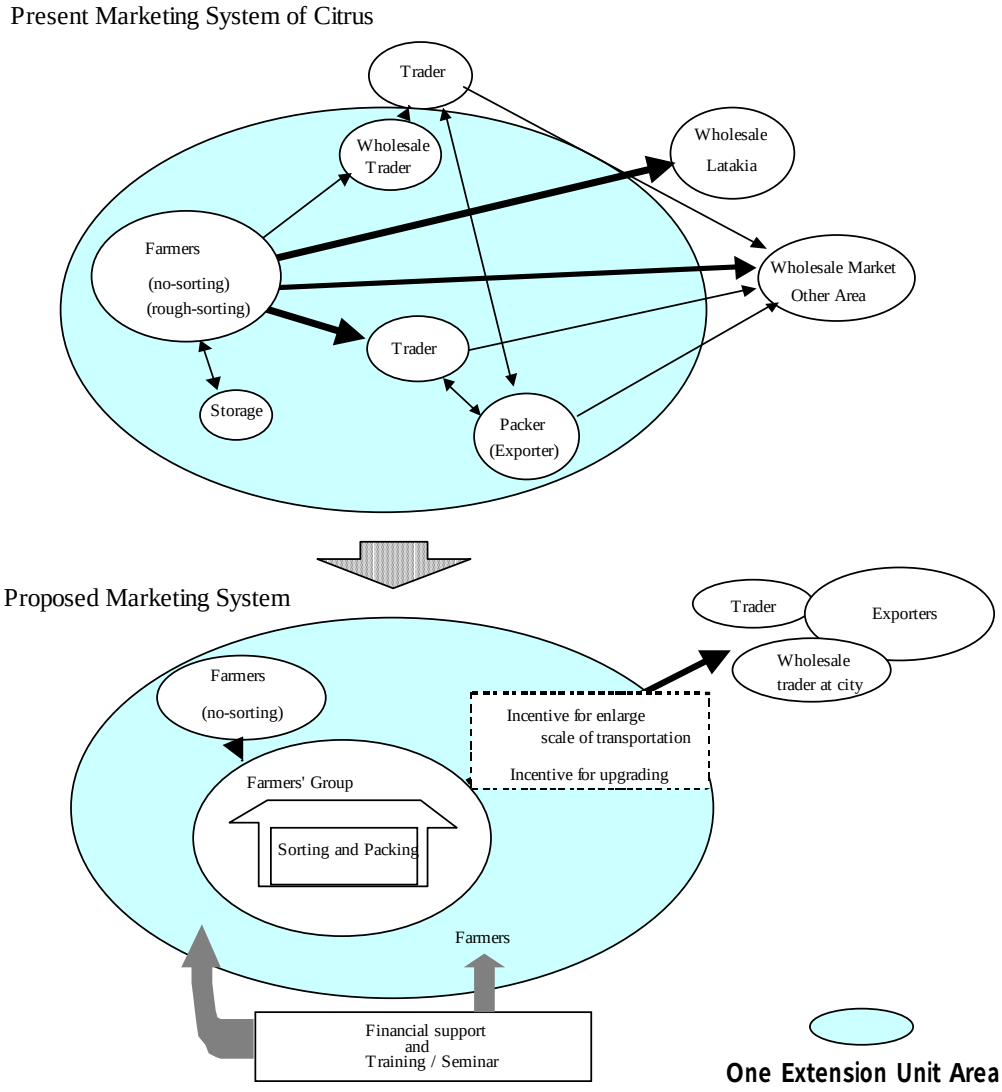


Fig. 8.1 Present and Proposed Marketing System of citrus

8.1.2 Selection of the Target Area in Lattakia

In general, the introduction of collective marketing system will be most effective if implemented in major producing areas, where small scale farmers are dominant and face difficulties on marketing their products.

Among the five commodities covered by the study, orange seems to be most appropriate, as the production of orange concentrates to two governorates of Lattakia and Tartous, where farmers'

scale of orange farming is generally small and facing difficulties on marketing.

(1) Selection of the area

The model area was selected from Lattakia Governorate, since it produces about 78% of the citrus in the country. Four candidates were preliminarily listed, each an area covered by an extension unit. On the selection of one from the four, the following points are considered:

- amounts of production of citrus,
- number of citrus producing farmers,
- production per farmer
- selling method of citrus and
- location.

Table 8.1 Selected Extension Unit

Extension Unit	Citrus production (t)	No. of citrus farm household	Marketing channels	Distance from Market (km)
Bourj Al-Qasab	**90,500**	**1,288**	**Diversified***	**17**
Dweir Al-Khateib	11,500	1,150	Simple	5
Sut Kheiris	12,650	639	Diversified	14
Aim Al-Aroos	12,400	750	Diversified	15

* Diversified means “Farmers have many marketing channels”.

Bourj Al-Qasab is an especially important citrus area with high production and many farmers. The farmers have very high average production of citrus, which is their major crop. The area gives the opportunity to pilot the suitability of collective marketing in a situation where many marketing channels are now used. Bourj Al-Qasab and Demarskho were thus selected according with the considerations mentioned above.

(2) Proposed capacity of organization

The tentative size of the organization was decided by the current situation of target area: citrus production, number of farmers, marketing channels and distance to existing wholesale market. Existing farmers’ cooperatives are also considered. Proposed capacity is:

Capacity of sorting facility	:	100 tons of citrus/day
Handling capacity	:	100,000 tons/1 season
Total planted areas of citrus	:	22,364 dunum (2,236ha)
Total production of citrus	:	90,000 tons (of which orange: 48,800 tons)

8.1.3 Workshop for Improvement to Marketing of Citrus Fruits

(1) Necessity of participatory approach

In any rural development, people of a particular area may have widely diverse interests and opinions concerning the purposes and methods of development programs. To meet the various requirements as much as possible, people in the target areas of the planned development have been encouraged to participate in the process of project formulation. This approach is now considered as one of the most effective methods to realize sustainable rural development.

In the study of "Quality Improvement of Agricultural Products", the method of Participatory Approach was used in the form of a workshop with participation of the people concerned in one citrus producing area. The method was applied to analysis of the existing problems in marketing citrus fruits and formulation of a tentative plan that can contribute to overcoming specific problems. An extension unit consisting of two villages, Bourj Al Qasab and Demarskho in the Governorate of Lattakia, was selected as target area of the Workshop.

(2) Participatory planning

Participatory Planning (PP) consists of two stages, Analysis and Planning, which are practiced with participation of the representatives of the people concerned. Prior to PP, Participatory Rural Appraisal (PRA) is conducted by the local people for the analysis of existing problems with the assistance of outside researchers, engineers or development planners.

Based on the PRA results, a project/plan is formulated through PP. The data and information obtained by PRA are used in a workshop of PP and incorporated into various diagrams or charts, which are developed through discussions. The analysis stage of PP comprises four steps: Participation Analysis, Problem Analysis, Objectives Analysis and Project Selection. The tasks of these steps are followed by the stages of Planning: Project Design and Plan of Operation.

(3) The workshop of PP

1) Objectives

Through the workshop of PP, people of the target area are encouraged to participate in the process of project formulation and helped to have a proper understanding of the roles of the community in operation and maintenance, monitoring and evaluation of the expected project.

The major objectives were to identify the problems of marketing of citrus fruits and to search for measures for improvement.

2) Participants

- Nine (9) citrus producers in the villages of Bourj Al Qasab and Demarskho, Lattakia
- 13 officials of the public and private organizations directly concerned with agricultural development in Lattakia
- Three (3) officials of the central office of MAAR
- Four (4) outside researchers / development planners

The list of participants in the workshop is attached as Annex Table 8.1.

3) Venue

A conference room of the Economic Studies Office of MAAR in Lattakia was the venue of the workshop.

4) Program and methods of the workshop

Day	Program		Methods and Activities
Day 1 Jan. 16, '02	AM 8:45 AM 9:00 AM11:00	Opening Participation analysis Problem analysis	・Identifying important players in the production and marketing of citrus fruits ・Analyzing the social system and framework and creating the social diagram of the area ・Identifying the problems related to citrus marketing
	PM 2:30 PM 4:30	Problem analysis Closing	・Identifying the problems related to citrus marketing and having a discussion on them
Day 2 Jan. 17, '02	AM 9:00 AM11:00	Problem analysis Objectives analysis Objectives analysis & presentation by the participant groups	・Identifying the problems related to citrus marketing and making a problem tree ・Identifying means and measures to solve the problems ・Identifying means and measures to solve the problems and discussing the approaches presented by the participant groups
	PM 1:20 PM 2:30 PM 3:30	Objectives analysis & presentation by the participant groups SWOT analysis Closing	・Identifying means and measures to solve the problems and selecting approaches as prototype projects ・Identifying strengths, weaknesses, opportunities and threats of the approaches

(4) Results of the workshop

1) Participation analysis

The group categorization and the analysis of the characteristics were done at the stage of participation analysis. Individuals, groups, organizations and institutions included within the framework of a tentative plan of the expected project were listed and sorted. Important players

in rural development in the community were identified and their roles and organizational features were recognized. Through a process of discussing characteristics of each of the groups, a beneficiary group that is deeply related to the problems of marketing of citrus fruits was identified. The social diagram of the community and the characteristics of the individuals and groups concerned are shown in Annex Table 8.2 and Fig. 8.1, respectively.

2) Problem analysis

The causes and effects of existing problems of marketing of citrus fruits in the community were discussed and a core problem was identified as “low income from citrus production”. The direct causes of the core problem were “high costs of production and marketing” and “low selling prices of citrus”. The factors causing high costs of production and marketing were clarified as “high production costs” and “high marketing costs”. As one of the main factors causing low selling prices of citrus, “an incomplete system of marketing of citrus fruits to central markets” was identified. A large number of factors related to the core problem were pointed out and their relative importance was discussed. As a result of discussions, a problem tree was made (Annex Fig. 8.2).

3) Objectives analysis and project selection

An objectives tree was developed, based on the problem tree, by replacing cause-effect relationships with positive means and ends (Annex Fig. 8.3). This was a process for identifying the desirable situation that would be attained by solving the problems.

The reduction of marketing costs was recognized as the first objective, in aiming at the goal of increasing income from citrus production. In order to realize this objective, a prototype project was presumed as an approach being given a name as “**Collective Marketing by Producers**”. Another approach was presumed as a prototype project to contribute to establishing the system of marketing of citrus fruits to central markets named as “**Improvement of Internal Market**”.

4) Participatory SWOT analysis

Two prototype projects were analyzed using the SWOT method. Strengths, weaknesses, opportunities and threats of the approaches were pointed out to identify the necessary activities for the prototype projects. The approaches were examined in view of technical readiness, availability of inputs, administrative support and economic impacts. Finally, two approaches to be the tentative plans of the expected projects were selected. The results of participatory SWOT analysis are indicated in Annex Table 8.3.

(5) Conclusions and recommendations

1) The discussions in the workshop resulted in tentative proposals for two projects. However, further discussions and work in the planning stage is keenly needed by development planners and researchers to make a plan of operation for the projects. The expected task of this

stage is to specify the objectives, activities, inputs, important assumptions and verifiable indicators for monitoring the implementation of the projects and to make the work schedule.

2) The participants deepened their understanding of analyzing the problems in marketing citrus fruits through application of the PP method. They understood that the problems of rural development were inter- related not only technically, but also socially and culturally and a number of approaches should be identified to solve them according to the available resources.

3) The citrus producers and officials of the public and private organizations directly concerned with agricultural development in Lattakia obviously seek technical and administrative advice and information on the means of solving the problems closely related to marketing of citrus fruits. It is likely that sufficient and continuous provision of the information will greatly help them seek ways of solving problems by themselves.

4) Some of the participants may need to gain experience to comprehend how to make discussions in proper manner and abiding by the rules. Some participants were not accustomed to arguing logically and consistently and had a lot of difficulty to express their opinions. It was felt that the full understanding of rules and manners on the part of participants is a prerequisite for effective implementation of the workshop.

8.1.4 Plan for the Collective Marketing by Producers

(1) Purposes of the Organization

The purposes of the collective marketing are to:

1) reduce the labor of farmers for transportation of produce to market
2) reduce the cost and upgrade the quality of produce by collective sorting
3) increase bargaining power of producers through collective sorting, grading and packing
4) strengthen consumers' confidence by adopting common brands
5) share information on citrus production and marketing among members

(2) Major activities

To accomplish the purposes, the following activities will be implemented:

1) Collective washing, waxing, sorting and packaging of citrus
2) Collective shipment without sorting, if and when appropriate
3) Collective shipment of products to markets
4) In addition to shipment to wholesale market, direct sales to processors on contract
5) Supply to exporters whenever appropriate
6) Temporary storage, considering the market situation and prospects.

(3) Organization and management

As the organization of the collective marketing by producers, two organizations may be considered, one is an organization of Farmer's Union and other is independent organization or company by producers. Organization will be decided at the assembly by members.

- Membership of the Organization
  - Citrus growing farmers in the target area
  - Any others related in the organization in the target area.
- Right and Responsibility of the Members
  - Equal right and responsibility for all members
- Funding
  - Contribution by the members
  - Initials fund may also be provided by the government and/or other public organizations, including foreign donors.

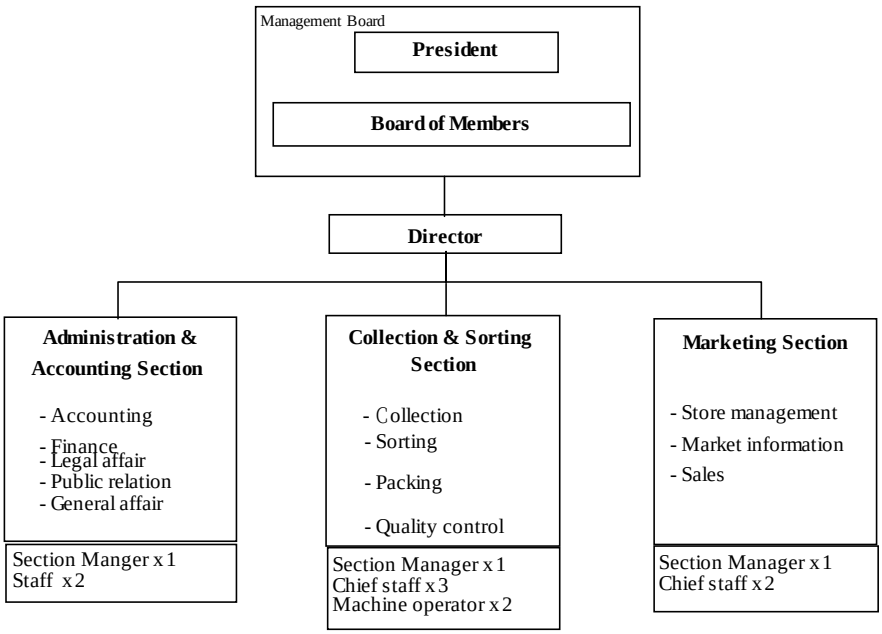


Fig. 8.2 Organization of Farmer's Group

For practical management of the organization, the following personnel are required:

President:	who has responsibility for management of the organization.
Vice President:	who supports the activities of the president.
Executives:	who are responsible for management of each part of activity
Workers/Stuff:	who carry out practical activities of the organization

(4) Physical facilities

Outline of Land, Buildings and Facilities

1) Land;

Space for the activities ……..…..…… 15,000m^2

2) Building;

a. Sorting House…… 3,200 m^2

b. Cold storage……..…..……..…..… 180 m^2

c. Office (with computer and other equipment)……..……..……..… 120 m^2

3) Facilities;

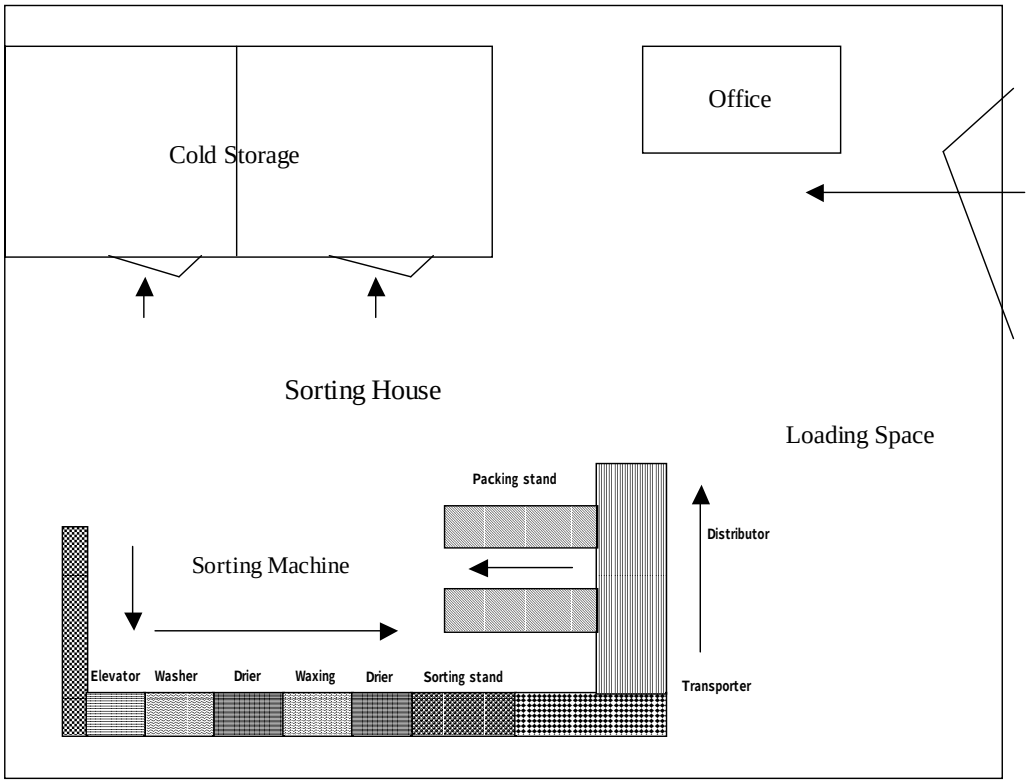
a. Sorting facility (includes washing, waxing facilities)……..…….. 1 set

b. Packaging facility of the products…….. 1 set

c. Transporting facilities (track, forklift, etc.)……..…… 2 set

d. Others

Outline of the arrangement of the facilities



Estimated amounts for primary investment

Land……		SYP 2,000,000
Building……		SYP 8,000,000
Facilities	Sorting facility……..……..…	SYP 9,000,000
	Cold storage……...……..…	SYP 3,000,000
	Transporting facilities……..…..……	SYP 7,000,000

8.1.5 Plan of the Support System for Collective Marketing

(1) Importance of farmers' initiatives

To realize the collective marketing of citrus fruits, farmers' initiatives to implement the project are essential. However, the experience and expertise as well as the financial resources of farmers to initiate the project are limited and substantial assistance from outside, particularly from the government, will be necessary.

Human resources, especially the core persons for project planning and implementation, will be the key to success. In this regard, local government agencies such as Governorate Directorate of Agriculture, District Office and Extension Unit will play a crucial role in supporting the project. Training, guidance and financial support will be the major part of the support to the project.

(2) Proposed structure of the support system

To support smooth project implementation, a **Project Advisory Board** will be organized under MAAR. The form and structure outlined below.

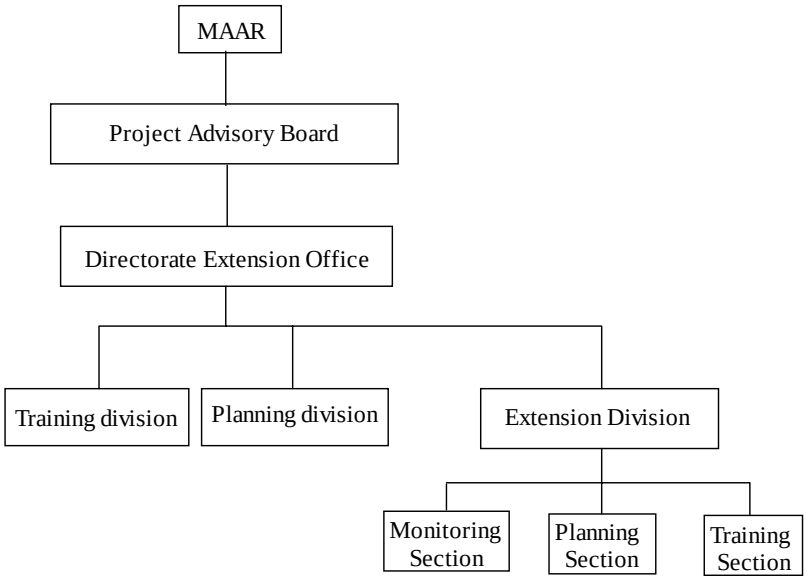


Fig. 8.3 System of Implementation and Operation/Management

The Board will be responsible for guidance and overall supervision of all activities of the project in its early stage. Training, guidance on technical matters and management, together with monitoring and supervision, will be important aspects of support.

(3) Human resources development in support services

To establish and operate the collective marketing organization, it is essential to identify capable or potentially capable leaders among the prospective members. Enhanced training for these

personnel needs to be emphasized. Similarly, training of member farmers will be important. The proposed training and education for formulation and strengthening organization include the following.

Table 8.2 Proposed Training and Education Plan for Leaders and Member Farmers

Title	Contents	Target Persons
1. Training of governmental key persons (Basic education)	- Planning, implementation, - Monitoring and evaluation of the projects - Fund raising - Operation and management - Methods of propaganda and communication - Understanding of legal framework including Cooperative Law	- Staff of community and smallvillage - Extension workers, staff in charge of farmers' groups
2. Formation/strengthening of farmers' groups (Business training for the leaders and leader groups)	- Operation and management - Accounting, financial management - Quality control - Fund raising - Planning, management, evaluation - Understanding of Cooperative Law	- Members in charge of each sector in leader groups
3. Preparation of joint activities (Training by each business sector)	- Collecting/Storage and transport - Selling, trading - Quality control - Accounting/finance - Quality control/evaluation method	- Each member in charge of the sector

8.1.6 Implementation Plan

The implementation plan would consist of two parts. One is the "Plan of the Support System for Collective Marketing" which is described in 7.1.5 and the other is the "Plan for Collective Marketing by Producers" which is mentioned in 7.1.4. The implementation schedule is summarized below:

Step I : Plan of the Support System for Collective Marketing (Explain on 8.1.5)

Step II : Plan for Collective Marketing by Producers **(**Explain on 8.1.4**)**

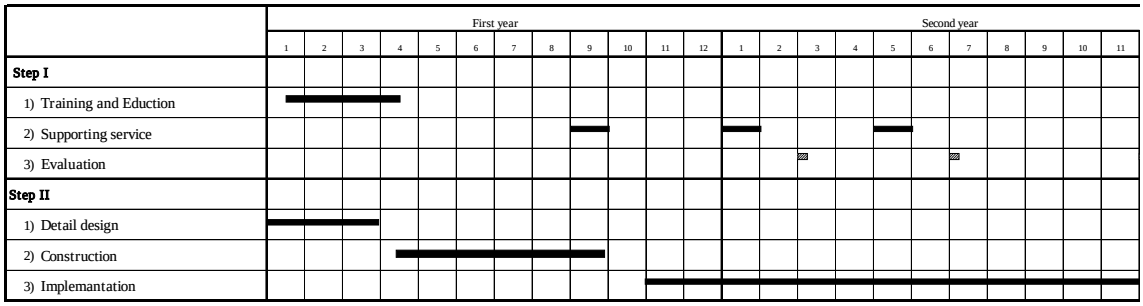


Fig. 8.4 Schedule of the Project

8.1.7 Recommendation

Through the PCM workshop on Citrus Marketing at Lattakia, farmers and concerned parties expressed strong interest and willingness to realize the project. As a model for programs on collective marketing by producers in Syria, therefore, it is strongly suggested that, based on the wishes and initiative of producers/farmers, MAAR take necessary action to initiate the project, using own resources and also mobilizing the fund from foreign donors.

For planning and designing of the project, participation of the beneficiary farmers will be essential. In this regards, mobilization of ODA resources needs to be explored.

8.2 Improvement of Wholesale Market

8.2.1 Background

The "Study on Quality Improvement of Agricultural Products" identified the improvement of wholesale markets as one priority issue. Through the related surveys on the actual situation and problems faced in marketing of agricultural products, major points to be considered in improving the wholesale market system were analyzed.

Based on the result of the survey, a Wholesale Market Improvement Plan for "Damascus City Wholesale Market" is prepared, as an example, for reference to future action by concerned authorities.

8.2.2 Basic Concept of Improvement Plan

The volume of fruit and vegetable transactions in the wholesale markets has been increasing, particularly since the 1980s, reflecting rapid increase in production. In 2000, Syria's total production of fruit vegetables was around 4.6 million tons, of which more than half was channeled through wholesale markets.

At present, there are 12 major wholesale markets. Additionally, in major producing areas, many small wholesale markets also deal with fresh fruit and vegetables. However, there are no national laws regulating wholesale markets throughout Syria, and all the wholesale markets are under the control and supervision of the local government authorities. In modern wholesale market, as a public entity, the following roles and functions are expected:

1) Realization of fair and transparent trade
2) Fair price formulation
3) Quick and efficient commodity transactions (distribution and accounts function)
4) Assurance of safety of commodities.

The current wholesale markets seem to require thorough review for their improvement in terms of administrative, institutional and physical aspects, to allow them to carry out these roles and functions.

As most of the wholesale markets were established in the 1970s, many of the facilities are obsolete and deteriorated and cannot respond effectively to the increasing trade volume. Further, as most wholesale markets are located in the central part of cities, difficulties in access

and traffic jams are now serious. Some of the wholesale markets have been relocated in recent years. This has been mostly simple relocation of physical facilities, without due attention to the current requirements of wholesale markets, such as improved market management and operation, expected long term turnover and relating facilities to needs closely related to the formers. These factors may cause difficulty in realizing the objectives of wholesale markets.

Noting that the Damascus City Market is under review for relocation, major points to be considered in its planning and construction are suggested, as useful references.

8.2.3 Current Situation of Damascus City Wholesale Market

The present wholesale market was established in 1986 for trading fresh fruit and vegetables in the Metropolitan area. The City Governorate is the founder and owner of the market. Commodities traded in the market are not only to those for living in the metropolitan areas, but also for surrounding regions as a whole. Close linkage will be established with wholesale markets in other Governorates.

Total amount traded at Damascus City Wholesale Market has rapidly increased during the past 15 years. For example, the traded amount of citrus increased more than 11 times and those of apple, potato and grapes respectively 4.2, 1.7 and 1.7 times. Total daily transaction is estimated at 2,500-3,000 tons.

Located in the central part of Damascus with an area of 11.5 hectares, the wholesale market also deals with other commodities such as meat and fishery products. Some packing facilities and cold storages are also located in the market's premises. In addition to problems of management and operations, increase in traded volume has created serious congestion inside the market and traffic jams in the surrounding areas. The City Governorate Authority is considering relocation of the market.

8.2.4 Proposed Ideas on New Wholesale Market

(1) Founder and owner of the market

As its founder and owner, the City Governorate holds all rights and responsibilities for the market. While all the facilities should be constructed and maintained by the owner, operation and management can be entrusted to a third party where appropriate, as is done in many cases in other countries. Practically, it seems difficult for the City Governorate to deal with the broad and complicated business issues of a wholesale market within a bureaucratic system.

(2) Management of the market

To effectively and efficiently manage the market, it is recommended that a Management Board be created. The Board, entrusted by the Governor by law or special statute, would have overall control and be the policy body for the wholesale market. This may require a special statute by the City Governorate. The Governor would select board members from among concerned parties. The chairperson might be selected from among senior officials of the City Governorate to maintain close coordination between local government and the Board (though it may depend on the special statute/ by law on wholesale market)

1) Composition of the board

The composition of the Board members and role and function of the board will be similar to those applied in cases of wholesale markets in other countries. Members would represent:

- Fruit and vegetables, meat and fish producers
- Consumers
- Traders (Chamber of Commerce, Representatives of wholesalers, semi-wholesalers etc.)
- Cooperatives
- Financial institutions (ACB and others)
- Concerned ministries (Supply, Economy & Agriculture)
- City Governorate
- General Manager of the Wholesale Market (after nomination)
- Others as appropriate.

2) Roles and functions

The board, entrusted by the Governor, would be responsible for overall administration including:

- Establishing the trading system
- Fixing times of buying and selling
- Issuing licenses to traders and retailers
- Defining the conditions of leases and contracts
- Recruiting and hiring staff, and defining staff hours and conditions
- Drafting traffic and parking regulations
- Fixing rents, transaction and parking fees
- Maintenance of the facilities; and
- Imposing penalties, in the form of fines, and expulsion and withdrawal of licenses.

The chairperson would convene Board meetings, both regular (quarterly or monthly) and special sessions as required. Decisions of the Board would be by majority, except those issues as annual budget or setting of fees which need full Board approval.

The Board would be responsible for selecting the **General Manager**, who would head a **Secretariat of the wholesale market**. The Board would also nominate some senior staff, such as the Deputy Manager.

Needed staff members and their number vary very much according to the scale and methods of transaction adopted. However, based on the proposed ideas, typical staff required at a wholesale market is shown below for reference.

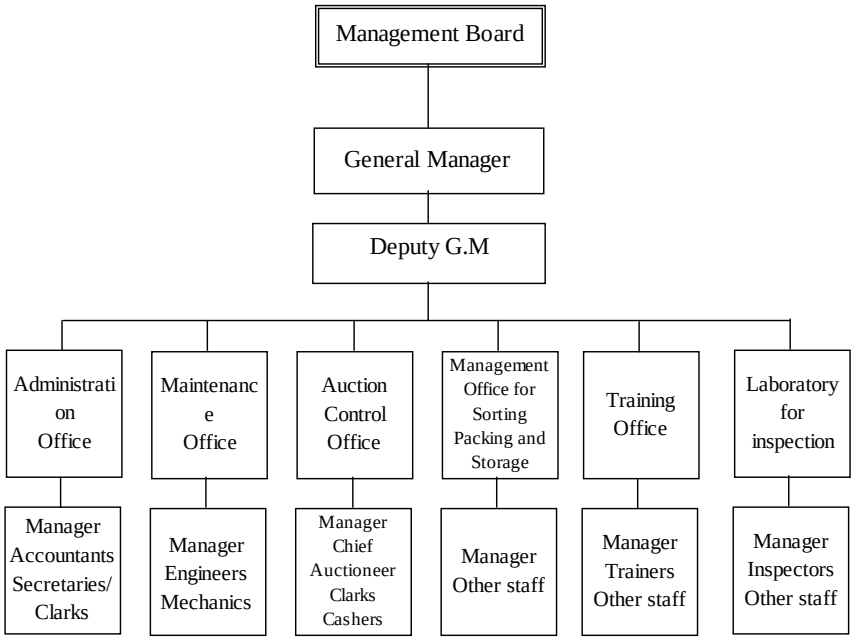


Fig. 8.5 Organization of Wholesale Market

Minimizing the number of staff is an important issue from the management viewpoint of the wholesale market. This staff required differ widely, depending on the system of market operation and facilities to be introduced.

(3) Market Operation

There are a number of transaction methods, such as:

- private treaty
- auction
- others.

The current transaction method in Damascus City Wholesale market is mainly private treaty. Auction may exist partly, but is not clearly observed. The auction system is the most preferred one from the viewpoint of fair price formation, and for efficient and quick transactions. As pointed out in the FAO manual, the auction system has an advantage that it can avoid the development of wholesalers' rings. However, for auction, the commodities need to be sorted, washed and graded in advance so as to deal with a large number of fairly small consignments. The current composition of incoming fruit and vegetable, which is mostly non-sorted produce, may not allow exclusive adoption of the auction system. Therefore, while the need for introduction of the auction system is very strong, traditional transactions such as commission sales and private treaty may be allowed temporarily.

As mentioned, the auction requires sorted, graded and packed produce. Therefore, by introducing the system, producers and traders will become more conscious of quality and standards of the commodities.

To clarify the process of commodity transaction, a typical flow chart is shown below.

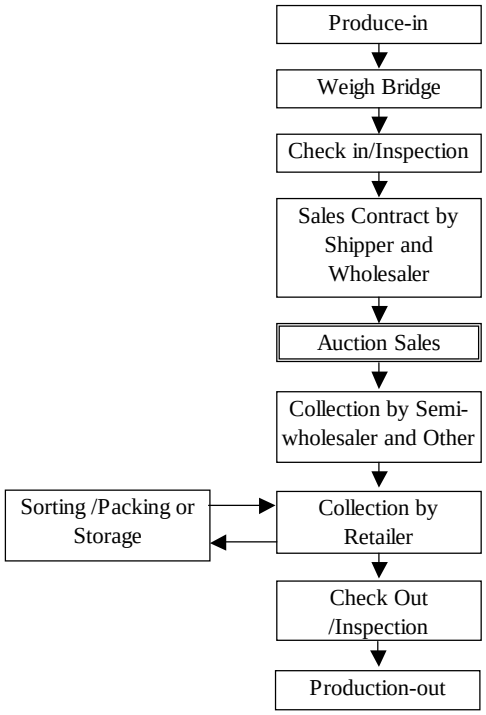


Fig. 8.6 Process of Auction Sales

(4) New facilities to be introduced

For efficient transaction of fruit and vegetables, various functions will be added to the new wholesale market. Major facilities to be added will include:

- Weighbridge
- Check-in inspection
- Sorting (including washing, grading and portage & crate supply)
- Display areas
- Auction hall
- Storage facilities (cold storage, others)
- Laboratory for inspection
- Training equipment for traders
- Others.

The details of the facilities including their sizes and number need to be decided based on the expected amount to be traded and transaction methods to be adopted. Careful study and consideration are required in this regard.

(5) Market information

One of the important functions of modern wholesale markets is to aid market transparency by providing information on price, quantity and quality traded. This information is useful for market management, traders, producers and consumers. The producers can choose the location and timing of sales. It also allows them to delay harvest or store their produce until the prices are better and further helps them to make long-term production decisions. It also enables traders to decide to which market they should deliver produce. This will contribute to equalizing the supply throughout the county and to evening out price differences.

In developing economies, this information is usually collected by officials from concerned ministries. In Syria, wholesale market information is collected regularly by MAAR, although the purpose of its collection is mainly for policy consideration/intervention. The current information refers only to price and does not include volumes traded.

While a permanent market information system should be created within the proposed secretariat in the new market in the long run, the existing system should be effectively used in the interim. Data to be collected, compiled and distributed include:

- Traded amount by commodity (grade, origin, varieties etc.)
- Number of persons entered (by category; supplier, wholesaler, retailer and other)
- Number of vehicles entered (by type, by cargo)
- Prices of commodities realized (by grade and origin).

Dissemination of the information could be in various forms. A notice board should be provided

in the market to display information regularly. This information would better be linked to the market information system being considered under the current study. Therefore, close discussion between the market and MAAR should be made for effective realization of the objectives.

(6) Revitalization and diversification of wholesale market's activities

In addition to the basic commodities to be traded in the wholesale market, such as fresh fruit and vegetables and meat and fishery products, other items such as processed food and other daily necessities will be considered to be included, though separated from the wholesale section. Similarly, retail shops for farmers and retail shops for farm inputs will be included for the benefit and convenience of market participants.

(7) Financial management

So far as possible within the enabling legislation, special statute or others, the Management Board should be responsible for all operational and management matters at the market. The market should, in principle, be self-accounting and operated commercially. Fees and charges to be collected from market participants should cover all costs, including staff, maintenance and depreciation. However, in many cases, this may be difficult in its early stage of establishment, calling for certain assistance of central and local government or contribution from others.

For day-to-day operation, a market has a considerable number of cash transactions. Therefore, a daily internal audit and financial control system would be essential within the Secretariat of the market.

(8) Regulation of the wholesale market

The regulation needs to be established within the framework of the existing laws and regulations, including special statute governing the wholesale market. The Management Board would be responsible for licenses and other regulations, including:

- Traders' licenses:
  Wholesalers and commission agent need licensed by the board
- Regulations:
  Trading hours
  Fundamental disciplines
  Regulation of farmers/ traders/ tenants and others
  Inspection, quality control and hygiene
  Cleaning, fire prevention and quality control
  Solid waste disposal.

(9) Outline of the facilities required

From the proposed ideas, the market facilities needed are briefly outlined. The outline has been made on the basis of very limited data and information and is indicative only. A detailed feasibility study, which would be essential for planning the new market, would prepare detailed specifications of required facilities. This outline provides some insight for the consideration of steps to be taken by responsible authorities.

1) Estimation of transactions

As the basis for planning the physical structure of the market, the daily volume of each commodity, number of market participants and the number of vehicles entering need to be estimated. The preliminary survey for Damascus City Wholesale Market shows that daily produce ranges from 2,500 tons (off season, winter) to 5,000 tons (peak season, summer) and the yearly average is 3,500 tons. Market participants were 29,000 persons in the peak season, with total number of vehicles around 5,000. Therefore, base figures (in 2000) are:

Transaction volume per day:	5,000 tons
Participants per day:	29,000 persons
Vehicle entering per day:	5,000

However, total transaction volume and the mix of commodities may change in future, to reflect increase or decrease in production and supply and also population and demand. Other factors to be taken into account are the overall roles and functions which the Damascus City Wholesale Market is expected to play among the 12 major wholesale markets in the country. Thorough study is needed for more precise estimation.

2) Required land space, buildings and facilities

a. Sales space

Sales space is the core of the wholesale market and its size depends on the type of transaction methods. The space is used for unloading for wholesale, display, sale and temporarily storage. Standard figure is around 10-20 ㎡ per ton daily volume. This may also include an auction hall. Therefore, at the current level of trade volume (5,000 tons), 5-10 ha will be required.

b. Other major facilities and their required size or space

In estimating required space for other facilities, 50% of the sales space gives a rough estimate. At the design stage, detailed analysis is required for respective facilities. At the current volume of transactions, the required space would be 2.5 –5.0 ha. Major facilities include:

- Administration Office (Management Board, Secretariat, others)
- Sorting & grading and packing facility
- Cold storage and warehouse

- Sales areas other than wholesale (meat, fish, processed foods, others)
- Farmers' sales shops
- Hostel for the participants from distant areas
- Public use building (restaurant, conference room, banking etc)
- Training facilities for traders, exporters
- Drainage and solid waste disposal facility
- Others.

c. Parking area

Standard space for a vehicle is usually considered 25 ㎡. Therefore parking space at the current level will be 12.5 ha. Future projection on trade volume and others may require additional allocation for parking space.

d. Internal roads

Internal roads require substantial space in any wholesale market. Nearly 30% of the total area of wholesale market is devoted to internal road.

3) Required total land space for wholesale market

In general, the total land space needs to be estimated on the assumption that sales space is 30% the total. Following the assumption, at the current trade volume basis, required land space will be 16.7-34.2 ha.

The cases of a number of wholesale markets overseas are quoted as references.

Table 8.3 Land Use of Selected Wholesale Markets in Near East

Land Use	Amman Central Market		Rod Farag, Cairo		Marche de Gros Rabato	
Covered sales space	2,50 ㎡	(8.9%)	12,900 ㎡	(14.7%)	3,000 ㎡	(6.0%)
Open sales space	7,400	(26.4)	13,500	(15.3)	4,500	(9.0)
Parking	2,400	(8.6)	-		4,000	(8.0)
Roads	9,200	(32.9)	17,300	(19.7)	12,100	(24.2)
Stores	5,700	(20.3)	40,900	(46.5)	1,600	(3.2)
Crates	-		-		4,800	(9.6)
Administration	800	(2.9)	3,400	(3.8)	1,800	(3.6)
Unused	-		-		18,200	(36.4)
Total	28,000	(100.0)	88,000	(100.0)	50,000	(100.0)
Basic Figures						
Turn over ('000 tons)	155.3		287.9		155.1	
Population ('000)						
City	250		n.a		610	
Hinterland	1,000		n.a		1,257	
Turn over (ton per ㎡)						
Total area	5.5		3.3		3.1	
Sales area	15.7		10.9		20.7	

Source: Wholesale markets, FAO

4) Equipment, facilities and other items required for the new market

- Entry/ exit registration and weigh bridge
- Fork lift and/ small vehicle for internal transportation
- Auctioneer's equipment (portable platform etc.)
- Sorting, grading and packing line
- Cold storage and warehouse
- Information equipment (computers and telecommunication equipment)
- Sanitary inspection laboratory
- Drainage and solid waste disposal facility
- Training facilities including audio visual equipment, for traders and exporters
- Other.

It is suggested that a feasibility study be conducted, with detailed analysis and assessment, including the socio-economic, financial and environmental impacts on the proposed wholesale market. There is a possibility of technical training, as well as financial contributions, from multilateral or bilateral cooperation schemes.

8.2.5 Recommendation

In initiating the relocation of wholesale market of Damascus City, careful study will be required on institutional and management aspects, together with the physical facility of the market. It is recommended to refer the above proposed plan in the detailed planning. Together with domestic resources, possibility of cooperation from abroad, both technical and financial, would better be explored.

8.3 Market Information Service Project

8.3.1 Project Purposes

The Information Service Project aims at increasing market transparency by providing accurate and quick market information to farmers, traders, policy makers and others with regard to price and quantity of commodities traded at markets.

More broad objectives to which the project is expected to contribute are:

1. Strengthening the bargaining power of farmers to increase their income.
2. Reduction of seasonal and erratic price fluctuations to limit market risks.
3. Improving the regional balance between supply and demand.
4. Facilitating more effective agricultural market policies.

8.3.2 Target Group of the Project

The target groups are producers, traders and consumers. Priority will be placed on the producers, as they are in a disadvantaged position in dealing with the traders. Further possible target groups would be the administration in government.

8.3.3 Outline of Market Information Service Project

The Market Information Service Project is to be based on the Model Information System formulated in this study. The project covers more broadly the information sources and providing accurate and quick information to their users. The Project can be implemented without any serious obstacle by executing agency; public offices would manage the project.

DAE will be the center of the project, where all necessary information is collected, processed and distributed to the concerned parties. The assumed organization of the network is as follows. DAE will be connected to the Regional Directorates of Agriculture, Branch office of 12 main wholesale markets, Directorate of Agricultural Affairs (DAA), Directorate of Plant Protection (DPP) and Rain Enhancement Project (REP) by computers. And DAE will provide broadcast information through the Directorate of Extension (DAEX) to producers and consumers by regular TV programs, radio and daily newspapers.

The computer network will be established to provide market information, with headquarters in MAAR's DAE. The following chart shows an image of the network.

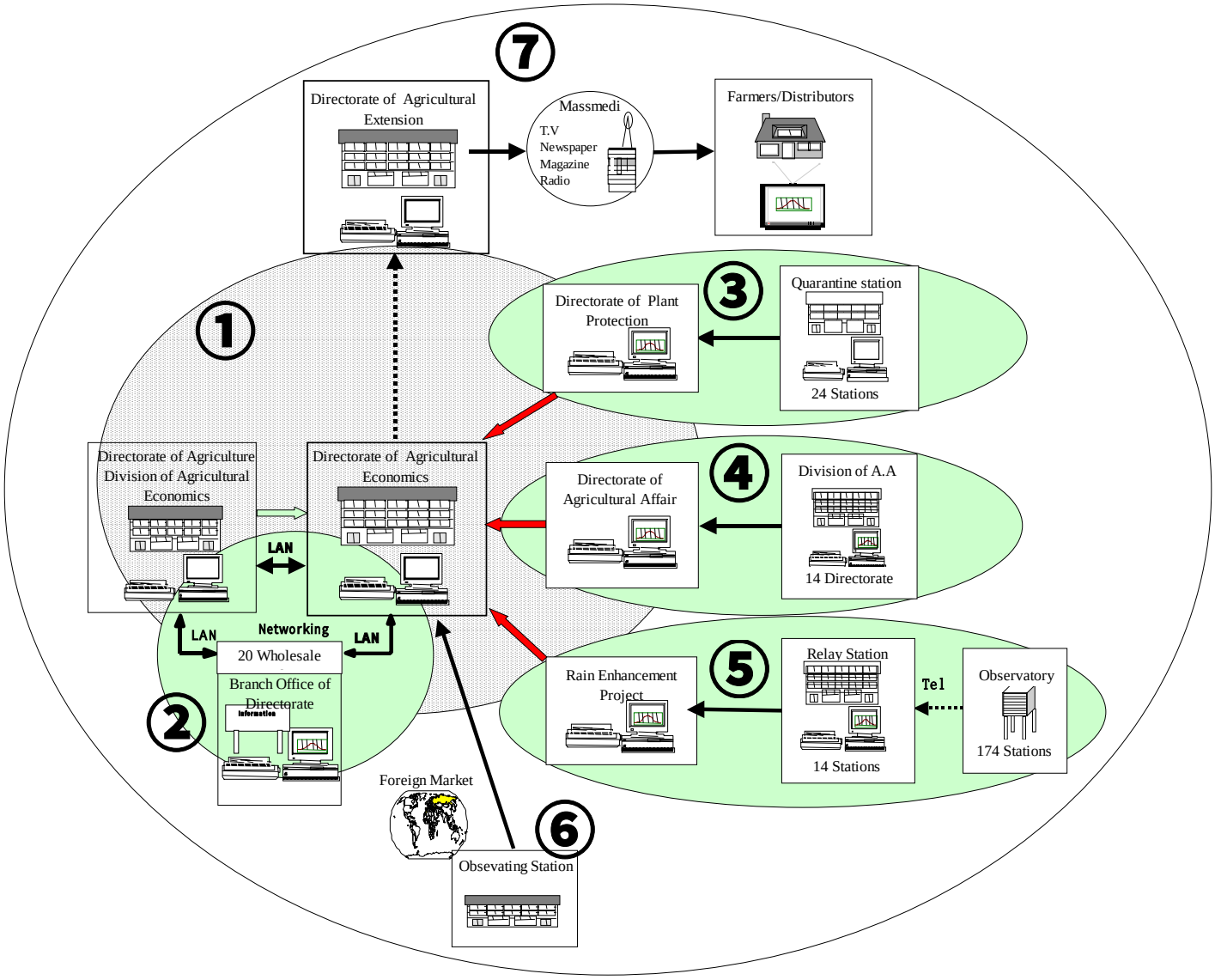


Fig. 8.7 Proposed Marketing Information Network

① Area of Model Information System :

The system formulated by this Study

② Wholesale/Retail Market Information Network :

DAE – 14 Division of Agricultural Economics – 12 Branch office in wholesale market

③ Export and Import Information Network :

DAE – DPP – 24 Quarantine stations

④ Cropping Information Network :

DAE – DAA – 14 Division of Agricultural Affairs

⑤ Meteorological Information Network :

DAE – REP – 14 Relay stations – 174 Observatories

⑥ Foreign Information :

DAE – Economic and business dailies and magazines, internet and others

⑦ Relation to Mass Media :

DAE – DAEX – TV, radio and newspaper

(1) Role of the center of the market information service

DAE will be the center of the network, where all necessary information is collected, processed and distributed to the concerned parties. Detailed contents of the information to be provided will be decided during preparation of the implementation plan. However, major information includes the following regular and periodic information:

① Wholesale/ Retail Market information :

Compilation and distribution of market information collected by branch office of DAE (trade volume and price, on daily basis.)

② Export and Import Information :

Compilation and distribution of trade information collected by Plant Quarantine Office (import/ export volume, origin/ destination)

③ Cropping Information :

Compilation and distribution of crop information collected by the Directorate of Agriculture in all governorates (crop index, crop planting and growing situation in major production areas)

④ Meteorological Information

Compilation and distribution of meteorological information collected by REP (periodic rainfall and natural disaster information from major production areas)

⑤ Foreign Market Information

Collection, analysis and distribution of foreign market information on irregular basis, collected directly by the Center through dailies, magazines, journals and internet (general market information, production, trade situation of major competitor and destination of Syrian products).

In assessment of the market situation, emphasis is given to the following aspects:

- At all major markets, prices, quantities marketed for respective commodities on daily basis, current trends compared to that of the previous month and the same period of the previous year.
- Commodity flow, from the producing area to the destination.
- An assessment of supply capacity of major producing areas.
- Provide basic data and information for prognosis of future market developments, including alerting where necessary.

(2) Role of the Directorate of Agriculture at Governorate

Market information services within the directorate level consist of following three major aspects. The communication medium is a computer network and activities are performed by special officers operating within agreed time schedules.

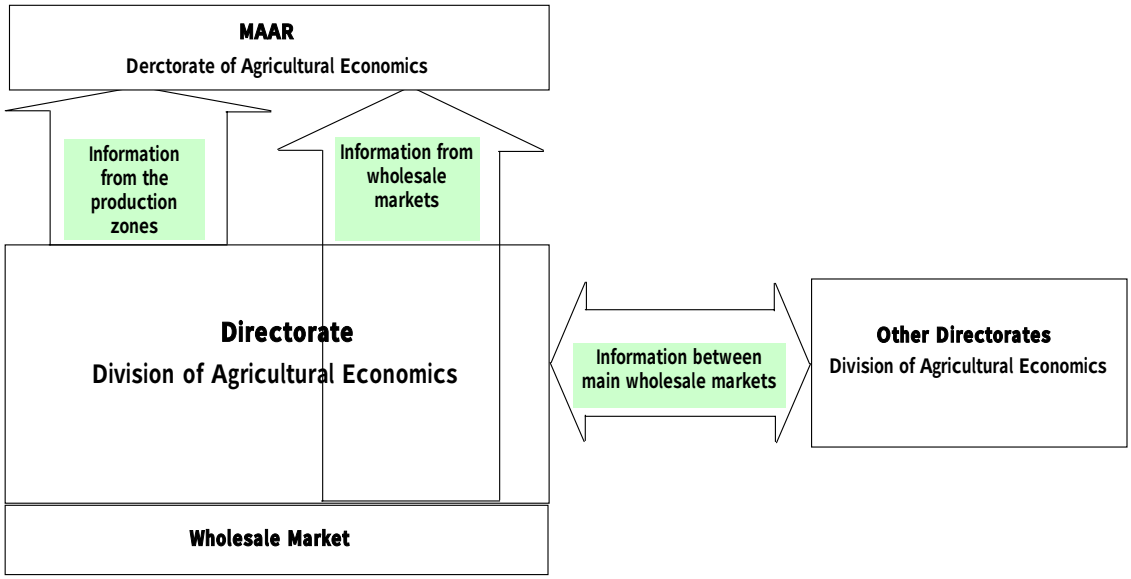


Fig. 8.8 Market Information in Directorate

1) Information from wholesale markets

The Directorate (Division of Agricultural Economics) will collect daily information by its branch to be located at respective wholesale market. The collected information will be sent to DAE of MAAR through LAN.

2) Information between major wholesale markets

To assist market information exchange among major wholesale markets, each Directorate will provide market information to other Directorates. These are linked by the branch located in each wholesale market. Market information for exchange includes prices, supply and their general trend.

3) Information on crop forecast in major producing areas

To ensure forward-looking information on market movement, collection of crop forecast information in major producing areas (each directorate is responsible for assessing the situation) is very important. This information is obtained by:

-Feedback of crop information from the producers by Extension Units.
-Information from other special production scheme, cooperatives, etc.

- Regular assessment visits by field officials of DAA to major producing areas, for first-hand information from producers, local traders, field staff, etc.

(3) Market information at wholesale market

1) Role of Branch office of the Directorate at wholesale markets

Each branch office of the Directorate will be responsible for establishing and maintaining adequate market information service in the wholesale markets.

The Branch offices possess communication facilities and collect their information directly from the wholesale markets. Staff of the Branch will announce the information regularly at predetermined times. The Branch office, at the same time, reports the contents of the announcement to the Directorate.

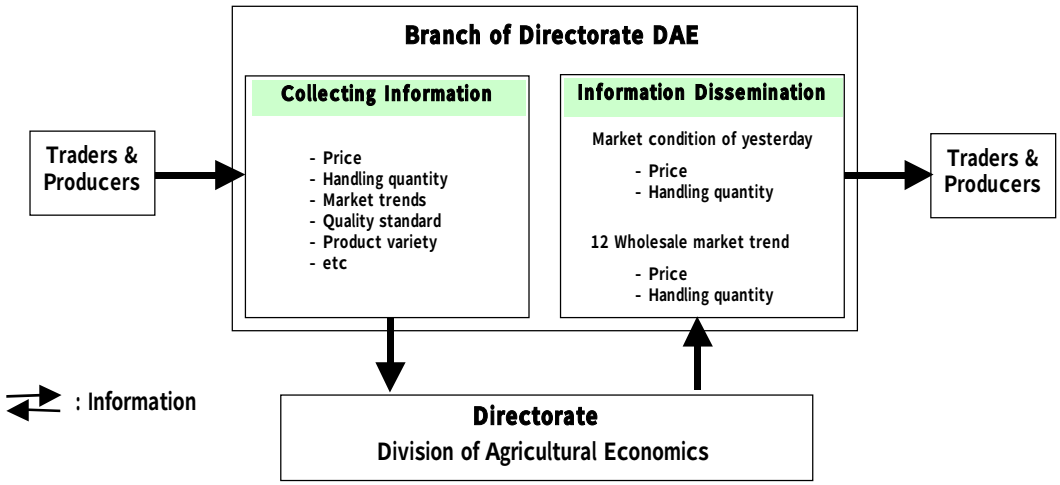


Fig.8.9 Market Information in Wholesale Market

For the establishment of the information system, the following needs to be decided in advance:

- Responsibility for collecting information at wholesale markets,
- Time schedules for transmissions of information collected,
- Development of adequate forms and codes for data collection and transmission,
- Responsibility of data reception at the producer market and for market information dissemination within the market or production area,
- Allocation of supervisory responsibility for checking the day-to-day operations, the solving of complaints, etc.

2) Contents of Information

Information to be collected at wholesale market is:

- Prices, including lowest and highest and the average price,
- Handling quantity of commodities,
- Type of package, grading,
- Quality standard,
- Variety of products and origin.

3) Use of standards

Commodity standards are not usually applied in the wholesale markets at present. However, standards, grading and specification need to be addressed in wholesale markets to capture accurately the price reflecting the quality of each commodity. As consumers become more conscious of the quality, the market information service needs to respond to this requirement in the future.

4) Dissemination of the market information

Various methods will be employed for dissemination of the information at the market for participants:

- The market information board, located strategically within the market where information about each product and market outlet is recorded immediately after data reception.
- Handouts of the latest information on the main products to the producer at the market gate whenever appropriate.
- Verbal orientation by the branch officers during the market hours and the possibility of any producer and/or trader contacting the market management to receive specific advice.

Whenever possible, a combination of the above information methods, ensuring that all market participants can receive available market information, would be employed.

In all rural market areas, attention needs to be paid to ensure a dissemination system which enables growers to receive the latest market news at their places of residence.

8.3.4 Implementation Plan

A systematic approach is required for planning the establishment of market information service. It must be carefully adjusted to the existing conditions and be designed in such a way that, within a reasonable period of time, the self-sustained development of the market information service can be achieved. Therefore, the project approach emphasizes the iterative and cyclic

character of goal definition, collection of information, planning, implementation and evaluation.

Phase Concept:

For the first phase a small-scale pilot project is recommended. This is the foundation of the proposed service, and can be designed in such a way that, by means of monitoring and evaluation, experience can be gathered and processed to be used for further development of the service.

The implementation phases of the project are summarized below:

Phase I

- Establishment of the network information system from the Damascus wholesale market to target groups
  (Damascus wholesale market – Directorate – DAE – DAEX - Mass media)
- Establishment of the network information system from 24 Quarantine stations to DAE through DPP
- Training in information systems, including computer operation

Phase II

- Establishment of the information system from the other 12 wholesale markets to target groups
  (12 wholesale markets – 13 Directorates – DAE – DAEX - Mass media)
- Establishment of the network information system from DAA to DAE
- Training of information system including computer operation

Phase III

- Establishment of the network information system from 14 relay stations to DAE through REP
- Establishment of the network information system from DAE to mass media through DAEX
- Training of information system including computer operation.

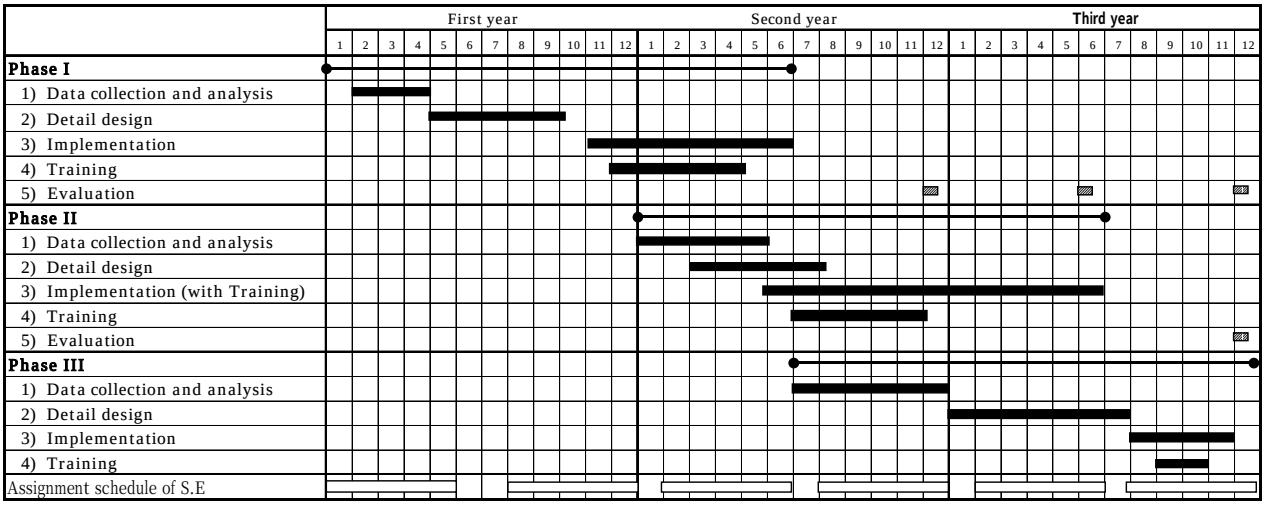


Fig. 8.10 Schedule of the Project

8.3.5 Implementation and O/M Organization

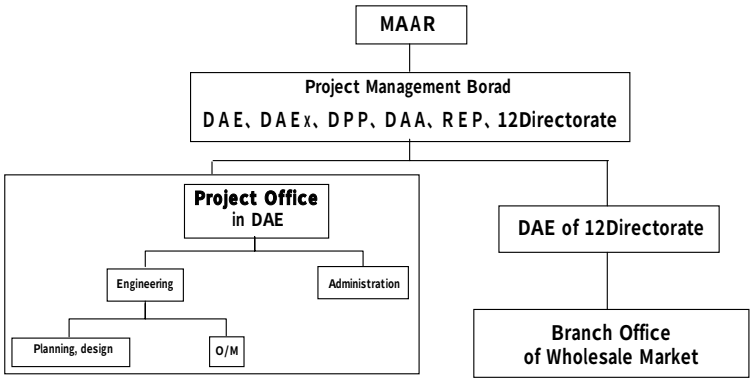


Fig. 8.11 Organization Chart for Project

Implementation and O/M organizations for project should be established as shown in the figure.

The Project Management Broad will consist of DAE, DAEX, DPP, DAA, REP and 12 Directorates.

The project office will be under a management board which consists of DAE and other related agencies. The human resources for staffing will be from DAE and other related agencies. The market information service in the wholesale market will be operated by staff of branch offices of DAE O/M Section.

8.3.6 Necessary Inputs for Implementation of the Project

(1) Human resources

Planning and execution of training services by foreign experts, in Syria and abroad, will be required. Required manpower for the project is estimate as follows;

(Foreign Experts & Assistants)

・3 Advisers 90 man months

- Part- time experts if necessary 4 man months
- 2 Project Assistants (locally employed) 60 man months
- Project Secretary (locally employed) 30 man months

(Syrian Staff)

- 3 full-time counterparts with university degree for central office 108 man months
- Sufficient and suitable personnel for data collection and processing
- Technical staff (driver, assistant clerk)

(2) Necessary equipment

Equipment includes the following, part of which may be requested as foreign aid.

- Training equipment and material
- 2 vehicles, plus spare parts and accessories
- Equipment for the Market Information Service:
  (computers, copy machine, fax machine, printers, bulletin board etc)
- Suitable office with basic inventory
- Installation of necessary telephone connections

(3) Fund

Funds will be needed for training, equipment and experts' assignments. Requirements are estimated as:

(Training)		SYP '000
・Training of Phase I	(20 person x 2weeks x 5times)	700
・Training of Phase II	(20 person x 2weeks x 12times)	1,680
・Training of Phase III	(20 person x 2weeks x 2times)	280
(Equipment)		
・Training equipment and material		400
・2 vehicle		5,000
・Equipment for the Market Information Service:		
Computers	100 unit	12,000
Printers	100 unit	4,000
Copy machine	20 unit	2,400
Fax machine	20 unit	1,200
Bulletin board (electric)	20 unit	8,000
・Suitable office with basic inventory		400
・Installation of necessary telephone connections		1,000
(Foreign Experts & Assistants)		
・3 Advisers		-
・Part- time experts if necessary		-

- 2 Project Assistants (locally employed) -
- Project Secretary (locally employed) -

8.3.7 Recommendation

In the process of shifting to market economy, market information is strongly required by producers, traders as well as the general public. Strengthened information system needs to be urgently established to contribute to efficient and rational marketing.

Based on the Model Network developed under this study, Comprehensive System mentioned above should be established, mobilizing both internal funds and ODA whenever available.

CHAPTER 9 OVERALL RECOMMENDATIONS

The issues and strategies related to the Quality Improvement of Agricultural Products for the Syrian Arab Republic, as described in the preceding chapters lead to the identification of urgent actions which are recommended to be taken. Following are detailed recommendations on the high priority projects.

9.1 Priority Projects

9.1.1 Project on Collective Marketing by Producers

The project intends to establish collective marketing system of citrus by producers of two villages in Lattakia, aiming at increasing income from citrus marketing through improvement of the produce.

In spite of the perceived efficacy and advantages of collective marketing, so far no such approach has been realized. The Participatory Workshop held in the target area, confirmed the willingness and initiative of the farmers to implement the project concept. As a pilot project of marketing improvement by producers, necessary action should be taken by the government to realize the project, based on the initiatives of the producers and other concerned parties.

To this end, the following points need to be clarified in the planning stage.

(1) Collective marketing organization
While confirming the idea and intention of participating producers/others, organizational structure and legal status are to be decided.
(2) Supporting system by administration
Central and local governments' support will be essential. Therefore, the responsible authority and the nature of support (technical and financial) need to be considered.
(3) Contents and scope of organization's activity
Methods of collection, sorting, storage, shipping and others have to be decided. Initial investment on facilities and equipment needs to be assessed.
(4) Management system
Detailed management structure and account clearance method between the organization and producers need to be decided.
(5) Assessment of prospective destinations of the produce

In addition to the wholesale markets, processors and exporters need to be contacted in advance as prospective destinations of the produce.

(6) Assessment of the economic and financial feasibility

Assessment on the initial investment, running cost, expected benefit (increase in unit price, reduction of transportation cost etc) has to be made for estimation of economic and financial feasibility.

(7) Financial aspects

Contribution of producers/members and the capital structure of the organization need to be investigated and decided

(8) Human resources for implementation of the project

For smooth implementation of the project, training of the organization's members (mostly producers), staff members of the organization and concerned officials of the local government will be essential. Detailed planning of the training program will be required.

9.1.2 Wholesale Market Improvement Plan

Relocation of the Wholesale Market of Damascus City is under consideration by the City Govenorate. The proposed improvement plan aims at providing basic ideas on modernization of the market responding to requirements, particularly of the institutional and management system, assigned to the wholesale markets. Transparent trading, fair price formulation and efficient transactions to contribute to food security of the country is the most important element, together with the introduction of modernized facilities. In the absence of comprehensive law on wholesale markets, implementation of the plan may require coordination of interests among market participants and also responsible administrative authorities.

However, the improvement of Damascus City Wholesale Market, if effectively implemented, will break new ground in overall improvement of the wholesale markets in the country, contributing to the improved marketing with increased benefit to all those concerned. Therefore, detailed study should be made to confirm a feasibility study of the improvement plan.

9.1.3 Market Information Services Project

The model information network was established under this study. The project intends to expand its function and scope, aiming at providing more broad market information to not producers, but also others concerned. The Directorate of Agricultural Economy of MAAR is the core of the system, connecting other directorates in MAAR, wholesale markets and other organizations by computer network, for providing market information of the country and abroad, more quickly and accurately.

For establishing the network, development of the information system and network is required.

At the same time, human resources for system development and operation/ management of the network are required. Intensive training has to be made under the project.
Major items to be clarified include;

(1) The kinds of information to be included and the procedures for their processing and supply
(2) Organizational structure required for operation and management
(3) Required facilities and equipment to be introduced
(4) Training program of the concerned staff members.

This will be considered in the light of the results of the model information network prepared by this study.

9.2 Other Issues and Projects

In addition to the three projects described above, there remain a number of issues/ projects. All of these are rather difficult to propose as independent projects at the moment. However, all of these are important to achieve the objectives of quality improvement and continued effort by the government and private sector is required.

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MINUTES OF MEETING ON PROGREE REPORT (3)
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Chapter 2 Background

A.Table 2.1 Economy of Syria: Structure

Sector	Year 1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1985	1980	1975	1970
							GDP at Market Prices (SBP million, current)							
Agriculture	196,743	232,283	192,162	191,487	161,024	140,904	120,024	117,853	95,575	75,897	17,172	10,702	3,916	1,524
Mining and manufacturing	221,416	179,687	184,938	149,032	78,864	68,836	57,234	50,857	55,659	54,674	12,812	8,040	3,802	1,352
Building and construction	27,433	29,470	28,102	27,454	24,518	21,937	17,658	13,633	12,169	10,128	5,693	3,574	963	202
Wholesale and retail trade	152,866	152,130	149,054	151,900	148,650	136,138	108,936	95,372	67,003	60,875	18,509	12,693	4,604	1,396
Transport and communication	104,053	88,876	86,409	72,707	66,357	56,296	42,684	34,436	30,696	25,542	8,196	3,555	2,407	732
Finance and insurance	35,095	29,971	29,459	27,141	27,393	24,417	18,641	14,184	10,984	9,996	4,180	3,266	1,480	731
Social and personal services	18,498	15,935	15,136	13,711	10,872	9,667	8,009	7,154	6,026	4,986	2,195	926	279	116
Government services	64,859	61,789	60,056	57,195	53,097	47,732	40,414	38,006	33,334	26,127	14,408	8,480	3,127	729
Private non-profit services	364	303	253	230	200	174	155	135	118	103	60	34	19	18
Total	**821,327**	**790,444**	**745,569**	**690,857**	**570,975**	**506,101**	**413,755**	**371,630**	**311,564**	**268,328**	**83,225**	**51,270**	**20,597**	**6,800**
							Sectoral Composition of GDP (per cent of total)							
Agriculture	24.0	29.4	25.8	27.7	28.2	27.8	29.0	31.7	30.7	28.3	20.6	20.9	19.0	22.4
Mining and manufacturing	27.0	22.7	24.8	21.6	13.8	13.6	13.8	13.7	17.9	20.4	15.4	15.7	18.5	19.9
Building and construction	3.3	3.7	3.8	4.0	4.3	4.3	4.3	3.7	3.9	3.8	6.8	7.0	4.7	3.0
Wholesale and retail trade	18.6	19.2	20.0	22.0	26.0	26.9	26.3	25.7	21.5	22.7	22.2	24.8	22.4	20.5
Transport and communication	12.7	11.2	11.6	10.5	11.6	11.1	10.3	9.3	9.9	9.5	9.8	6.9	11.7	10.8
Finance and insurance	4.3	3.8	4.0	3.9	4.8	4.8	4.5	3.8	3.5	3.7	5.0	6.4	7.2	10.8
Social and personal services	2.3	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.6	1.8	1.4	1.7
Government services	7.9	7.8	8.1	8.3	9.3	9.4	9.8	10.2	10.7	9.7	17.3	16.5	15.2	10.7
Private non-profit services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.2 Economy of Syria: Growth

Sector	Year 1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1985	1980	1975	1970
							GDP at Market Prices (SBP million, 1995 constant)							
Agriculture	181,509	219,138	179,200	184,535	161,024	154,689	145,780	146,003	123,819	115,974	112,508	120,152	80,415	47,803
Mining and manufacturing	122,973	115,801	111,448	96,269	78,864	69,455	66,624	59,952	53,392	50,035	33,639	25,608	22,207	13,660
Building and construction	26,932	28,461	28,309	26,920	24,518	21,137	19,947	17,787	17,299	15,706	39,884	29,320	13,057	6,780
Wholesale and retail trade	139,277	136,138	134,879	142,171	148,650	145,096	130,455	127,065	104,115	95,331	111,320	97,816	70,464	37,641
Transport and communication	86,330	78,323	78,720	71,150	66,357	59,250	48,288	42,408	41,113	40,485	34,940	25,523	21,448	13,359
Finance and insurance	33,604	28,526	27,958	25,995	27,393	26,548	25,183	21,369	17,369	16,523	17,201	20,583	14,723	7,522
Social and personal services	16,901	14,011	12,949	10,868	10,872	11,606	10,910	10,251	9,491	8,254	13,778	10,822	5,361	4,011
Government services	55,846	55,213	54,444	54,768	53,097	51,966	54,185	51,857	53,499	47,027	56,169	43,105	32,256	12,280
Private non-profit services	316	277	241	220	200	182	174	158	145	134	97	63	40	60
Total	**663,688**	**675,888**	**628,148**	**612,896**	**570,975**	**539,929**	**501,546**	**476,850**	**420,242**	**389,469**	**419,536**	**372,992**	**259,971**	**143,116**
							Growth of GDP							
							Annual (per cent)							
Agriculture	-17.2	22.3	-2.9	14.6	4.1	6.1	-0.2	17.9	6.8					
Mining and manufacturing	6.2	3.9	15.8	22.1	13.5	4.2	11.1	12.3	6.7					
Building and construction	-5.4	0.5	5.2	9.8	16.0	6.0	12.1	2.8	10.1					
Wholesale and retail trade	2.3	0.9	-5.1	-4.4	2.4	11.2	2.7	22.0	9.2					
Transport and communication	10.2	-0.5	10.6	7.2	12.0	22.7	13.9	3.1	1.6					
Finance and insurance	17.8	2.0	7.6	-5.1	3.2	5.4	17.8	23.0	5.1					
Social and personal services	20.6	8.2	19.1	0.0	-6.3	6.4	6.4	8.0	15.0					
Government services	1.1	1.4	-0.6	3.1	2.2	-4.1	4.5	-3.1	13.8					
Private non-profit services	14.1	14.9	9.5	10.0	9.9	4.6	10.1	9.0	8.2					
Total	**-1.8**	**7.6**	**2.5**	**7.3**	**5.8**	**7.7**	**5.2**	**13.5**	**7.9**					
										Five-year annual average (per cent)				
										-1.5	**2.4**	**7.5**	**12.7**	
										0.1	-1.3	8.4	9.6	

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.3 Economy of Syria: Expenditure

Sector	Year 1999	1998	1997	1996	1995
	GDP by Expenditure Account (SBP million, current)				
Private consumption	571,042	542,374	515,411	489,728	378,143
Government consumption	93,372	88,521	84,994	81,316	76,709
Total consumption	664,414	630,895	600,405	571,044	454,852
Private domestic investment	63,815	67,412	65,356	85,639	87,240
Public domestic investment	90,435	95,034	90,108	77,437	68,084
Total domestic investment	154,250	162,446	155,464	163,076	155,324
Net external transactions	2,663	-2,897	-10,300	-43,263	-39,381
Total	**821,327**	**790,444**	**745,569**	**690,857**	**570,795**
	Composition of Expenditure (per cent of total)				
Private consumption	69.5	68.6	69.1	70.9	66.2
Government consumption	11.4	11.2	11.4	11.8	13.4
Total consumption	80.9	79.8	80.5	82.7	79.7
Private domestic investment	7.8	8.5	8.8	12.4	15.3
Public domestic investment	11.0	12.0	12.1	11.2	11.9
Total domestic investment	18.8	20.6	20.9	23.6	27.2
Net external transactions	0.3	-0.4	-1.4	-6.3	-6.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.4 Population of Syria

Age group	1994 census			1981 census			1970 census		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
				Percentage of Population					
< 1	2.9	2.9	2.8	3.9	3.9	3.9	3.7	3.7	3.6
1-4	12.0	12.1	11.9	15.4	15.4	15.5	15.2	15.3	15.1
5-9	15.4	15.4	15.3	15.6	15.6	15.6	17.1	17.3	16.8
10-14	14.5	14.6	14.5	13.5	13.7	13.3	13.3	13.7	13.0
15-19	11.6	11.6	11.7	11.3	11.4	11.2	9.6	9.5	9.6
20-24	9.1	9.0	9.2	8.4	8.3	8.4	7.3	7.4	7.2
25-29	7.6	7.5	7.7	6.2	6.1	6.3	5.6	5.2	6.0
30-34	6.2	6.1	6.3	5.0	4.9	5.1	5.1	4.8	5.4
35-39	4.7	4.7	4.8	3.8	3.7	4.0	5.0	4.9	5.2
40-44	3.8	3.8	3.8	3.6	3.5	3.7	4.2	4.3	4.1
45-49	2.8	2.9	2.8	3.1	3.1	3.1	3.2	3.3	3.1
50-54	2.5	2.4	2.5	3.2	3.3	3.1	2.4	2.4	2.4
55-59	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9	1.8
60-64	2.0	2.0	2.0	1.7	1.7	1.7	2.0	2.0	2.1
65 and +	3.0	3.1	2.8	3.3	3.3	3.2	4.4	4.3	4.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total population	**13,782**	**7,049**	**6,733**	**9,046**	**4,622**	**4,424**	**6,305**	**3,233**	**3,072**
Intercensal growth rate (per cent per year)	**3.3**			**3.4**					

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.5 Workforce of Syria

Sector	Total	Male	Female
	Percentage of Workforce (1999)		
Agriculture and forests	28.5	23.5	51.2
Mining industries	0.2	0.3	0.0
Converting industries	12.7	14.1	6.2
Electricity, gas and water	0.1	0.1	0.0
Building and construction	14.3	17.0	2.0
Internal and external trade	15.7	18.3	3.5
Storage, transport and communication	5.4	6.4	1.1
Insurance, finance and real estate	0.8	0.8	0.8
Community and personal service	22.3	19.5	35.2
Total	**100.0**	**100.0**	**100.0**
Total workforce			

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.6 Trade of Syria: Export and Import Groups

SITC	Category	Year 1999	1998	1997	1996	1995
				Exports (SBP million, current)		
0	Food and live animals	6,148	6,347	7,896	6,958	5,191
1	Beverages and tobacco	60	50	105	30	98
2	Crude material, inedible except fuels	2,471	4,018	3,608	2,484	3,129
3	Mineral fuels and lubricants	26,113	17,992	27,948	30,712	27,863
4	Animal and vegetable oils and fats	181	110	140	184	153
5	Chemicals	340	528	207	113	270
6	Manufactured goods	1,511	1,496	1,537	1,223	2,460
7	Machinery and transport equipment	91	86	80	81	374
8	Miscellaneous	1,964	1,815	2,434	3,102	5,016
9	Unclassified	-	-	0	0	8
Total		**38,879**	**32,442**	**43,955**	**44,887**	**44,562**
				Imports (SBP million, current)		
0	Food and live animals	7,933	6,930	7,361	7,375	7,215
1	Beverages and tobacco	118	133	218	342	338
2	Crude material, inedible except fuels	2,016	1,900	1,793	1,899	2,184
3	Mineral fuels and lubricants	1,212	1,748	1,915	1,082	574
4	Animal and vegetable oils and fats	1,216	1,168	1,195	1,191	1,085
5	Chemicals	5,393	5,628	6,254	7,249	5,388
6	Manufactured goods	13,666	13,754	13,601	19,193	16,818
7	Machinery and transport equipment	9,476	10,286	10,381	19,131	16,690
8	Miscellaneous	877	1,058	1,158	1,399	1,523
9	Unclassified	1,104	1,119	1,336	1,526	1,041
Total		**43,011**	**43,724**	**45,212**	**60,387**	**52,856**
Trade balance		**-4,132**	**-11,282**	**-1,257**	**-15,500**	**-8,294**

Source: Central Bank of Syria - Quarterly Bulletin

A.Table 2.7 Trade of Syria: Principal Exports and Imports

	Year				
	1999	1998	1997	1996	1995
			Exports (per cent of total)		
Crude oil	63	48	56	64	56
Textiles	7	7	7	8	12
Cotton	4	9	6	4	5
Fruit and vegetables	10	12	8	7	6
Other	15	23	23	17	20
Total	**100**	**100**	**100**	**100**	**100**
			Imports (per cent of total)		
Foodstuffs and live animals	21	18	18	14	16
Machines and equipment	13	15	15	22	19
Textiles and textile articles	10	10	9	8	7
Transport equipment	9	9	8	10	13
Chemicals and products thereof	9	9	10	8	7
Other	38	40	40	39	39
Total	**100**	**100**	**100**	**100**	**100**

Source: Central Bank of Syria - Quarterly Bulletin

A.Table 2.8 Trade of Syria: Agricultural Exports

SITC	Category	Year 1998	1997	1996	1995	1994
				USD million, current		
Total merchandise trade		**2,889.0**	**3,915.6**	**3,998.9**	**3,970.0**	**3,457.0**
Of which, agricultural trade:		**955.7**	**1,057.1**	**852.1**	**752.3**	**796.6**
-0	Food and live animals	616.2	756.6	622.1	454.7	525.3
-00	Live animals	49.3	49.3	96.1	47.0	75.9
-01	Meat and meat preparations	0.0	0.0	0.0	0.1	0.0
-02	Dairy products and eggs	8.4	9.1	7.4	5.8	13.1
-04	Cereals and preparations	185.9	282.1	149.4	77.7	39.8
-05	Fruit and vegetables	344.1	379.8	328.3	277.3	338.3
-06	Sugar and honey	8.7	8.8	12.8	10.3	11.2
-07	Coffee, tea etc	18.1	26.5	27.0	35.4	46.3
-08	Feeding stuffs	1.6	1.0	0.9	0.9	0.6
-09	Miscellaneous food	0.1	0.1	0.2	0.3	0.0
-1	Beverages and tobacco	5.5	9.3	2.7	8.7	7.0
-11	Beverages	1.8	1.8	1.6	0.7	2.8
-12	Tobacco	3.7	7.5	1.1	8.0	4.2
-EX2	Crude materials	318.8	284.2	210.9	275.3	263.2
-21	Hides and skins	0.0	0.0	1.7	34.3	27.1
-22	Oilseeds	15.4	6.4	8.8	2.9	13.6
-232	Natural rubber	0.2	0.2	0.2	0.1	0.0
-EX26	Textile fibres	285.7	260.0	182.6	220.4	204.9
-29	Crude materials, nes	17.6	17.6	17.6	17.6	17.6
-4	Animal and vegetable oils	15.0	7.0	16.4	13.6	1.1
-41	Animal fats	0.1	0.1	0.0	0.0	0.0
-42	Fixed vegetable oils	14.8	6.8	16.4	13.6	1.1
-43	Processed oils	0.0	0.0	0.0	0.0	0.0
	Fish and fishery products	0.0	0.0	0.0	0.2	0.1
	Forest products	0.4	0.4	0.1	0.2	0.3

Source: FAO Trade Yearbook

A.Table 2.9 Trade of Syria: Agricultural Imports

SITC	Category	Year 1998	1997	1996	1995	1994
				USD million, current		
Total merchandise trade		**3,893.6**	**4,027.7**	**5,379.6**	**4,708.8**	**5,467.6**
Of which, agricultural trade:		**821.5**	**791.6**	**863.4**	**780.3**	**979.5**
-0	Food and live animals	673.3	632.4	681.3	620.0	832.8
-00	Live animals	22.5	36.9	63.2	55.0	95.4
-01	Meat and meat preparations	0.6	0.6	3.4	6.8	3.9
-02	Dairy products and eggs	48.7	48.7	37.8	30.0	31.3
-04	Cereals and preparations	109.8	173.5	111.2	121.4	148.1
-05	Fruit and vegetables	44.0	44.1	58.3	92.2	210.2
-06	Sugar and honey	230.9	158.4	191.1	115.9	142.4
-07	Coffee, tea etc	98.5	88.8	109.6	99.0	89.0
-08	Feeding stuffs	58.0	37.2	48.7	42.4	59.6
-09	Miscellaneous food	60.4	44.4	58.2	57.3	53.0
-1	Beverages and tobacco	27.9	19.4	30.6	30.1	55.4
-11	Beverages	2.2	2.2	3.0	3.6	3.6
-12	Tobacco	25.7	17.3	27.6	26.5	51.8
-EX2	Crude materials	54.6	44.7	43.2	42.4	32.5
-21	Hides and skins	3.6	3.6	5.4	3.7	5.8
-22	Oilseeds	34.1	21.0	21.1	19.1	9.8
-232	Natural rubber	1.3	4.3	3.5	4.6	2.0
-EX26	Textile fibres	5.2	5.5	2.8	4.6	4.5
-29	Crude materials, nes	10.3	10.3	10.3	10.3	10.3
-4	Animal and vegetable oils	65.8	95.0	108.2	87.8	58.8
-41	Animal fats	0.7	0.7	4.6	1.5	0.4
-42	Fixed vegetable oils	47.8	72.8	79.0	65.2	37.5
-43	Processed oils	17.2	21.5	24.7	21.1	20.9
	Fish and fishery products	6.0	6.0	6.0	5.0	1.5
	Forest products	133.7	133.7	77.0	68.8	96.7

Source: FAO Trade Yearbook

A.Table 2.10 Trade of Syria: Principal Trading Partners

Country	Year 1999	1998	1997	1996	1995
			Exports (per cent of total)		
Italy	27	22	25	29	23
France	21	18	20	16	15
Turkey	9	10	10	7	6
Saudi Arabia	8	8	5	5	5
Spain	7	5	6	10	8
Lebanon	4	9	8	6	8
Other	24	29	26	28	36
Total	**100**	**100**	**100**	**100**	**100**
			Imports (per cent of total)		
Germany	8	10	8	11	12
France	6	7	4	8	4
Italy	6	9	7	9	9
Turkey	5	6	5	8	7
USA	5	6	7	10	8
Japan	5	5	4	7	5
Other	65	56	64	48	54
Total	**100**	**100**	**100**	**100**	**100**

Source: Central Bank of Syria - Quarterly Bulletin

A.Table 2.11 Economy of Syria: Selected Price Indexes

	Year				
	1999	1998	1997	1996	1995
	Wholesale Prices (1990 = 100)				
General price index	160	163	164	160	155
Foodstuffs	147	156	160	159	150
Vegetables and fruits	126	137	145	136	134
Agricultural raw materials	190	177	170	170	161
Manufactured materials	142	153	154	152	148
Fuels	191	190	190	187	175
Building materials	164	163	150	129	135
	Retail Prices (1990 = 100)				
General price index	162	169	173	169	155
Vegetables	140	165	178	138	138
Fruit and nuts	149	153	160	165	144
Fuel, light and water	268	267	265	278	274
Transport and communication	380	380	380	377	318
Consumer durables	128	130	131	133	127

Source: Central Bureau of Statistics - Statistical Abstract, 2000

A.Table 2.12 Syria: Land Use

Governorate	Forests	Steppe and/or pasture	Uncultivable land				Cultivable land			Total area
			Rocky and sandy land	Rivers and lakes	Buildings and public roads	Total	Uncultivated	Cultivated	Total	
					Area ('000 hectare, 1999)					
All Syria	546.4	8,264.9	2,947.3	142.7	619.8	3,709.8	494.7	5,502.3	5,996.9	18,518.0
Sweida	7.6	215.3	112.5	1.4	29.4	143.3	39.8	148.9	188.7	555.0
Dar'a	7.4	27.6	33.1	1.8	75.2	110.1	10.4	217.5	227.9	373.0
Quneitra	2.9	14.6	8.3	0.6	6.7	15.6	128.4	24.6	153.0	186.1
Damascus	44.1	1,331.2	159.1	3.5	73.1	235.8	49.7	141.0	190.7	1,801.8
Damascus City	0.6	0.2	0.2	0.0	9.4	9.6	-	1.5	1.5	11.8
Homs	46.4	2,616.8	921.6	5.5	89.0	1,016.1	-	414.8	414.8	4,094.0
Hama	37.7	290.9	99.8	3.5	41.9	145.1	52.9	351.5	404.4	878.2
Ghab	37.2	3.5	0.2	2.7	10.6	13.5	-	84.0	84.0	138.1
Idleb	77.8	48.7	96.7	2.4	41.1	140.2	4.2	338.8	343.0	609.7
Tartous	29.6	3.6	11.8	1.7	23.1	36.5	-	119.8	119.8	189.6
Lattakia	85.3	5.0	8.1	3.3	16.0	27.4	10.4	101.7	112.1	229.7
Aleppo	40.3	228.0	253.2	27.1	65.7	346.0	-	1,206.8	1,206.8	1,821.2
Assad Est.	1.1	-	1.3	0.6	2.7	4.5	5.9	17.0	22.9	28.5
Al-Raqqa	12.6	883.4	25.0	66.7	61.0	152.7	2.2	873.9	876.1	1,924.7
G.A.D.E.B.	0.2	-	8.2	-	3.9	12.1	7.8	17.1	24.9	37.2
Dair-Ezzor	5.8	1,853.6	1,175.6	11.4	26.5	1,213.4	76.6	156.6	233.2	3,306.0
Al-Hassake	109.9	742.5	32.7	10.6	44.6	87.8	106.3	1,286.9	1,393.2	2,333.4

Source: MAAR - Annual Statistical Abstract

A.Table 2.13 Agriculture Sector of Syria: Cropped Area

Year	Vegetables					Fruit trees			Field crops					Total cropped area
	Summer		Winter						Summer		Winter			
	Irrigated	Not irrigated	Irrigated	Not irrigated	Total	Not irrigated	Irrigated	Total	Irrigated	Not irrigated	Irrigated	Not irrigated	Total	
							Area ('000 hectare)							
1999	57.5	22.5	29.2	5.5	114.8	667.7	121.9	789.6	334.4	22.5	740.1	2,631.4	3,728.3	4,632.8
1998	62.9	47.2	28.6	5.1	143.7	655.2	120.2	775.3	392.6	36.9	756.6	2,911.1	4,097.2	5,016.3
1997	57.6	45.7	25.1	4.8	133.2	638.3	115.9	754.2	368.5	34.5	761.7	2,928.1	4,092.7	4,980.1
1996	65.7	49.0	31.5	6.2	152.4	621.4	115.0	736.4	343.8	27.2	706.9	2,821.1	3,899.1	4,787.9
1995	76.5	44.7	29.3	5.5	156.1	593.3	111.1	704.4	327.7	34.0	710.0	3,258.3	4,330.0	5,190.4
1994	74.4	55.9	26.2	6.5	163.1	566.6	110.9	677.5	310.4	30.5	704.8	3,064.9	4,110.7	4,951.3
1993	69.0	52.3	22.8	6.4	150.5	547.1	106.8	653.8	322.7	44.0	635.1	3,261.1	4,262.8	5,067.2
1992	77.6	58.5	23.2	6.2	165.5	669.1	120.1	789.2	341.3	45.5	519.1	3,447.4	4,353.4	5,308.1
1991	63.9	54.2	33.7	12.8	164.6	657.3	117.7	775.0	293.6	36.7	424.4	3,325.1	4,079.8	5,019.4
1990	67.7	47.7	34.4	14.9	164.7	634.8	114.1	748.9	286.9	32.4	323.9	4,069.9	4,713.0	5,626.7

Source: MAAR - Annual Statistical Abstract

A.Table 2.14 Agriculture Sector of Syria: Area of Major Crops

Crop	Year 1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
					Area ('000 hectare)					
Olive	470	460	445	439	422	402	389	415	406	391
Orange	13	13	13	13	12	12	12	12	10	9
Citrus other than orange	14	14	14	13	13	13	12	13	13	12
Apple	49	48	47	47	44	42	37	53	50	48
Tomato: field /1.	14	17	17	20	20	21	20	24	26	28
Tomato: green house /2.	2	2								
Potato	25	22	18	22	23	21	20	24	24	23
Wheat	1,603	1,721	1,761	1,619	1,644	1,553	1,385	1,381	1,269	1,341
Barley	1,414	1,543	1,572	1,550	1,963	1,894	2,169	2,266	2,232	2,729
Lentil	148	143	120	141	126	118	105	88	83	131
Chick pea	51	108	94	66	77	49	80	82	43	70
Onion	5	6	6	6	6	6	5	6	5	6
Cotton	244	275	251	220	204	189	196	212	170	156
Tobacco	16	15	15	14	14	12	12	18	14	13
Sugar beet	30	29	27	22	31	33	32	30	20	21
Peanut	13	11	15	14	15	14	14	12	11	11
Grape	70	69	69	70	67	67	66	109	110	109
Total vegetable	**115**	**144**	**133**	**152**	**156**	**163**	**151**	**166**	**165**	**165**
Total fruit	**790**	**775**	**754**	**736**	**704**	**678**	**654**	**789**	**775**	**749**
Total field crops	**3,728**	**4,097**	**4,093**	**3,899**	**4,330**	**4,111**	**4,263**	**4,353**	**4,080**	**4,713**
Total all crops	**4,633**	**5,016**	**4,980**	**4,788**	**5,190**	**4,951**	**5,067**	**5,308**	**5,019**	**5,627**

/1. May include green house areas for years prior to 1998
/2. Not available for years prior to 1998

Source: MAAR - Annual Statistical Abstract

A.Table 2.15 Agriculture Sector of Syria: Value of Production

	Year				
	1999	1998	1997	1996	1995
	Value of production (per cent of sector total)				
Crops					
Cereals	12	16	16	22	25
Industrial crops	11	10	12	9	10
Fruits	18	20	16	19	14
Vegetables	8	8	7	7	8
Dry legumes	1	2	1	2	2
Other	17	16	16	14	10
Total crop sub sector	**68**	**72**	**68**	**72**	**70**
Livestock					
Milk	13	12	13	12	13
Meat	15	13	15	13	14
Eggs	2	2	2	2	2
Wool and hair	1	0	1	1	1
Other	1	1	1	1	1
Total livestock sub sector	**32**	**28**	**32**	**28**	**30**
Total agriculture sector	**100**	**100**	**100**	**100**	**100**

Source: Central Bank of Syria - Quarterly Bulletin

A.Table 2.16 Agriculture Sector of Syria: Production of Major Crops

Crop	Year 1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	Increase 1990/91 to 1998/99 /3.
					Production ('000 ton)						**per cent**
Olive	401	785	403	648	423	518	325	519	226	460	73
Apple	284	362	356	302	224	224	235	270	215	205	54
Tomato: field /1.	329	358	407	409	427	426	397	481	428	430	36
Tomato: green house /2.	281	197									
Potato	497	492	266	439	471	362	371	412	452	398	16
Orange	357	439	236	373	303	341	233	154	202	171	113
Citrus other than orange	363	271	314	323	263	278	222	164	248	192	44
Wheat	2,692	4,112	3,031	4,080	4,184	3,703	3,626	3,046	2,351	2,070	54
Barley	426	869	983	1,653	1,705	1,482	1,553	1,091	1,000	846	-30
Lentil	43	154	88	152	148	116	95	75	50	110	24
Chick pea	29	85	59	46	54	25	55	74	28	36	78
Onion	91	105	108	126	144	113	96	108	80	95	12
Cotton	926	1,018	1,047	760	600	535	639	688	555	441	95
Tobacco	25	23	23	22	23	14	15	24	16	13	63
Sugar beet	1,330	1,202	1,126	974	1,406	1,452	1,237	1,365	653	422	136
Peanut	35	29	24	32	30	29	29	27	22	22	43
Grape	387	590	452	540	384	362	354	462	487	423	7

/1. May include green house areas for years prior to 1998
/2. Not available for years prior to 1998
/3. Increase of all tomato, including from green houses

Source: MAAR - Annual Statistical Abstract

A.Table 2.17 Syria Agriculture Sector: Fruit Tree Numbers and Production

	Production				Fruit bearing trees				Total trees			
	1998		1999		1998		1999		1998		1999	
Fruit	tons	per cent	tons	per cent	'000	per cent	'000	per cent	'000	per cent	'000	per cent
All fruits	**2,966**	**100.0**	**2,253**	**100.0**	**130,304**	**68.0**	**132,303**	**66.7**	**191,493**	**100.0**	**198,235**	**100.0**
Olive	785	26.5	401	17.8	36,700	58.9	38,148	60.2	62,300	32.5	63,379	32.0
Apple	362	12.2	284	12.6	9,700	60.1	10,120	62.5	16,150	8.4	16,192	8.2
Orange	439	14.8	357	15.8	3,733	69.9	3,903	72.8	5,340	2.8	5,364	2.7
Lemon	68	2.3	83	3.7	846	72.0	878	66.6	1,175	0.6	1,318	0.7
Other citrus	233	7.9	280	12.4	2,860	67.6	3,088	76.0	4,230	2.2	4,064	2.1
Grape	590	19.9	387	17.2	47,000	85.0	45,785	86.9	55,300	28.9	52,706	26.6
Pomegranate	85	2.9	78	3.5	3,191	92.5	3,178	92.0	3,449	1.8	3,455	1.7
Apricot	67	2.3	63	2.8	2,443	76.7	2,506	78.2	3,187	1.7	3,203	1.6
Almond	67	2.3	58	2.6	8,477	59.0	8,507	38.5	14,363	7.5	22,088	11.1
Cherry	56	1.9	54	2.4	3,027	54.8	3,269	54.3	5,523	2.9	6,023	3.0
Fig	47	1.6	42	1.9	2,397	94.0	2,426	90.7	2,549	1.3	2,675	1.3
Peach	43	1.5	42	1.8	1,940	74.2	2,028	75.8	2,613	1.4	2,675	1.3
Pistachio	36	1.2	30	1.3	4,026	39.9	4,383	44.8	10,096	5.3	9,781	4.9
Pear	27	0.9	27	1.2	1,338	70.0	1,417	71.0	1,912	1.0	1,997	1.0
Plum	22	0.7	26	1.2	1,002	83.6	1,051	86.0	1,199	0.6	1,222	0.6
Green plum	13	0.4	15	0.7	638	87.0	598	87.5	733	0.4	683	0.3
Nuts	16	0.6	16	0.7	536	72.4	560	72.0	740	0.4	778	0.4
Quince	7	0.2	8	0.4	342	83.1	345	85.4	411	0.2	404	0.2
Palm	3	0.1	3	0.1	65	38.2	70	39.8	170	0.1	176	0.1
Loquat	1	0.0	1	0.0	44	83.0	44	83.8	53	0.0	52	0.0

Source: MAAR - Annual Statistical Abstract

A.Table 2.18 Syria Agriculture Sector: Vegetable Area and Production

	Total						Irrigated					
	Production		Area		Yield		Production		Area		Yield	
	(ton '000)		(hectare)		(ton/hectare)		(ton)		(hectare)		(ton/hectare)	
Vegetable	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
All vegetables	**2,507**	**2,227**	**144,023**	**115,665**			**2,143**	**2,061**	**98,711**	**94,321**		
Tomato												
Summer	259	205	11,087	7,370	23.4	27.8	232	193	6,616	5,716	35.0	33.8
Spring	71	82	4,663	4,868	15.3	16.9	53	67	2,172	2,677	24.4	25.0
Autumn	27	42	1,065	1,358	25.8	31.2	27	42	1,065	1,358	25.8	31.2
Field tomato total	358	329	16,815	13,596	21.3	24.2	312	303	9,853	9,751	31.7	31.1
Green house	197	281	2,215	2,175	88.9	129.1	197	281	2,215	2,175	88.9	129.1
Tomato total	**555**	**610**	**19,030**	**15,771**			**509**	**584**	**12,068**	**11,926**		
Potato												
Spring	237	273	9,388	11,027	25.3	24.7	232	267	8,935	10,529	26.0	25.3
Summer	23	15	1,060	789	21.3	19.1	22	15	1,006	759	21.8	19.4
Autumn	232	209	11,729	12,963	19.8	16.1	232	209	11,729	12,963	19.8	16.1
Potato total	**492**	**497**	**22,177**	**24,779**	**22.2**	**20.0**	**486**	**490**	**21,670**	**24,251**	**22.4**	**20.2**
Water melon	402	259	24,048	11,575	16.7	22.3	211	207	4,405	4,774	47.9	43.5
Musk melon	67	45	7,183	5,215	9.4	8.6	37	24	1,806	1,343	20.2	17.8
Haricot bean	32	31	3,596	3,332	8.9	9.3	32	31	3,587	3,328	8.9	9.3
Green kidney bean	7	3	1,601	978	4.1	2.7	2	2	323	249	7.5	7.1
Pumpkin	24	12	3,420	2,122	7.0	5.5	7	3	353	216	18.6	15.4
Egg plant	156	115	6,923	5,142	22.5	22.3	156	115	6,923	5,142	22.5	22.3
Cucumber	127	94	10,172	6,807	12.5	13.8	107	87	5,746	5,061	18.6	17.1
Dry garlic	18	18	2,176	2,239	8.4	8.1	16	16	1,622	1,638	10.0	9.9
Okra	17	12	6,704	3,460	2.5	3.4	8	7	1,435	1,198	5.6	6.3
Squash	98	88	5,836	5,186	16.8	17.1	96	82	5,588	4,490	17.2	18.3
Dry onion	105	91	5,504	4,734	19.0	19.2	99	86	4,857	4,083	20.4	21.0
Green pepper	38	33	2,803	2,360	13.7	14.1	38	33	2,803	2,360	13.7	14.1
Green pea	12	15	1,817	2,235	6.6	6.8	10	14	1,373	2,006	7.1	7.1
Broad bean	38	36	4,708	4,402	8.0	8.2	28	28	9,708	9,567	2.9	2.9
Cabbage	71	57	3,231	2,860	22.1	20.0	71	56	3,190	2,816	22.2	20.1
Cauliflower	57	50	2,617	2,559	21.9	19.7	57	50	2,617	2,544	21.9	19.7
Leaf beet	16	15	983	1,092	16.0	13.5	14	12	806	825	17.1	14.6
Green onion	44	41	2,815	2,900	15.7	14.1	34	32	1,874	1,958	18.4	16.5
Lettuce	59	50	2,826	2,355	20.9	21.1	55	45	2,533	1,964	21.7	22.8
Sundry vegetable	71	57	3,853	3,562	18.3	16.0	70	55	3,424	2,582	20.3	21.5

Source: Consultants' estimates from MAAR's Annual Statistical Abstract

A.Table 2.19 Principal Legal and Administrative Measures for the Promotion of Production, Marketing and Export of Fruit and Vegetables (1990-2001)

Laws & Ordinances	Date	Prescription
Decision No. 973, MEET	15/7/'90	Exporters are allowed to export such agricultural products as eggs, broilers, dairy products and processed foods, and they have the following advantages: The exporters of the above mentioned products can keep 75% of the foreign currency that are resulted from the export and deposited in the Commercial Bank of Syria or sell it at the exchange rate "in neighboring counties"; and The rest of 25% is sold to the Commercial Bank of Syria at the rate "in neighboring countries". The exporters of agricultural products are also allowed to import by their foreign currency such materials as pick- ups of three ton-load, machines and equipment and other inputs necessary for export business.
Decision No. 2315, MEET	19/11'90	To allow exporters to export agricultural products including fresh and dried fruit and vegetables to the countries of payment agreement; To allow import of materials and products including double-cabin pick-ups refrigerated trucks and irons for reinforced concrete; and To allow the importers to use 100% of foreign currency gained from the export of fruit and vegetables and other agricultural products and deposited in the Commercial Bank of Syria to pay for the imports.
Decision No.1319, MEET	17/9/'91	Exporters of fruit and vegetables in the private sector are allowed to use foreign currency gained from exports for importing pick-ups, refrigerated trucks and other equipment necessary for exporting and processing of agricultural products.
Decision No. 27, Prime Minister	23/10/'91	General Farmers' Union is allowed to export fruit and vegetables and to use foreign currency gained from exports for importing agricultural inputs including pick-ups.
Decision No.2327, MEET	1/9/'94	Exporters in the private sector are allowed to use 75% of foreign currency that resulted from exports of the products and materials of Syrian origin and deposited in the Commercial Bank of Syria. The import is allowed for the materials that are permitted by the regulations for external trade including iron plates for construction, pick-ups and refrigerated trucks.
Decision No. 2, Export Committee	10/9/'96.	Olive oil is exempted from export duties during the period form September 12 to December 31, 1996.
Decision No. 4,	11/9/'96.	Fruit and vegetables are exempted from export duties

Ministerial Committee		(commission to be paid to the General Company for Fruit and Vegetables) during the period from September 12 to December 31, 1996.
Circular No.242/9/2, MEET	18/1/'97	Export duties are exempted for the products of which exportation has been limited to the external trade companies and the public sector, and is expanded to the private sector.
Circular No.1989, Ministry of Local Administration	12/7/'97.	The tax levied on the dealing of fruit and vegetables in a wholesale market is removed.
Instruction 3435/9/2, MEET	15/7/'97	Brokerage fee that has been imposed on the sales of fruit and vegetables in a wholesale market is canceled.
Instruction 9124/9/2, MEET	29/11/'97	The rate of income tax on the profits of export of fruit and vegetables is reduced to 1% from 1.9%. Note: Later, this tax was removed.
Instruction 9124/9/2, MEET	29/11/'97	Commission to be paid for exchange of foreign currency gained by exporting fruit and vegetables is reduced to 50 Syrian Piasters per 1 USD from SP 1. Note: Later, this commission was reduced to 10 Syrian Piasters per 1 USD and finally was removed.
Decree No.48, President	4/8/'98	Syria joins the Customs Agreement related to the international transportation of commodities by trucks (TIR) that comes into effect in December 1, 1999. Consequently, the costs of export business and the operation of trucks are reduced.
Decision No.1, Ministerial Committee	1/1/'99	The following products are exempted from export duties during the period from January 1 to December 31, 1999: Fresh, dried and processed fruit and vegetables with wooden containers; Olive and Olive oil; and Peanuts exported by the Tartous Company.
Decision No. 323, MEET	28/2/'99	Exporters of fruit and vegetables are allowed to import used assembly lines for sorting, waxing and packing fruit and vegetables by the foreign currency earned through the exports of fruit and vegetables under the conditions that less than four years have passed since manufactured. A condition that the lines are imported from the country of origin is removed.
Instruction No.3334/9/2, MEET	10/5/'99	Syrian-Jordanian Ministerial Committee is assigned to discuss the duties imposed by the Jordanian authorities on the Syrian trucks and refrigerated transports when crossing the Jordanian territories and the gas/oil difference charge imposed on the Jordanian vehicles when crossing the Syrian territories.

Instruction 3336/9/2, MEET	10/5/'99.	Credit Bank is to amend the financing system so as to enable it to finance refrigerated transport companies.
Decision No. 7, HCA	8/'99	A permit fee for building a plastic house is removed. The fee was imposed by the Financial Law No.1 of 1994 of the Ministry of Local Administration.
Letter No.9032/9/2, MEET	4/11/'99	Refrigerated trucks of Turkey and European countries are allowed to transport fruit and vegetables from Syria to EU and eastern European countries in the season of this particular year.
Circular No.9233/9/2, MEET	10/11'99	Exporters of fruit and vegetables are allowed to import used assembly lines for packing and packaging that were used in the country of origin for more than one year.
Circular No.9231/9/2, MEET	10/11/'99	Export-import traders are issued import licenses for bananas and allowed to pay by the foreign currency gained by the exportation of citrus fruits and apples.
Letter No.9232/9/2, MEET	10/11/'99	MOI and related authorities are stipulated for studying about assembly lines for packing and packaging citrus fruits in the Establishments of the Ministry.
Instructions 3338/9/2–5331 /9/2, MEET	1999	In order to restrain exporters from doing dishonest practices in export businesses, the following restrictions are imposed being effective as of January 2, 2000: 1. Chambers of commerce, industry and agriculture are requested to ensure and check the contents of goods with the invoices presented for legalization, regarding quantities, types and prices; 2. Exporters of fruit and vegetables are to make an accurate statement in their names or confirm the registered trade mark on the invoice attached; 3. Exporters of manufactured commodities are to attach or affix a label on their goods stating the characteristics of the commodities, percentages of the components, names and addresses of the manufacturing factories besides the phrase "manufactured for export"; 4. Exporters are to conform the goods to be exported with the specifications of the other party of the contract or of the countries of destination; 5. The customs is to check the quantity and types of exports and their conformity with the statements and documents attached; and 6. Exporters are punished for violations of the export regulations stipulated by the General Customs Directorate and the Foreign Exchange Office of the Central Bank of Syria.

Decision No.1, Ministerial Committee	2/1/'00	During the period from January 1 to December 12, 2000, agricultural products mentioned below are exempted from agricultural product tax that is imposed when the products are exported: Fresh, dried, frozen and manufactured vegetables and fruits packed in wooden containers; and Olive, Olive oil and peanuts exported by the Tartous Company.
Legislative Decree No.15, Presidential	3/7/ '01	Agricultural and agro-industrial products are exempted from agricultural product tax and income tax when they are exported.
Decision of the HCA's meeting No. 11, HCA	31/10/'01	MEET is authorized to take following actions to tackle marketing problems of citrus and olive oil: • conclusion of trade agreements with the countries of destination; • modernization of transport by refrigerated trucks in coordination with MOT; • posting commercial attaché in Syrian Embassies in coordination with MFA; • provision of loans for investors and old mill owners to establish exporting / marketing companies, sorting and packing centers and companies for processing citrus or olive, and to renew the mills; and • establishment of a governmental body for promotion of marketing olive oil. MOF is authorized to take following actions to tackle difficulties on marketing olive oil: • exempting olive mills and oil filtration and packaging centers from taxes and duties; • exempting small-capacity mils from customs duties; and • Reduction of taxes and duties imposed on companies of exporting olive and olive oil. MAAR is authorized to restrain from planting fruit trees in the field where irrigation is needed. MSIT is authorized to examine pesticide residues and other harmful substances in the agricultural products to be exported and to issue necessary certificates for exporters. General Farmers' Union and Federation of Agricultural Chambers are to establish marketing associations for producers.

A.Table 2.20 List of Standards Related to Five Commodities Established by SASMO

	Year established	Title
1.	1976	Fresh tomatoes
2.	1976	Potatoes
3.	1977	General terms for fresh fruits and vegetables
4.	1977	General terms for fruits and vegetable boxes
5.	1977	Fresh fruits and vegetables sampling
6.	1979	Tomato paste
7.	1979	Olives oil
8.	1981	Canned olives
9.	1982	Apples
10.	1986	Fresh olive
11.	1987	Fruits & vegetables-Physical conditions in cold storage-Definitions & measurements
12.	1987	Fruits and vegetables-Ripening after cold storage
13.	1987	Apples-Guide to cold storage
14.	1987	Ware potatoes-Guide to storage
15.	1990	Potato chips
16.	1992	Olive residues(olive cakes)
17.	1994	Quick frozen fried potatoes
18.	1996	Tomato ketchup
19.	1998	Dried potatoes
20.	1999	Plastic boxes used in packing of fresh vegetables and fruit in general conditions
21.	2000	Citrus fruits
22.	2000	Packed fruit and vegetables products-Sampling
23.	2000	Citrus fruit-Cold storage

Source : List of standards in numerical order Food, SASMO, Ministry of Industry, 2000.

ANNEX

for

Chapter 3 Review of Fruits and Vegetables

A.Table 3.1 Changes in the Production and Planted Area of Fruits since 1990

Production (unit: tons)

Fruits \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Olive	460,463	225,861	519,315	325,164	517,892	423,358	647,645	402,956	785,000	400,509	866,052
Grapes	423,085	487,119	462,413	353,953	362,411	383,980	540,059	451,720	590,000	386,986	409,450
Apples	204,559	215,098	270,248	235,002	224,167	224,001	301,886	356,175	362,000	283,713	286,773
Total citrus	362,502	450,522	318,602	454,685	619,346	565,702	696,000	550,000	740,000	719,619	800,000
Oranges	170,950	202,247	154,105	233,150	341,146	303,086	372,521	236,000	438,960	356,551	407,066
Lemons	42,454	53,322	39,028	37,153	63,328	49,577	75,209	46,000	68,049	82,850	83,469
Other Citrus	149,098	194,953	125,469	184,382	214,872	213,039	248,270	268,000	232,991	280,218	309,465
Pomegranates	62,149	61,104	62,608	56,519	61,464	62,040	81,349	70,771	84,926	78,492	69,164
Apricots	72,740	55,678	98,321	62,439	58,851	30,396	83,345	34,658	7,192	62,914	78,873
Almonds	12,958	31,484	30,780	27,652	27,885	33,662	55,000	26,341	67,150	57,697	62,288
Cherries	19,415	20,246	41,814	36,387	32,339	40,798	39,973	41,315	56,003	54,112	56,285
Fig	36,927	39,626	45,642	45,924	38,004	48,106	46,522	44,292	47,049	41,818	44,071
Peaches	65,600	60,795	68,455	36,999	36,073	21,309	42,620	23,517	43,087	41,595	42,034
Pistachio	12,964	14,380	20,240	13,744	14,925	14,538	24,324	29,428	35,684	30,133	39,923
Pear	20,258	21,889	23,737	21,652	17,042	18,973	30,812	18,909	26,661	26,603	30,618
Plum	42,995	34,781	45,488	23,845	23,718	17,372	25,343	22,863	22,186	26,081	26,168
Green Plum	22,127	17,404	29,533	14,419	13,824	8,720	15,251	5,134	12,745	14,938	13,078
Nuts	7,603	10,991	11,862	12,154	12,298	6,211	17,638	5,612	16,378	16,053	15,005
Quince	2,575	2,632	3,826	5,461	5,677	5,329	7,060	6,578	6,719	8,119	8,245
Loquats	343	441	464	539	702	850	625	874	934	964	966
Palm	467	646	1,484	1,406	720	2,400	2,500	2,500	2,500	3,000	3,051
Fruits Total	1,829,730	1,750,697	2,054,832	1,727,944	2,067,338	1,907,745	2,657,952	2,093,643	2,906,214	2,253,346	2,852,044

Planted areas (Unit: ha)

Fruits \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Olive	391,236	405,926	414,778	388,835	402,362	421,583	438,564	445,180	459,669	469,857	477,993
Grapes	109,016	109,582	108,986	66,269	67,007	67,343	70,066	69,434	69,495	69,874	69,288
Apples	47,813	50,112	53,416	37,448	41,730	43,512	46,862	47,378	48,492	48,660	49,375
Total citrus	21,325	23,318	25,509	24,146	24,699	25,230	26,040	26,399	26,999	27,001	27,418
Oranges	9,455	10,414	12,042	11,873	12,101	12,326	12,607	12,824	13,112	13,429	13,718
Lemons	2,535	2,700	2,657	2,519	2,661	2,819	2,940	3,260	3,468	3,644	3,672
Other Citrus	9,335	10,204	10,810	9,754	9,937	10,085	10,493	10,315	10,419	9,928	10,027
Pomegranates	9,988	9,828	9,387	6,589	6,604	6,552	6,674	6,543	6,649	6,607	6,465
Apricots	14,940	14,582	14,626	10,782	11,128	11,314	11,469	12,164	12,409	12,399	12,420
Almonds	25,834	26,469	27,333	20,010	21,368	25,032	26,396	36,159	38,198	39,881	41,581
Cherries	15,570	16,102	16,393	13,181	14,519	15,367	16,437	18,176	19,306	21,011	21,483
Fig	14,536	14,530	14,417	10,648	10,722	10,684	10,921	10,595	10,721	10,729	10,650
Peaches	10,434	10,248	10,264	4,600	4,758	4,870	5,148	5,010	5,230	5,300	5,326
Pistachio	64,735	68,097	68,679	55,342	55,958	55,901	58,551	58,691	59,434	59,137	58,839
Pear	7,587	7,949	8,250	4,649	4,990	5,263	5,790	5,479	5,520	5,720	5,834
Plum	5,947	6,237	6,188	2,496	2,504	2,523	2,595	2,597	2,584	2,628	2,660
Green Plum	4,230	4,206	4,166	1,486	1,507	1,508	1,614	1,520	1,603	1,540	1,521
Nuts	4,541	4,573	4,731	4,176	4,334	4,358	4,700	4,528	4,554	4,656	4,765
Quince	557	590	605	913	933	932	999	911	951	928	905
Loquats	120	124	132	84	129	127	117	105	110	105	107
Palm	476	482	353	144	124	90	1,000	1,000	1,000	1,000	1,009
Fruits Total	748,885	772,955	788,213	651,798	675,376	702,189	733,943	751,869	772,924	787,033	797,639

Source: Agricultural Statistical Abstract, 1990-2000. NAAR.

A.Table 3.2 Changes in the Yield and Mumber of Total Trees of Fruits since 1990

Yield (Unit: kg/ha)

Fruits \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Olive	1,177	556	1,252	836	1,287	1,004	1,477	905	1,708	852	1,812
Grapes	3,881	4,445	4,243	5,341	5,409	5,702	7,708	6,506	8,490	5,538	5,909
Apples	4,278	4,292	5,059	6,275	5,372	5,148	6,442	7,518	7,465	5,831	5,808
Total citrus	16,999	19,321	12,490	18,831	25,076	22,422	26,728	20,834	27,408	26,652	29,178
Oranges	18,080	19,421	12,797	19,637	28,192	24,589	29,549	18,403	33,478	26,551	29,673
Lemons	16,747	19,749	14,689	14,749	23,799	17,587	25,581	14,110	19,622	22,736	22,729
Other Citrus	15,972	19,106	11,607	18,903	21,623	21,124	23,661	25,982	22,362	28,225	30,863
Pomegranates	6,222	6,217	6,670	8,578	9,307	9,469	12,189	10,816	12,773	11,880	10,699
Apricots	4,869	3,818	6,722	5,791	5,289	2,687	7,267	2,849	580	5,074	6,350
Almonds	502	1,189	1,126	1,382	1,305	1,345	2,084	728	1,758	1,447	1,498
Cherries	1,247	1,257	2,551	2,761	2,227	2,655	2,432	2,273	2,901	2,575	2,620
Fig	2,540	2,727	3,166	4,313	3,544	4,503	4,260	4,180	4,388	3,898	4,138
Peaches	6,287	5,932	6,669	8,043	7,582	4,376	8,279	4,694	8,238	7,848	7,892
Pistachio	200	211	295	248	267	260	415	501	600	510	679
Pear	2,670	2,754	2,877	4,657	3,415	3,605	5,322	3,451	4,830	4,651	5,248
Plum	7,230	5,577	7,351	9,553	9,472	6,885	9,766	8,804	8,586	9,924	9,836
Green Plum	5,231	4,138	7,089	9,703	9,173	5,782	9,449	3,378	7,951	9,700	8,597
Nuts	1,674	2,403	2,507	2,910	2,838	1,425	3,753	1,239	3,596	3,448	3,149
Quince	4,623	4,461	6,324	5,981	6,085	5,718	7,067	7,221	7,065	8,749	9,110
Loquats	2,858	3,556	3,515	6,417	5,442	6,693	5,342	8,324	8,491	9,181	9,028
Palm	981	1,340	4,204	9,764	5,806	26,667	2,500	2,500	2,500	3,000	3,025
Fruits Total	2,443	2,265	2,607	2,651	3,061	2,717	3,621	2,785	3,760	2,863	3,576

Number of total trees (Unit: 1,000 trees)

Fruits \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Olive	44,623	48,573	47,736	50,689	52,427	54,215	56,903	59,739	62,300	63,379	64,343
Grapes	80,983	80,410	79,737	52,835	52,837	53,125	55,113	53,764	55,300	52,706	49,353
Apples	14,453	15,041	16,075	11,915	13,266	13,789	14,986	15,511	16,150	16,192	16,204
Total citrus	7,857	8,829	9,554	8,650	8,827	9,003	9,943	10,172	10,745	10,746	10,793
Oranges	3,570	3,858	4,367	4,291	4,371	4,445	4,734	4,792	5,340	5,364	5,390
Lemons	1,007	1,067	1,031	826	865	920	1,255	1,369	1,175	1,318	1,305
Other Citrus	3,280	3,904	4,157	3,532	3,690	3,639	3,955	4,011	4,230	4,064	4,098
Pomegranates	5,069	5,017	4,672	3,529	3,463	3,437	3,499	3,427	3,449	3,455	3,379
Apricots	3,794	3,738	3,700	2,707	2,797	2,852	2,897	3,145	3,187	3,203	3,222
Almonds	9,207	9,435	9,780	7,215	7,769	9,190	14,281	14,457	14,363	22,088	21,600
Cherries	4,407	4,571	4,644	3,709	4,095	4,363	4,779	5,218	5,523	6,023	6,158
Fig	3,261	3,254	3,198	2,698	2,672	2,723	2,857	2,642	2,649	2,675	2,665
Peaches	3,867	3,804	3,765	2,306	2,443	2,492	2,625	2,585	2,613	2,675	2,678
Pistachio	11,475	12,079	12,175	9,175	9,251	9,235	9,515	9,547	10,096	9,781	9,761
Pear	2,352	2,453	2,510	1,636	1,751	1,824	2,002	1,910	1,912	1,997	2,027
Plum	2,196	2,218	2,176	1,145	1,165	1,168	1,187	1,244	1,199	1,222	1,229
Green Plum	1,305	1,300	1,285	607	615	616	660	674	733	683	677
Nuts	583	574	590	621	650	659	706	733	740	778	794
Quince	205	215	213	403	411	411	440	412	411	404	388
Loquats	29	30	34	43	62	50	49	52	53	52	53
Palm	134	127	124	62	60	90	100	170	170	176	187
Fruits Total	195,800	201,668	201,969	159,944	164,660	169,243	182,543	185,402	191,593	198,235	195,511

Source: Agricultural Statistical Abstract, 1990-2000. NAAR.

A.Table 3.3 Production of Fruits by Governorates in 2000 (Unit: tons)

Fruits \ Govern.	Sweida	Dar'a	Quneitra	Damascus	Dama Ci	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	As'd Est.	Al-Raqqa	GADEB	Dair Ezz	Al-Hassa	Total Area	%
Olive	2,573	40,730	2,317	19,342	673	34,319	20,526	3,189	150,000	207,153	151,468	232,779	38	698	60	107	80	866,052	30.4
Grapes	29,839	37,486	2,760	61,996	255	104,000	50,546	3,654	25,885	14,963	6,135	56,453	178	328	123	612	14,237	409,450	14.4
Apples	27,072	249	680	98,689	34	56,461	8,428	91	21,441	30,280	35,281	5,028	22	72	1	1,494	1,450	286,773	10.1
Total Citrus		1,025			3	8,065	713	215	927	164,533	623,969	15		30		505		800,000	28.1
Oranges					1	5,717	302	162		64,652	336,017	15				200		407,066	14.3
Lemons		861			2	1,540	411	53		45,170	35,240					192		83,469	2.9
Other Citrus		164				808			927	54,711	252,712			30		113		309,465	10.9
Pomegranates	90	509	88	3,253	117	15,453	4,661	608	6,626	5,368	4,008	23,847	5	1,094	0	3,085	352	69,164	2.4
Apricots	201	301	3	39,259	372	26,072	1,204	106	5,777	863	1,882	1,027	15	194	40	1,168	389	78,873	2.8
Almonds	834	136	85	1,112		41,635	4,013	36	3,131	5,906	1,201	4,178		2			19	62,288	2.2
Cherries	268	40	448	33,489	16	276	252		18,138	665	2,252	437		1			3	56,285	2.0
Fig	2,599	368	915	5,036	161	3,632	7,929	758	12,011	3,042	4,766	2,067		36		732	19	44,071	1.5
Peaches	539	353	109	27,054	116	3,250	3,071	49	117	1,226	3,589	2,336		61		69	95	42,034	1.5
Pistachio	122	17		46		256	14,876	123	8,217	2		16,225		27		0	12	39,923	1.4
Pear	2,185	484	132	17,920	10	1,166	880		176	2,601	4,404	255		31	54	176	144	30,618	1.1
Plum	142	275	96	13,187	72	896	1,292	36	3,172	1,161	5,268	255	3	32		163	118	26,168	0.9
Green Plum	53	195	27	7,980	111	266	1,015	18	1,666	103		291	2	25		1,195	131	13,078	0.5
Nuts	40	62	32	9,024	290	1,052	1,185	118	631	1,162	1,138	237		5		27	2	15,005	0.5
Quince	39	470	70	4,045	13	236	76		260	196	1,861	904		13		45	17	8,245	0.3
Loquats		58			9	77	174		153	91	400			2		2		966	0.0
Palm Trees				15	5	1,531				50.0	80.0					1,371		3,052	0.1
Fruits total	66,596	82,758	7,762	341,447	2,257	298,643	120,841	9,001	258,328	439,365	847,702	346,334	263	2,651	278	10,751	17,068	2,852,045	100.0

Source: Agricultural Statistical Abstracts 2000. MAAR.

A.Table 3.4 Planted Areas of Fruits by Governorates in 2000 (Unit: ha)

Fruits \ Govern.	Sweida	Dar'a	Quneitra	Damascus	Dama Cit	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	As'd Est.	Al-Raqqa	GADEB	Dair Ezz	Al-Hassa	Total Area	%
Olive	8,519	26,094	3,090	12,502	355	33,383	24,109	1,596	109,926	61,212	34,817	156,878	76	5,004	280	64	88	477,993	59.9
Grapes	11,450	2,166	1,213	7,095	9	29,114	6,910	560	2,999	1,400	359	3,855	22	115	35	67	1,919	69,288	8.7
Apples	10,826	78	730	16,370	4	6,301	1,696	41	1,809	5,380	5,025	714	5	34	1	224	137	49,375	6.2
Total Citrus		221			1	531	63	32	104	6,004	20,402	5		13		42		27,418	3.4
Oranges		2			0.2	331	24	14		2,508	10,813	5				21		13,718	1.7
Lemons		115			0	149	39	18		1,683	1,657					11		3,672	0.5
Other Citrus		104				51			104	1,813	7,932			13		10		10,027	1.3
Pomegranates	46	122	12	304	24	446	289	79	767	363	205	3,300	1	133	3	246	125	6,465	0.8
Apricots	159	58	1	8,378	34	1,639	126	18	733	154	239	290	20	176	26	263	106	12,420	1.6
Almonds	1,318	98	31	1,966		31,830	2,614	21	524	936	181	1,996		45		1	20	41,581	5.2
Cherries	401	11	370	13,847	1	375	95		5,414	133	467	361		2		2	4	21,483	2.7
Fig	594	120	337	2,057	19	432	1,429	135	3,578	500	366	949		24		75	35	10,650	1.3
Peaches	296	201	57	2,972	10	287	391	16	9	230	299	480		20	4	17	37	5,326	0.7
Pistachio	686	113		3,213		686	20,040	61	7,352	1		26,133		408		0	146	58,839	7.4
Pear	1,146	76	90	2,947	2	130	194		17	601	482	57		32	10	29	21	5,834	0.7
Plum	65	108	15	1,224	5	94	201	6	259	194	345	59	1	24		30	30	2,660	0.3
Green Plum	23	13	10	696	10	23	173	3	212	30		49	1	16		215	47	1,521	0.2
Nuts	119	43	8	2,712	72	384	463	44	74	426	324	70		11		14	1	4,765	0.6
Quince	21	45	61	404	2	20	9		14	29	151	122		15		6	6	905	0.1
Loquats		11			1	6	7		45	14	21			1		1		107	0.0
Palm Trees							700	6	0		1.0	1			7		293	1,008	0.1
Fruits total	35,669	29,578	6,025	76,687	549	105,681	59,509	2,618	133,836	77,607	63,684	195,319	126	6,073	366	1,296	3,015	797,638	100.0

Source: Agricultural Statistical Abstracts 2000. MAAR.

A.Table 3.5 Yields of Fruits by Governorates in 2000 (Unit: kg)

Fruits \ Govern.	Sweida	Dar'a	Quneitra	Damascus	Dama City	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	As'd Est.	Al-Raqqa	GADEB	Dair Ezzor	Al-Hassak	Average
Olive	302	1,561	750	1,547	1,896	1,028	851	1,998	1,365	3,384	4,350	1,484	500	139	214	1,672	909	1,812
Grapes	2,606	17,307	2,275	8,738	28,333	3,572	7,315	6,525	8,631	10,688	17,089	14,644	8,091	2,852	3,514	9,134	7,419	5,909
Apples	2,501	3,192	932	6,029	8,500	8,961	4,969	2,220	11,852	5,628	7,021	7,042	4,400	2,118	1,000	6,670	10,584	5,808
Total Citrus		4,638			5,000	15,188	11,317	6,719	8,913	27,404	30,584	3,000		2,308		12,024		29,178
Oranges					5,000	17,272	12,583	11,571		25,778	31,075	3,000				9,524		29,673
Lemons		7,487			5,000	10,336	10,538	2,944		26,839	21,267					17,455		22,729
Other Citrus		1,577				15,843			8,913	30,177	31,860			2,308		11,300		30,863
Pomegranates	1,957	4,172	7,333	10,701	4,875	34,648	16,128	7,696	8,639	14,788	19,551	7,226	5,000	8,226		12,541	2,816	10,698
Apricots	1,264	5,190	3,000	4,686	10,941	15,907	9,556	5,889	7,881	5,604	7,874	3,541	750	1,102	1,538	4,441	3,670	6,350
Almonds	633	1,388	2,742	566		1,308	1,535	1,714	5,975	6,310	6,635	2,093		44			950	1,498
Cherries	668	3,636	1,211	2,419	16,000	726	2,653		3,350	5,000	4,822	1,211		500			750	2,620
Fig	4,375	3,067	2,715	2,448	8,474	8,407	5,549	5,615	3,357	6,084	13,022	2,178		1,500		9,760	543	4,138
Peaches	1,821	1,756	1,912	9,103	11,600	11,324	7,854	3,063	13,000	5,330	12,003	4,867		3,050		4,059	2,568	7,892
Pistachio	178	150		14		373	742	2,016	1,118	2,000		621		66			82	579
Pear	1,907	6,368	1,467	6,081	5,000	8,969	4,536		10,353	4,328	9,137	4,474		969	5,400	6,069	6,857	5,248
Plum	2,185	2,546	6,400	10,774	14,400	9,532	6,428	6,000	12,247	5,985	15,270	4,322	3,000	1,333		5,433	3,933	9,838
Green Plum	2,304	15,000	2,700	11,466	11,100	11,565	5,867	6,000	7,858	3,433		5,939	2,000	1,563		5,558	2,787	8,598
Nuts	336	1,442	4,000	3,327	4,028	2,740	2,559	2,682	8,527	2,728	3,512	3,386		455		1,929	2,000	3,149
Quince	1,857	10,444	1,148	10,012	6,500	11,800	8,444		18,571	6,759	12,325	7,410		867		7,500	2,833	9,110
Loquats		5,273			9,000	12,833	24,857		3,400	6,500	19,948			2,000		2,000		9,028
Palm Trees											80,000							3,028

Source: Agricultural Statistical Abstracts 2000. MAAR.

A.Table 3.6 Nubmer of Total Fruit Trees by Governorates in 2000 (Unit:1,000 trees)

Fruits Govern.	Sweida	Dar'a	Quneitra	Damascus	Dama Ci	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	As'd Est.	Al-Raqqa	GADEB	Dair Ezz	Al-Hassa	Total Area	%
Olive	1,396	4,637	511	2,023	34	4,108	4,458	327	12,512	8,696	6,180	18,559	9	801	41	24	19	64,335	32.9
Grapes	5,467	1,341	750	4,044	9	18,876	6,918	475	1,613	596	208	6,653	23	78	37	42	2,223	49,353	25.2
Apples	3,148	28	218	5,080	1	2,190	699	14	697	1,724	2,031	206	2	12	0	105	50	16,205	8.3
Total Citrus		89				208	43	14	31	2,173	8,195	1		7		33		10,794	5.5
Oranges		1			0	131	16	8		876	4,341	1				17		5,390	2.8
Lemons		51			0	53	27	6		566	592					10		1,305	0.7
Other Citrus		37				24			31	732	3,263			7		6		4,098	2.1
Pomegranates	22	63	14	220	5	368	225	54	321	202	257	1,361	0	70	0	129	70	3,381	1.7
Apricots	42	16	0	2,222	10	354	53	7	184	38	81	57	3	37	5	77	37	3,223	1.6
Almonds	332	36	9	576		18,851	814	6	160	290	62	450		9		0	7	21,602	11.0
Cherries	104	4	85	4,175	0	194	39		1,254	43	154	103		1		1	1	6,158	3.1
Fig	145	25	92	503	6	215	474	44	755	99	112	143		5		37	12	2,667	1.4
Peaches	111	79	13	1,772	3	159	163	5	4	80	132	129		8	1	5	15	2,679	1.4
Pistachio	125	25		773		136	3,016	13	1,112	0		4,435		75		0	51	9,761	5.0
Pear	301	24	33	1,076	0	69	77		12	191	198	14		10	2	12	9	2,028	1.0
Plum	22	38	7	594	2	75	82	3	134	61	168	17	0	7		12	9	1,231	0.6
Green Plum	9	6	4	379	3	16	63	2	84	8		12	0	5		73	16	680	0.3
Nuts	26	9	4	421	7	50	80	6	26	59	92	8		2		4	0	794	0.4
Quince	7	12	12	213	1	14	4		13	10	59	34		3		3	3	388	0.2
Loquats		3			0	8	7		11	6	16			0		0		51	0.0
Palm Trees	0	0		1	1	105	7	0	0	1.0	2.0			3		65	0	185	0.1
Fruits total	11,257	6,435	1,752	24,072	82	45,996	17,222	970	18,923	14,277	17,947	32,182	37	1,133	86	622	2,522	195,514	100.0

Source: Agricultural Statistical Abstracts 2000. MAAR.

A.Table 3.7 Number of Fruit Bearing Trees by Governorates in 2000 (Unit:1,000 trees)

Fruits \ Govern.	Sweida	Dar'a	Quneitra	Damascus	Dama Ci	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	As'd Est.	Al-Raqqa	GADEB	Dair Ezz	Al-Hassa	Total Area	%
Olive	448	2,026	166	919	34	1,599	1,629	169	8,850	6,863	4,323	13,057	8	190	11	8	8	40,308	30.1
Grapes	4,100	1,192	380	3,536	9	16,761	6,339	314	1,591	552	187	6,634	21	27	24	33	2,223	43,923	32.8
Apples	1,271	21	114	3,278	1	1,471	450	8	645	1,358	1,712	174	2	5	0	90	50	10,650	7.9
Total Citrus		74			0	177	30	11	23	1,871	5,916	1		1		27		8,131	6.1
Oranges		1			0.1	103	12	6		767	3,138	1				15		4,042	3.0
Lemons		47			0	53	18	5		455	324					8		909	0.7
Other Citrus		26				21			23	650	2,453			1		4		3,178	2.4
Pomegranates	13	52	7	189	5	368	210	43	278	168	248	1,342	0	42	0	115	70	3,150	2.3
Apricots	24	15	0	1,609	9	338	48	6	180	33	72	57	3	23	5	72	37	2,531	1.9
Almonds	172	24	7	231		6,814	471	5	153	220	48	450		9		0	7	8,611	6.4
Cherries	51	4	48	1,790	0	40	18		1,210	33	87	103		0		1	1	3,386	2.5
Fig	99	20	70	451	5	187	453	36	741	92	105	142		2		32	12	2,447	1.8
Peaches	60	74	9	1,293	3	159	129	5	4	64	115	123		4	1	4	15	2,062	1.5
Pistachio	30	3		11		25	1,973	8	795	0		1,857		13		0	9	4,724	3.5
Pear	133	20	16	839	0	63	57		11	159	114	14		2	1	10	9	1,448	1.1
Plum	15	34	7	511	2	75	64	3	126	50	145	17	0	6		11	9	1,075	0.8
Green Plum	6	6	3	337	3	16	59	2	73	5		12	0	4		70	16	612	0.5
Nuts	8	4	3	346	7	50	48	4	26	46	37	8		0		3	0	590	0.4
Quince	4	10	8	196	1	14	3		12	9	49	33		1		3	3	346	0.3
Loquats		2			0	8	6		10	5	13			0		0		44	0.0
Palm Trees				1	0	47				1.0	1.0			0		28		78	0.1
Fruits total	6,434	3,581	838	15,537	79	28,212	11,987	614	14,728	11,529	13,172	24,024	34	329	42	507	2,469	134,115	100.0

Source: Agricultural Statistical Abstracts 2000. MAAR.

A.Table 3.8 Changes in the Production and Planted Areas of Vegetables since 1990

Production (Unit: 1,000 tons)

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tomato total	430	428	482	397	426	426	409	407	555	610	753
Potato total	398	452	412	361	362	471	439	266	492	497	485
Spring potato	160	168	183	154	196	231	226	92	237	273	246
Summer potato	25	21	40	36	29	30	20	18	23	15	13
Autumn potato	212	262	189	171	138	209	194	155	232	209	225
Water Melon	250	217	353	308	293	257	201	272	402	258	202
Egg Plant	134	133	126	148	153	141	142	127	156	115	124
Snack Cucumbe	173	143	158	165	132	142	125	106	127	94	91
Dry Onion	95	80	108	96	113	144	126	108	105	91	72
Squash	95	92	101	95	115	126	117	86	98	88	65
Cabbages	52	45	40	53	56	87	89	73	71	57	43
Cauli Flower	40	29	29	45	45	77	74	63	57	50	30
Lettuce	39	36	30	43	57	68	65	43	59	50	46
Musk Melon	44	46	56	58	70	62	51	48	67	45	48
Green Onion	53	62	41	47	53	67	40	38	44	41	51
Broad Beans	51	50	52	45	46	38	46	27	38	36	31
Green Pepper	40	34	35	36	39	36	36	40	38	33	43
Haricot Bean	38	42	35	34	39	31	34	33	32	31	23
Dry Garlic	12	13	14	17	23	22	22	17	18	18	20
Green Peas	6	6	9	13	16	12	14	3	12	15	15
Leaf Beet	14	12	15	16	18	17	17	16	16	15	12
Okra	13	10	10	12	12	13	11	14	17	12	12
Pumpkins	10	21	35	23	29	32	41	27	24	12	16
Green Kidney B	4	5	4	4	7	6	7	10	7	3	3
Total productio	1,990	1,955	2,145	2,016	2,105	2,274	2,107	1,823	2,435	2,171	2,184

Planted area (Unit: ha)

Vegetables \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tomato total	28,010	26,399	24,193	20,164	20,938	20,227	20,464	17,247	19,031	15,771	19,922
Potato total	22,630	24,275	24,382	20,394	21,257	23,025	22,250	17,944	22,177	24,779	22,783
Spring potato	8,298	8,613	8,341	6,831	8,044	9,174	10,152	7,842	9,388	11,027	10,726
Summer potato	1,903	1,281	2,160	1,801	1,467	1,624	1,161	1,012	1,060	789	672
Autumn potato	12,429	14,381	13,880	11,763	11,748	12,227	10,937	9,090	11,729	12,963	11,385
Water Melon	28,847	31,461	34,751	28,080	27,774	26,230	25,870	22,971	24,048	11,575	13,602
Egg Plant	5,982	6,244	6,128	6,834	7,103	6,311	5,841	5,851	6,923	5,141	5,763
Snack Cucumbe	15,047	12,318	13,009	14,457	12,295	11,280	10,323	8,420	10,172	6,807	6,783
Dry Onion	6,002	4,911	5,791	5,092	5,796	6,079	6,342	5,555	5,504	4,734	4,355
Squash	7,026	6,216	6,758	5,850	8,817	7,830	7,007	5,237	5,836	5,186	4,071
Cabbages	2,521	2,097	1,892	2,418	2,665	3,304	3,366	3,131	3,231	2,860	2,042
Cauli Flower	2,057	1,519	1,462	2,281	2,217	2,941	2,721	2,576	2,617	2,559	1,479
Lettuce	2,060	1,807	1,543	2,196	2,628	2,953	2,823	2,451	2,826	2,355	2,092
Musk Melon	7,948	7,656	8,519	7,017	10,492	7,747	6,644	7,664	7,183	5,215	4,627
Green Onion	3,546	3,885	2,900	2,896	3,242	3,579	2,955	2,780	2,815	2,900	3,043
Broad Beans	7,131	6,659	7,017	5,819	5,477	4,855	6,321	4,757	4,708	4,402	4,054
Green Pepper	3,064	2,754	2,694	3,209	2,996	2,527	2,383	2,880	2,803	2,360	2,845
Haricot Bean	4,215	4,679	4,130	3,841	4,539	4,350	3,824	3,603	3,596	3,332	2,929
Dry Garlic	1,690	1,798	1,790	1,790	2,378	2,314	2,400	1,921	2,174	2,239	2,263
Green Peas	1,322	1,390	1,706	2,259	2,046	1,734	2,502	946	1,817	2,235	2,553
Leaf Beet	1,018	887	103	1,033	1,191	1,137	1,154	1,082	983	1,092	1,029
Okra	4,713	4,735	3,965	5,442	5,020	4,254	3,824	4,882	6,704	3,460	3,842
Pumpkins	3,082	5,311	5,334	3,307	5,470	5,990	5,072	3,672	3,420	2,122	2,851
Green Kidney B	1,964	2,680	1,820	1,268	2,684	1,674	2,095	2,407	1,601	978	945
Total area	159,875	159,681	159,886	145,648	157,027	150,341	146,181	127,977	140,169	112,102	113,873

Source: Agricultural Statistical Abstract, 1990-2000. MAAR

A.Table 3.9 Changes in the Yields of Vegetables since 1990 (Unit: kg/ha)

Vegetables \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tomato total	15,352	16,213	19,923	19,689	20,346	21,061	19,986	23,598	29,163	38,679	37,797
Potato total	17,587	18,620	16,898	17,701	17,030	20,456	19,730	14,824	22,185	20,057	21,288
Spring potato	19,282	19,505	21,940	22,544	24,366	25,180	22,262	11,732	25,245	24,757	22,935
Summer potato	13,137	16,393	18,519	19,989	19,768	18,473	17,227	17,787	21,698	19,011	19,345
Autumn potato	17,057	18,218	13,617	14,537	11,747	17,093	17,738	17,052	19,780	16,123	19,763
Water melon	8,666	6,897	10,158	10,969	10,549	9,798	7,770	11,841	16,717	22,289	14,851
Egg Plant	22,401	21,300	20,561	21,656	21,540	22,342	24,311	21,706	22,534	22,369	21,517
Snack Cucumber	11,497	11,609	12,145	11,413	10,736	12,589	12,109	12,589	12,485	13,809	13,416
Dry Onion	15,828	16,290	18,650	18,853	19,496	23,688	19,868	19,442	19,077	19,223	16,533
Squash	13,521	14,801	14,945	16,239	13,043	16,092	16,698	16,422	16,792	16,969	15,967
Cabbages	20,627	21,459	21,142	21,919	21,013	26,332	26,441	23,315	21,975	19,930	21,058
Cauli Flower	19,446	19,092	19,836	19,728	20,298	26,182	27,196	24,457	21,781	19,539	20,284
Lettuce	18,932	19,923	19,443	19,581	21,689	23,027	23,025	17,544	20,878	21,231	21,989
Musk Melon	5,536	6,008	6,574	8,266	6,672	8,003	7,676	6,263	9,328	8,629	10,374
Green Onion	14,946	15,959	14,138	16,229	16,348	18,720	13,536	13,669	15,631	14,138	16,760
Broad beans	7,152	7,509	7,411	7,733	8,399	7,827	7,277	5,676	8,071	8,178	7,647
Green Pepper	13,055	12,346	12,992	11,218	13,017	14,246	15,107	13,889	13,557	13,983	15,114
Haricot Bean	9,015	8,976	8,475	8,852	8,592	7,126	8,891	9,159	8,899	9,304	7,853
Dry Garlic	7,101	7,230	7,821	9,497	9,672	9,507	9,167	8,850	8,280	8,039	8,838
Green peas	4,539	4,317	5,275	5,755	7,820	6,920	5,596	3,171	6,604	6,711	5,875
Leaf Beet	13,752	13,529	145,631	15,489	15,113	14,952	14,731	14,787	16,277	13,736	11,662
Okra	2,758	2,112	2,522	2,205	2,390	3,056	2,877	2,868	2,536	3,468	3,123
Pumpkins	3,245	3,954	6,562	6,955	5,302	5,342	8,084	7,353	7,018	5,655	5,612
Green Kidney B	2,037	1,866	2,198	3,155	2,608	3,584	3,341	4,155	4,372	3,067	3,175

Ratio of Yield

Vegetables \ Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tomato total	100.0	105.6	129.8	128.3	132.5	137.2	130.2	153.7	190.0	252.0	246.2
Potato total	100.0	105.9	110.1	115.3	110.9	133.2	128.5	96.6	144.5	130.7	138.7
Spring potato	100.0	101.2	113.8	116.9	126.4	130.6	115.5	60.8	130.9	128.4	118.9
Summer potato	100.0	124.8	141.0	152.2	150.5	140.6	131.1	135.4	165.2	144.7	147.3
Autumn potato	100.0	106.8	79.8	85.2	68.9	100.2	104.0	100.0	116.0	94.5	115.9
Water melon	100.0	79.6	117.2	126.6	121.7	113.1	89.7	136.6	192.9	257.2	171.4
Egg Plant	100.0	95.1	91.8	96.7	96.2	99.7	108.5	96.9	100.6	99.9	96.1
Snack Cucumber	100.0	101.0	105.6	99.3	93.4	109.5	105.3	109.5	108.6	120.1	116.7
Dry Onion	100.0	102.9	117.8	119.1	123.2	149.7	125.5	122.8	120.5	121.4	104.5
Squash	100.0	109.5	110.5	120.1	96.5	119.0	123.5	121.5	124.2	125.5	118.1
Cabbages	100.0	104.0	102.5	106.3	101.9	127.7	128.2	113.0	106.5	96.6	102.1
Cauli Flower	100.0	98.2	102.0	101.5	104.4	134.6	139.9	125.8	112.0	100.5	104.3
Lettuce	100.0	105.2	102.7	103.4	114.6	121.6	121.6	92.7	110.3	112.1	116.1
Musk Melon	100.0	108.5	118.7	149.3	120.5	144.6	138.7	113.1	168.5	155.9	187.4
Green Onion	100.0	106.8	94.6	108.6	109.4	125.2	90.6	91.5	104.6	94.6	112.1
Broad beans	100.0	105.0	103.6	108.1	117.4	109.4	101.8	79.4	112.9	114.3	106.9
Green Pepper	100.0	94.6	99.5	85.9	99.7	109.1	115.7	106.4	103.8	107.1	115.8
Haricot Bean	100.0	99.6	94.0	98.2	95.3	79.0	98.6	101.6	98.7	103.2	87.1
Dry Garlic	100.0	101.8	110.1	133.8	136.2	133.9	129.1	124.6	116.6	113.2	124.5
Green peas	100.0	95.1	116.2	126.8	172.3	152.5	123.3	69.9	145.5	147.9	129.5
Leaf Beet	100.0	98.4	1058.9	112.6	109.9	108.7	107.1	107.5	118.4	99.9	84.8
Okra	100.0	76.6	91.4	79.9	86.7	110.8	104.3	104.0	91.9	125.7	113.2
Pumpkins	100.0	121.9	202.2	214.4	163.4	164.6	249.1	226.6	216.3	174.3	173.0
Green Kidney B	100.0	91.6	107.9	154.9	128.1	176.0	164.1	204.0	214.7	150.6	155.9

Source: Agricultural Statistical Abstract, 1990-2000. MAAR

A.Table 3.10 Production of Vegetables by Governorates in 2000 (Unit: tons)

Vegetables \ Govern	Sweida	Dar'a	Quneitra	Damascus	Damas Cit	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	Assad Est.	Al Raqqa	GADEB	Dair Ezzor	Al Hassak	Total Area	Area %
Green Peas		2,285		1,565	86	3,298	510	5,028		1,296	438					248		14,754	0.7
Broad Beans		2,589		2,999	646	613	729	1,377	327	4,301	5,489	4,715		1,484		3,778	1,545	30,592	1.4
Cabbages		700		14,835	290	4,668	1,934	190		2,138	13,583	3,211		360		73	894	42,876	1.9
Cauli Flower		700		12,420	482	3,082	1,510	186		1,670	448	7,634		990		53	629	29,804	1.3
Leaf Beet				1,290	272	80	427			2,292	1,573	1,805		1,345		2,165	806	12,055	0.5
Green Onions		161		329	106	305	2,137	16,201	2,958	2,121	8,033	11,282		2,060		3,046	2,621	51,360	2.3
Lettuce		1,120		10,305	1,370	503	9,944	2,268	1,141	4,234	3,835	6,740		1,440		2,192	1,193	46,285	2.1
Other Vegetables		862		16,731	825	1,097	11,758		209	1,106	1,000	1,004		3,634		5,030	2,095	45,351	2.0
Tomatoes	25,717	146,375	19,853	31,866	216	11,212	5,399	3,870	12,069	231,483	119,933	44,519		14,779		10,080	75,847	753,218	33.6
Summer T.	25,633	118,355	4,622	31,815	216	6,585	5,390	2,274		674	29,985	12,730		14,744		10,072	75,700	338,795	15.1
Spring T.						1,945			8,333	10,294	32,376	23,661						76,609	3.4
Autumn T.		28,020	15,231			1,000		1,596	3,520	800	402	8,000						58,569	2.6
Greehouse	84			51		1,682	9		216	219,715	57,170	128		35		8	147	279,245	12.4
Water Melon	11,443	27,895		922		19,665	31,326	973	33,363	25	425	27,988		23,387		1,928	22,190	201,530	9.0
Musk Melon	100	7,858		19		6,210	9,934	476	6,083	27		11,545		1,945		1,293	2,682	48,172	2.1
Potatoes		10,760	36	11,461		38,812	61,905	52,403	144,985	33,776	8,129	115,442		306		4,762	2,000	484,777	21.6
Spring potato		10,760				9,787	36,496	20,003	55,085	29,776	7,903	70,442		208		4,762	1,222	246,444	11.0
Summer potato	1		36	11,461		675	209							68			440	12,890	0.6
Autumn potato						28,350	25,200	32,400	89,900	4,000	226	45,000		30			338	225,444	10.0
Haricot Beans		220	300	665	87	835	164		936	5,430	13,082	589		111		181	338	22,938	1.0
Green Kidney B.		288		100	18	804	273		30	50	896	10		30		63		2,562	0.1
Pumpkins		162		91		97	452		1,575	1,671	4,827	6,694				48	363	15,980	0.7
Egg Plants		8,746	1,165	2,520	1,598	2,794	4,557	1,123	2,972	45,007	31,364	7,509		7,369		2,955	3,991	123,670	5.5
Snack Cucumber	1,563	11,613	1,160	1,910	55	430	2,432	6,513	12,829	17,554	8,191	10,054		6,930		430	9,638	91,302	4.1
Dry Garlic				4,281		905	835	1,719	786	513	844	8,562		208		856	82	19,591	0.9
Okra		376	199	213	53	689	245		581	259	4,704	1,336		234		1,843	758	11,490	0.5
Squash		5,370	1,115	2,419	306	2,702	131	35	2,647	16,653	22,370	5,670		2,043		218	2,856	64,535	2.9
Dry Onions		11,725		641		18,800	6,755	7,744	4,235	874	3,727	9,186		328		2,950	4,952	71,917	3.2
Green Pepper		4,830		493	115	879	2,373	620	1,551	6,673	17,292	5,636		1,304		280	953	42,999	1.9
Various Vegetables		300	1,178	3,548	532	705	4,018			787	3,435	1,550				707		16,760	0.7
Vegetables Total	38,824	244,935	25,006	121,623	7,057	119,185	159,748	100,726	229,277	379,940	273,618	292,681	0	70,287	0	45,179	136,433	2,244,519	100.0

Source: Agricultural Statistical Abstracts, 200. MAAR.

A.Table 3.11 Planted Areas of Vegetables by Governorates in 2000 (Unit: ha)

Vegetables \ Govern	Sweida	Dar'a	Quneitra	Damascu	Damas Cit	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	Assad Es	Al Raqq	GADEB	Dair Ezz	Al Hassa	Total Area	Area %
Green Peas		477		249	11	638	51	789		229	87					22		2,553	2.1
Broad Beans		595		363	81	82	75	173	34	548	1,098	364		99		349	193	4,054	3.4
Cabbages		8		711	15	191	59	7		104	609	227		16		8	89	2,044	1.7
Cauli Flower		35		649	24	135	54	4		86	36	353		33		7	63	1,479	1.2
Leaf Beet				93	18	4	48			187	148	210		70		138	115	1,031	0.9
Green Onions		37		18	11	33	176	540	210	193	722	593		69		225	218	3,045	2.6
Lettuce		70		434	55	28	229	82	93	311	235	237		72		127	119	2,092	1.8
Other Vegetables		33		624	72	49	791		385	90	124	655		165		289	249	3,526	3.0
Tomatoes	996	2,922	730	794	12	748	745	200	1,595	2,526	3,350	2,468		520		422	1,894	19,922	16.8
Summer T.	995	1,776	170	793	12	325	745	120		48	1,514	639		520		422	1,892	9,971	8.4
Spring T.						387			1,398	534	1,377	1,199						4,895	4.1
Autumn T.		1,146	560			15		80	195	100	65	629						2,790	2.3
Greehouse	1			1		21	0		2	1,844	394	1		0		0	2	2,266	1.9
Water Melon	528	500		25		1,931	1,469	71	2,372	3	24	3,823		1,155		100	1,601	13,602	11.4
Musk Melon	2	264		1		760	498	48	593	3		1,862		135		88	373	4,627	3.9
Potatoes		660	2	578		2,682	2,831	2,658	6,492	1,341	482	4,697		15		234	111	22,783	19.2
Spring potato		660				607	1,642	911	1,992	1,141	471	2,997		10		234	61	10,726	9.0
Summer potato			2	578		50	12							3			27	672	0.6
Autumn potato						2,025	1,177	1,747	4,500	200	11	1,700		2			23	11,385	9.6
Haricot Beans		81	187	84	22	142	18		111	570	1,533	77		19		34	51	2,929	2.5
Green Kidney B.		33		14	6	480	207		60	10	112	5		6		12		945	0.8
Pumpkins		116		5		62	168		323	91	208	1,851				6	21	2,851	2.4
Egg Plants		281	124	159	80	136	165	70	157	1,802	1,568	312		425		199	285	5,763	4.8
Snack Cucumber	385	543	124	107	7	115	351	450	840	904	470	1,054		371		39	1,023	6,783	5.7
Dry Garlic				402		65	150	170	77	89	337	741		22		194	16	2,263	1.9
Okra		125	99	40	13	646	198		382	66	1,023	878		57		207	108	3,842	3.2
Squash		231	124	139	17	225	17	4	164	922	1,599	293		102		20	214	4,071	3.4
Dry Onions		763		59		1,140	363	275	200	89	474	426		14		222	330	4,355	3.7
Green Pepper		246		51	6	127	162	62	93	563	865	325		128		58	159	2,845	2.4
Various Vegetables		28	188	173	53	37	248		0	67	241	360				35		1,430	1.2
Vegetables Total	1,911	8,048	1,578	5,772	503	10,456	9,073	5,603	14,181	10,794	15,345	21,811	0	3,493	0	3,035	7,232	118,835	100.0

Source: Agricultural Statistical Abstracts, 200. MAAR.

A.Table 3.12 Yield of Vegetables by Governorates in 2000 (Unit: kg/ha)

Vegetables \ Govern	Sweida	Dar'a	Quneitra	Damascus	Damas City	Homs	Hama	Ghab	Idleb	Tatrous	Lattakia	Aleppo	Assad Est.	Al Raqqa	GADEB	Dair Ezzor	Al Hassake	Average
Green Peas		4,790		6,285	7,818	5,169	10,000	6,373		5,659	5,034					11,273		5,779
Broad Beans		4,351		8,262	7,975	7,476	9,720	7,960	9,618	7,849	4,999	12,953		14,990		10,825	8,005	7,546
Cabbages		87,500		20,865	19,333	24,440	32,780	27,143		20,558	22,304	14,145		22,500		9,125	10,045	20,977
Cauli Flower		20,000		19,137	20,083	22,830	27,963	46,500		19,419	12,444	21,626		30,000		7,571	9,984	20,151
Leaf Beet				13,871	15,111	20,000	8,896			12,257	10,628	8,595		19,214		15,688	7,009	11,693
Green Onions		4,351		18,278	9,636	9,242	12,142	30,002	14,086	10,990	11,126	19,025		29,855		13,538	12,023	16,867
Lettuce		16,000		23,744	24,909	17,964	43,424	27,659	12,269	13,614	16,319	28,439		20,000		17,260	10,025	22,125
Other Vegetables		26,121		26,813	11,458	22,388	14,865		543	12,289	8,065	1,533		22,024		17,405	8,414	12,862
Tomatoes	25,820	50,094	27,196	40,134	18,000	14,989	7,247	19,350	7,567	91,640	35,801	18,038		28,421		23,886	40,046	37,808
Summer T.	25,762	66,641	27,188	40,120	18,000	20,262	7,235	18,950		14,042	19,805	19,922		28,354		23,867	40,011	33,978
Spring T.						5,026			5,961	19,277	23,512	19,734						15,650
Autumn T.		24,450	27,198			66,667		19,950	18,051	8,000	6,185	12,719						20,992
Greehouse	70,000			102,000		79,716	45,000		135,000	119,145	144,991	142,222		87,500		80,000	81,667	123,222
Water Melon	21,672	55,790		36,880		10,184	21,325	13,704	14,065	8,333	17,708	7,321		20,248		19,280	13,860	14,816
Musk Melon	50,000	29,765		19,000		8,171	19,948	9,917	10,258	9,000		6,200		14,407		14,693	7,190	10,411
Potatoes		16,303	18,000	19,829		14,471	21,867	19,715	22,333	25,187	16,865	24,578		20,400		20,350	18,018	21,278
Spring potato		16,303				16,124	22,227	21,957	27,653	26,096	16,779	23,504		20,800		20,350	20,033	22,976
Summer potato			18,000	19,829		13,500	17,417							22,667			16,296	19,182
Autumn potato						14,000	21,410	18,546	19,978	20,000	20,545	26,471		15,000			14,696	19,802
Haricot Beans		2,716	1,604	7,917	3,955	5,880	9,111		8,432	9,526	8,534	7,649		5,842		5,324	6,627	7,831
Green Kidney B.		8,727		7,143	3,000	1,675	1,319		500	5,000	8,000	2,000		5,000		5,250		2,711
Pumpkins		1,397		18,200		1,565	2,690		4,876	18,363	23,207	3,616				8,000	17,286	5,605
Egg Plants		31,125	9,395	15,849	19,975	20,544	27,618	16,043	18,930	24,976	20,003	24,067		17,339		14,849	14,004	21,459
Snack Cucumber	4,060	21,387	9,355	17,850	7,857	3,739	6,929	14,473	15,273	19,418	17,428	9,539		18,679		11,026	9,421	13,460
Dry Garlic				10,649		13,923	5,567	10,112	10,208	5,764	2,504	11,555		9,455		4,412	5,125	8,657
Okra		3,008	2,010	5,325	4,077	1,067	1,237		1,521	3,924	4,598	1,522		4,105		8,903	7,019	2,991
Squash		23,247	8,992	17,403	18,000	12,009	7,706	8,750	16,140	18,062	13,990	19,352		20,029		10,900	13,346	15,852
Dry Onions		15,367		10,864		16,491	18,609	28,160	21,175	9,820	7,863	21,563		23,429		13,288	15,006	16,514
Green Pepper		19,634		9,667	19,167	6,921	14,648	10,000	16,677	11,853	19,991	17,342		10,188		4,828	5,994	15,114
Various Vegetables		10,714	6,266	20,509	10,038	19,054	16,202			11,746	14,253	4,306				20,200		11,720
Vegetables Total	20,314	30,434	15,847	21,073	14,030	11,399	17,607	17,977	16,168	35,199	17,831	13,419		20,120		14,886	18,866	18,888

Source: Agricultural Statistical Abstracts, 200. MAAR.

A.Table 3.13 Balance of Five Commodities (in 1981 - 1999)

(Unit: '000 ton)

	Citrus				Apple				Olive				Tomato				Potato			
	Pro.	Imp.	Exp	T. Supply	Pro.	Imp.	Exp	T. Supply	Pro.	Imp.	Exp	T. Supply	Pro.	Imp.	Exp	T. Supply	Pro.	Imp.	Exp	T. Supply
1981	73	129	-	202	104	26	-	130	208	-	-	208	723	65	2	788	311		8	303
1982	82	80	-	162	139	11	0	150	471	-	-	471	790	72	1	862	279		6	273
1983	91	69	12	148	129	16	6	139	152	-	-	152	831	20	1	851	315	8	13	310
1984	106	57	-	163	130	2	0	132	311	-	-	311	729	20	0	747	322	0	10	312
1985	84	65	0	148	125	-	0	125	156	15	1	200	779	15	1	793	284	9	5	289
1986	164	23	2	185	145	1	3	143	415	-	-	415	581	21	3	599	560	13	34	539
1987	196	110	0	207	132	-	2	130	216	0	-	216	563	3	2	564	334	9	2	341
1988	255	-	0	255	206	0	6	200	487	-	0	487	661	-	7	654	336	6	11	331
1989	330	-	1	329	195	-	3	192	200	-	0	200	559	0	19	540	370	7	44	333
1990	363	-	3	360	205	-	1	204	460	-	0	460	430	-	16	414	398	4	109	293
1991	450	-	6	444	215	-	4	211	226	-	2	224	426	-	30	398	452	9	3	459
1992	319	-	1	318	270	-	4	266	519	-	0	519	481	0	25	456	412	8	135	285
1993	455	0	1	454	235	-	4	231	325	-	0	325	397	-	64	333	361	1	67	295
1994	619	6	3	622	224	-	3	221	518	-	0	518	426	-	93	333	362	2	50	314
1995	586	0	16	549	224	-	6	218	423	-	0	423	427	-	73	354	471	6	44	433
1996	696	0	11	685	302	-	4	298	648	-	0	648	409	-	83	326	439	0	29	410
1997	550	-	9	541	256	-	6	350	403	-	0	403	407	-	108	299	266		8	257
1998	740	-	14	726	362	-	18	345	785	-	0	785	555	-	133	422	492	20	12	500
1999	720	-	38	682	284	-	25	259	401	-	0	401	610	-	143	467	496	1	59	438
2000	800	-	46	754	287	-			866	-	0	866	753	-	189	564	485	-	23	469

Source: the Annual Agriculture Statistic

A.Table 3.14 Summary of Wholesale Market in Syria (1)

Govenorate	Market name	Date of establishment	Area		Partcipants					Size of Booth(charge:SP/year)			
			Land(M2)	Building(M2)	Wholesalers	Semi-Wholesalers	Exporters	Others	Total	~30m2	30~50	50~	Total
Damas.	W.S. Market Damascus (Zablatane)	1962	115,000	30,000	200	200	65	5	470	141 -15,000	126 25,000	30 55,000	375
Damas. R.	W.S. Market Damascus (Douma)	1961	7,000	1,750	25	45	0	2	72	70 15,000			70
Aleppo	W.S. Market Aleppo	1947	30,000	7,000	150	250	5	0	405		150 -20,000		150
Homs	W.S. Market Homs (Gama City)	1970	75,000	7,500	110	40	7	5	162	12 22,000	36 30,000	114 owned	162
Hama	W.S. Market Hama	1968	59,000	5,100	62	10	4	2	78	12 12,000	14 15,000	52 17,000	78
Tartous	W.S. Market Tartous	1997	20,000	1,500	100	(45)	(3)	2	102			100 owned	100
Lattakia	W.S. Market Lattakia	1997	30,000	2,700	80	0	0	0	80		80		80
Idleb	W.S. Market Idelb	1980	15,000	4,500	60	20	1	2	83	60			60
Al Raqqa	W.S. Market Raqqa	1998	12,000	4,500	38	(38)		4	42		38 1,500		38
Deir-ezzor	W.S. Market Deir Ezzor	1960	8,000	1,500	25	25	0	0	50	50 10,000			50
Al Hasakeh	W.S. Market Hasakeh	1970	7,000	5,000	28		0	150	178	28 3,000			28
Dara`a	W.S.Market Dara'a	1970	20,000	1,500	15	25	0	95	135	146 12,000			146
Total			398,000	72,550	893	615 (83)	82	267	1,857	519	444	296	1,337

Source : JICA Study Team

A.Table 3.15 Summary of Wholesale Market in Syria (2)

Governorate	Supervising Organization			Market Management Organization		
	Name of office	Numbers of staff	Main activities			
Damas.	Damas	15	* Management of Facility * Provide W/P * Traffic control	Whole sale Market Committee	9	* Negotiation with authorities * Provide packing certificate * Notify of invoice
Damas. R.	Douma	1	* Lease contract * Cleaning * Provide W/P	Whole sale Market Committee	9	* Negotiation with authorities * Solve disputes amoung trader * Study on new market
Aleppo	Aleppo		* Supervising of market activity * Preparation of regulation	Whole sale Market Committee	13	* Solve problem in market * Clearing facility * Keep good relation with municipal
Homs	Homs	4	* Supervising of market * Clearing * Collection of charge	Whole sale Market Committee	9	* Negotiation with authorities * Solve problem of inside
Hama	Hama	2	* Clearing * Permmission of W/P * Contract of Lease	Whole sale Market Committee	7	* Solve problem with participant * Implementation smooth transaction
Tartous	Tartous	2	* Control of Facility * Clearing * Permmission of W/P	Whole sale Market Committee	7	* Negotiation with city authority * Tel, Cleaning, clearing
Lattakia	Lattakia		no supervising organization	Whole sale Market Committee	7	* Negotiation with authority * Market activity
Idleb	Idleb	1	* Cleaning Service * Permmission of W/P	Whole sale Market Committee	7	* Negotiation with authority * Market activity
Al Raqqa	Raqq	2	* Cleaning Service * Permmission on W/S	Whole sale Market Committee	4	* Negotiation with authorities concerned * Service activities
Deir-ezzor	Deir Ezzor	1	* Cleaning Service * Permmission of W/P	Whole sale Market Committee	6	* Negotiation with authorities concerned * Service activities
Al Hasakeh	Hassakeh	Special Dept.	* Cleaning Service * Permmission of W/P	Whole sale Market Committee	8	* Maintenance order of market * Solve of depute
Dara`a	Dara'a	0	* Cleaning Service * Permmission of W/P * Expansion of facilities	Whole sale Market Committee	7	* Organizing of market * Follow up of new market plan
Total		28			93	

Note : Supervising System under Governorate office
Market management System by market committee,members of whoch are selected by and amoung booth owners

A.Table 3.16 Summary of Wholesale Market in Syria (3)

Governorate	Entry numbers of Wholesale maekets(per day)						Handling volume per day						
	Owner of booth	Related persons	Shippers	Buyers	Others	Total	Orange	Apple	Fresh Olive	Tomato	Potato	Others	Total
Damas.	638	3,500	6,000	15,000	4,000	29,138	462	226	35	550	268	2,359	3,900
Damas. R.	70	240	400	2,000	500	3,210	42	56	0	383	85	192	758
Aleppo	120	750	400	1,000	400	2,670	123	85	29	154	188	775	1,354
Homs	162	750	250	1,500	1,000	3,662	75	98	13	204	188	258	836
Hama	72	350	500	1,500	600	3,022	46	50	10	102	181	683	1,072
Tartous	100	1,500	400	1,500	500	4,000	135	41	17	147	77	616	1,033
Lattakia	80	700	450	800	350	2,380	298	54	21	196	73	450	1,092
Idleb	60	200	450	1,500	150	2,360	46	57	71	165	750	125	814
Al Raqqa	38	212	300	1,600	200	2,350	21	23	5	80	58	111	298
Deir-ezzor	50	300	450	1,500	300	2,600	60	54	6	123	100	111	454
Al Hasakeh	30	300	50	500	600	1,480	13	13	3	77	61	378	545
Dara`a	15	400	200	500	200	1,315	35	25	13	95	76	219	463
Total	1,435	9,202	9,850	28,900	8,800	58,187	1,356	782	223	2,276	1,705	6,277	12,619

Note: Related persons include persons who belong tobooths owners
Sippers means farmers, traders (middlemen), transporters
Buyers means retailers and cosumers

A.Table 3.17 Apple Wholesale Markets (ton/day)

	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly T.
Damascus. C.	195	195	195	195	-	-	195	390	585	390	195	93	
Damascus. R	50	50	50	50	-	-	50	100	150	100	50	25	
Alleppo	100	100	199	25	25	-	50	75	100	200	150	100	
Homs	100	100	100	50	-	25	50	100	200	200	150	100	
Hama	100	50	30	25	25	-	-	25	50	100	100	100	
Tartous	25	25	25	25	25	-	-	50	115	115	65	25	
Lattakia	25	25	25	25	25	-	25	150	150	100	50	50	
Idleb	35	30	25	20	-	-	-	115	125	135	150	50	
Al-Raqqa	50	40	30	20	-	-	-	-	20	30	40	50	
dair-Ezzor	90	80	50	30	-	-	-	25	75	100	100	100	
Al-Hassake	25	25	25	15	15	-	-	-	10	15	20	25	
Dar'a	50	25	20	10	10	-	-	25	50	50	25	25	
Daily T.	845	745	774	490	125	25	370	1,055	1,630	1,535	1,095	743	
Monthly T.	20,280	17,880	18,576	11,760	3,000	600	8,880	25,320	39,120	36,840	26,280	17,832	226,368

A.Table 3.18 Orange Wholesale Market (ton/day)

	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly T.
Damascus. C.	1,078	1,078	1,078	540							540	1,078	
Damascus. R	100	100	100	50	-	-	-	-	-	-	50	100	
Alleppo	300	250	200	100	25	-	-	-	-	100	200	300	
Homs	200	250	200	100	50	25	-	-	-	-	25	50	
Hama	150	100	75	50	25	-	-	-	-	-	50	100	
Tartous	300	300	250	200	150	50	-	-	-	25	100	250	
Lattakia	800	600	500	300	125	25	25	-	100	200	400	500	
Idleb	150	125	125	50	25	-	-	-	-	-	25	50	
Al-Raqqa	50	50	50	25	-	-	-	-	-	-	25	50	
Dair-Ezzor	150	150	150	150	150	100	50	-	-	-	25	100	
Al-Hassake	175	200	150	100	-	-	-	-	-	50	100	150	
Dar'a	100	75	75	25	25	-	-	-	-	-	50	75	
Daily T.	3,553	3,278	2,953	1,690	575	200	75	0	100	375	1,590	2,803	
Montly T.	85,272	78,672	70,872	40,560	13,800	4,800	1,800	0	2,400	9,000	38,160	67,272	412608

A.Table 3.19 Tomato Wholesale Markets (ton/day)

	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearlt T.
Damascus. C.	280	210	140	210	280	280	280	980	1,400	1,120	840	420	
Damascus. R	200	150	100	150	200	200	200	700	1,000	800	600	300	
Alleppo	150	100	100	150	150	200	250	250	200	150	100	150	
Homs	150	100	100	200	300	300	300	300	300	200	100	100	
Hama	50	50	50	50	75	100	150	250	200	150	50	50	
Tartous	150	200	250	200	150	50	50	100	150	110	150	200	
Lattakia	300	300	250	200	150	50	150	200	100	150	200	250	
Idleb	50	50	50	45	40	50	400	500	400	200	150	50	
Al-Raqqa	40	50	60	60	60	100	140	150	60	50	45	40	
Dair-Ezzor	100	100	100	100	120	200	250	200	120	100	100	100	
Al Hassake	50	50	50	50	75	100	125	150	100	75	50	50	
Dar'a	25	35	30	30	50	75	100	250	250	150	100	50	
Daily t.	1,545	1,395	1,280	1,445	1,650	1,705	2,395	4,030	4,280	3,255	2,485	1,760	
Monthly T.	37,080	33,480	30,720	34,680	39,600	40,920	57,480	96,720	102,720	78,120	59,640	42,240	653,400

A.Table 3.17 Potato Wholesale Market (ton/day)

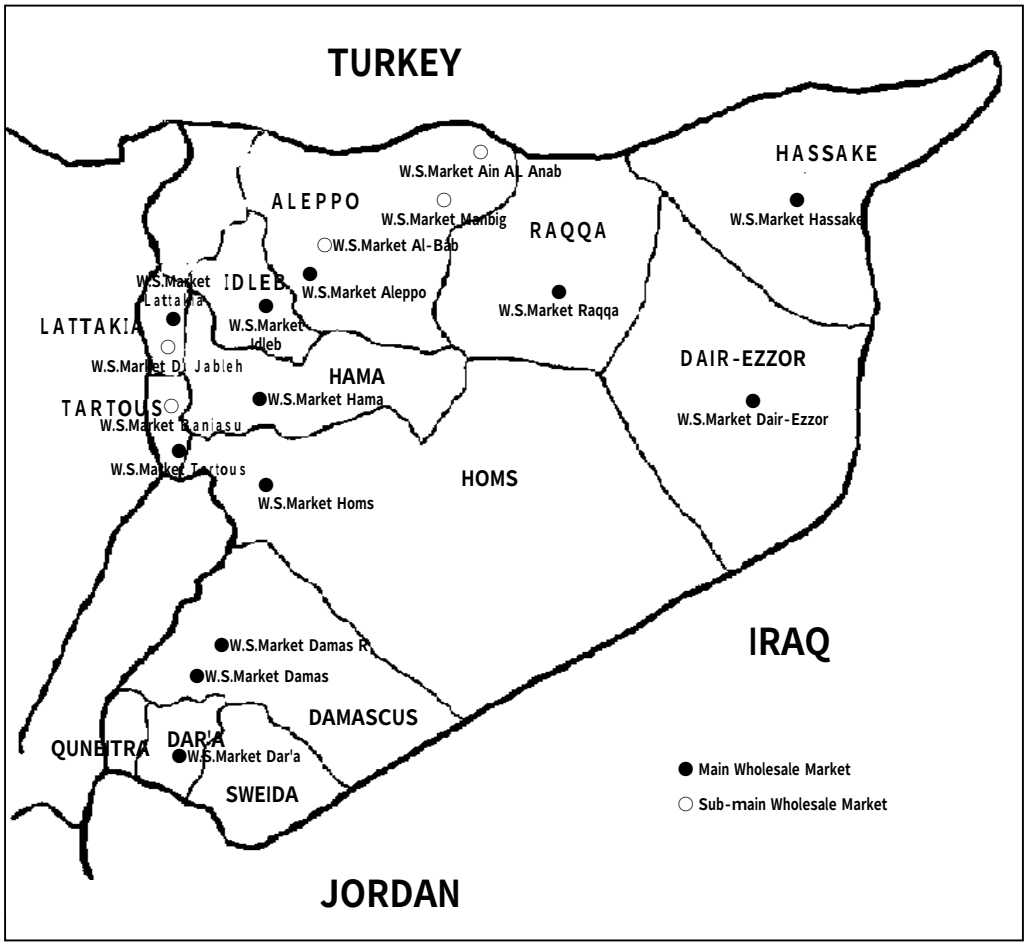
	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly T.
Damascus. C.	150	150	300	450	450	450	300	150	75	150	150	300	
Damascus. R	50	50	100	150	150	150	100	50	25	50	50	100	
Alleppo	100	100	75	75	100	200	500	300	200	100	200	300	
Homs	100	150	200	150	100	200	300	250	200	100	200	300	
Hama	300	250	200	150	100	200	250	200	150	100	75	200	
Tartous	100	100	75	50	50	75	100	75	75	50	75	100	
Lattakia	125	50	50	50	50	100	100	75	75	50	25	125	
Idleb	1,500	1,000	500	200	200	1,000	1,500	500	300	200	200	1,000	
Al-Raqqa	70	65	50	45	40	50	70	60	50	50	70	70	
Dair-Ezzor	100	100	100	100	100	100	100	100	100	100	100	100	
Al-Hassake	50	50	50	50	50	75	75	50	50	60	50	75	
Dar'a	70	70	100	100	75	100	100	75	50	50	50	75	
Daily T	2,715	2,135	1,800	1,570	1,465	2,700	3,495	1,885	1,350	1,060	1,245	2,745	
Montly T.	65,160	51,240	4,320	37,680	35,160	64,800	83,880	47,125	31,800	25,440	29,880	65,880	542,365

A.Table 3.18 Fresh Olive Wholesale Market

(ton/day)

	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly.T
Damascus. C.	-	-	-	-	-	-	-	-	61	102	102	102	
Damascus. R	-	-	-	-	-	-	-	-	-	-	-	-	
Alleppo	-	-	-	-	-	-	-	-	50	150	150	-	
Homs	-	-	-	-	-	-	-	-	25	50	50	25	
Hama	-	-	-	-	-	-	-	-	25	50	50	-	
Tartous	-	-	-	-	-	-	-	-	50	100	50	-	
Lattakia	-	-	-	-	-	-	-	-	50	150	50		
Idleb	-	-	-	-	-	-	-	-	200	350	250	50	
Al-Raqqa	-	-	-	-	-	-	-	-	10	15	25	15	
Dair-Ezzor	-	-	-	-	-	-	-	-	10	25	30	10	
Al-Hassake	-	-	-	-	-	-	-	-	-	5	15	15	
Dar'a	-	-	-	-	-	-	-	-	30	50	50	25	
Daily T.	0	0	0	0	0	0	0	0	511	1,047	822	242	
Monthly T.	0	0	0	0	0	0	0	0	12,264	25,128	19,728	5,808	62,928

A.Fig 3.1 The General Feature of 12 Wholesale Markets



ANNEX

for

Chapter 4 Findings of Commodity Studies

A.Table 4.1 Expected Production in Syria

A.Table 4.1 Expected Production in Syria

		2000	2001	2002	2005	2010
Fresh Olive		866	497	978	868	1,367
Olive Oil		165	95	187	166	261
Apple		287	263	476	589	794
Grape		409	626	674	767	1,064
Potato		485	552	619	704	885
Tomato		753	772	715	784	974
Citrus	Orange	407	465	429	540	810
	Lemon	84	79	111	70	103
	Other	310	289	302	360	540
	Total	800	833	842	970	1,453

ANNEX

for

Chapter 8 Priority Issues for Quality Improvement

A.Table 8.1 List of Participants

Citrus Producers		
1	Moutea' Treebroush	Farmer
2	Sadiq Nou'man	Farmer
3	Suliman Sa'ad	Farmer
4	Dawoud Ali Habib	Farmer
5	Imad Hayfa	Farmer
6	Yousef Sallum	Farmer
7	Ahmad Qanjarawe	Farmer
8	Mohamed Mou'ala	Farmer
9	Mohamed Ali Mou'ala	Farmer
Officials of Private Agricultural Organizations in Lattakia		
10	Thabit Ali	Director, Chamber of Agriculture, Lattakia
11	Mounir Ali	Farmers' Cooperative of Burj Al Qasab, Lattakia
Officials of the Ministry of Agriculture and Agrarian Reform, Lattakia (MAAR)		
12	Sallah Houla	Director, Dept. of Agricultural Economy, Directorate of AAR, Lattakia
13	Mahmoud Hadad	Director, Economic Studies Office, Lattakia
14	Ramsey Al Shaweesh	Director, Extension Unit of Al Qasab, Lattakia
15	Moutea' Salloum	Engineer, Extension Unit of Burj Al Qasab
16	Mohammed Samaq	Director, Dept. of Extension, Directorate of AAR, Lattakia
17	Khalid Al Abdow	Engineer, Economic Studies office, Lattakia
18	Hassan Akhras	Engineer, Economic Studies office, Lattakia
19	Tha'ar Abdallah	Director, Dept. of Citrus, Directorate of AAR, Lattakia
20	Amal Mohamed Battah	Engineer, Economic Studies office, Lattakia
21	Abd Al Karim Ibrahim	Engineer, Economic Studies office, Lattakia
22	Zouhair laba'ah	Engineer, Dept. of Agro-Economy, Directorate of AAR, Lattakia
Officials of the Ministry of Agriculture and Agrarian Reform		
23	Mohamed Khazma	Director, Directorate of Agricultural Economy
24	Elieyas Khouli	Engineer, Directorate of Agricultural Extension
25	Mohamed Hassan Al Moujahed	Engineer, Directorate of Agricultural Economy
Foreign Development Specialists		
26	H. Tsuchiya	JICA
27	R. Moreland	JICA
28	R. Ishida	JICA
29	A. Baba	JICA

A.Table 8.2 Features and Characteristics of Individuals and Groups Concerned

Classification	At Present	In Future
Producers	• A producer produces citrus. • A producer plants and produces citrus.	• A producer produces citrus fruits in good quality. • A producer contributes to improving citrus production. • A producer contributes to collective marketing of citrus fruits.
Private agricultural Organizations in Lattakia	• Farmers' cooperatives give assistance to the members. • Chamber of Agriculture contributes to implementation of marketing policies. • Packaging and marketing centers contribute to marketing of citrus fruits.	• Chamber of Agriculture participates in planning collective marketing of citrus fruits.
Governmental organizations to give agricultural services in Lattakia	• Engineers and administrators make marketing policies. • An extension worker provides agricultural extension in the filed of cultivation of citrus.	• Local government workers give guidance to producers in the field of crop production to improve quantitatively and qualitatively. • Local government qualifies and trains the technical cadre. • Local government provides expertise and assistance for operating a project.
Central Government	• Agro-technician makes agro-economic studies. • An engineer contributes to making economic and marketing studies.	• Central government offices contribute to economic studies especially on production and marketing costs. • Central government economists provide expertise and marketing data. • Foreign development specialists provide technical cooperation to develop a marketing system. • Foreign development agency (JICA) provides experts with experience and suggests on the establishment of a project.

A.Table 8.3 Participatory SWOT Analysis

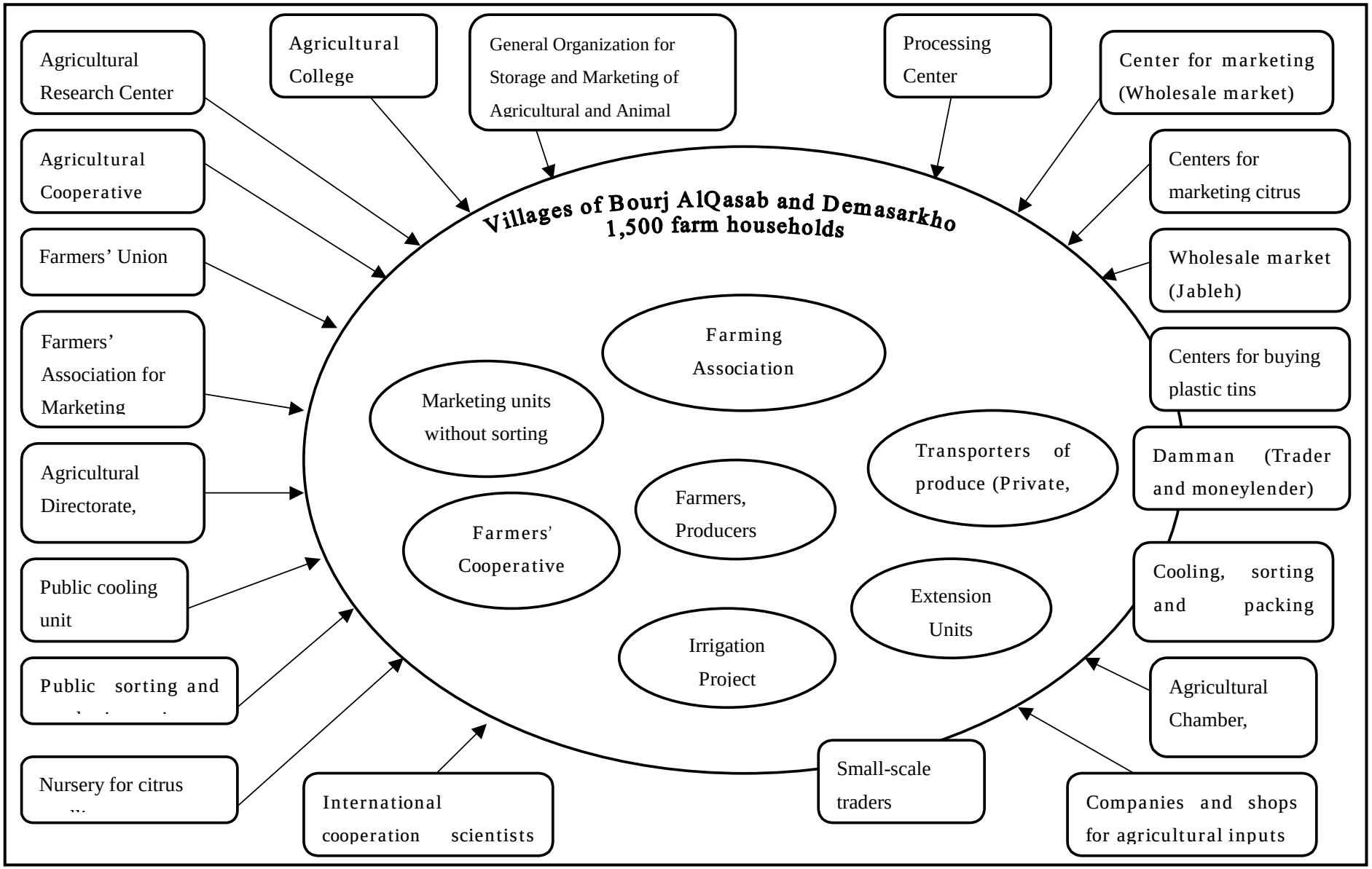
A tentative plan of "Collective Marketing Organization for Citrus Fruits"

Strengths	Weaknesses
• The production volumes for running a project is sufficient. • Marketable citrus fruits are produced sufficiently. • Container manufacturing centers exist.	• Farmers do not have experience of managing an organization. • A large amount of capital (fund) is needed for transport, storage, grading, etc. • Previous experience in collective marketing was not successful. • Farming types differ among the farmers. • Funds for harvesting work are in short before the harvesting season. • Most of citrus are sold to damman in advance. • Most of farmers borrow money with a contract to sell the produce to money lenders prior to harvesting.
Opportunities	**Threats**
• Good relations with traders exist. • The Government supports a plan of collective marketing. • There are chances for getting loans.	• There are many middlemen in the process of marketing. • The quantity of supply and demand of citrus is not clearly predicted. • Transportation companies specialized in marketing of citrus fruits are not available.

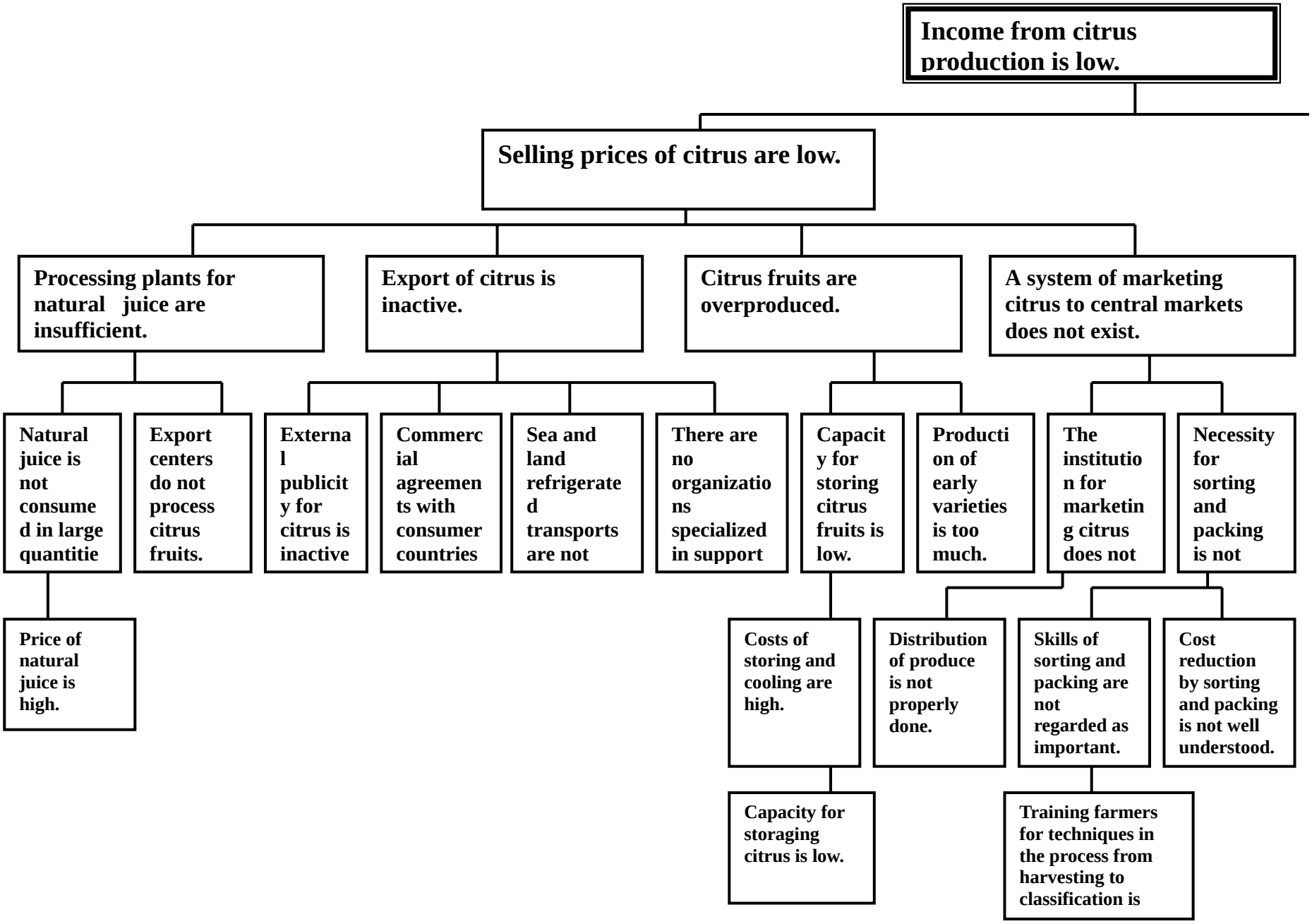
A tentative plan of "Improvement of Internal Marketing"

Strengths	Weaknesses
• Sorting and packing centers are available in the area. • Producers have a desire to solve the problem cooperatively. • Cooperative work of the producers is enhanced through establishing marketing associations.	• Technicians and skilled labor are not available. • Cooperative work of the producers is not expected. • Fund is not available.
Opportunities	**Threats**
• There exist wholesale markets in the area. • Agricultural extension and technical guidance by the Extension Unit are available. • Agricultural loans for the producers are available. • The Chamber of Agriculture is ready to work together. • Farmers' Union is active. • There exist governmental and private bodies for marketing citrus.	• Commodity prices are not stable. • There are unreliable marketing companies. • There is no comprehensive legislation for the internal marketing system. • There are many middlemen in the process of marketing of citrus fruits. • A body specialized in marketing of citrus fruits is not available.

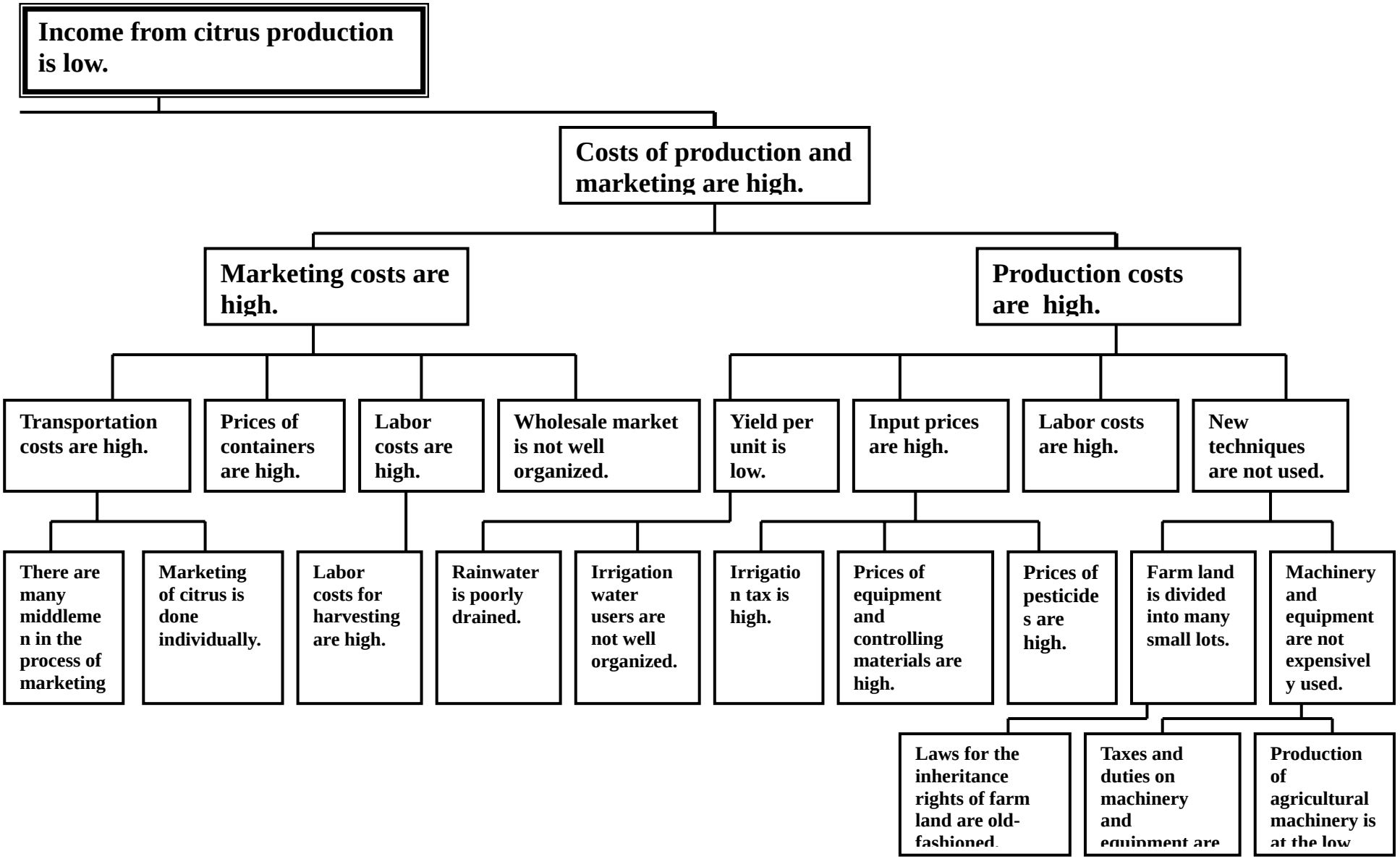
A.Fig. 8.1 Social Diagram of the Community



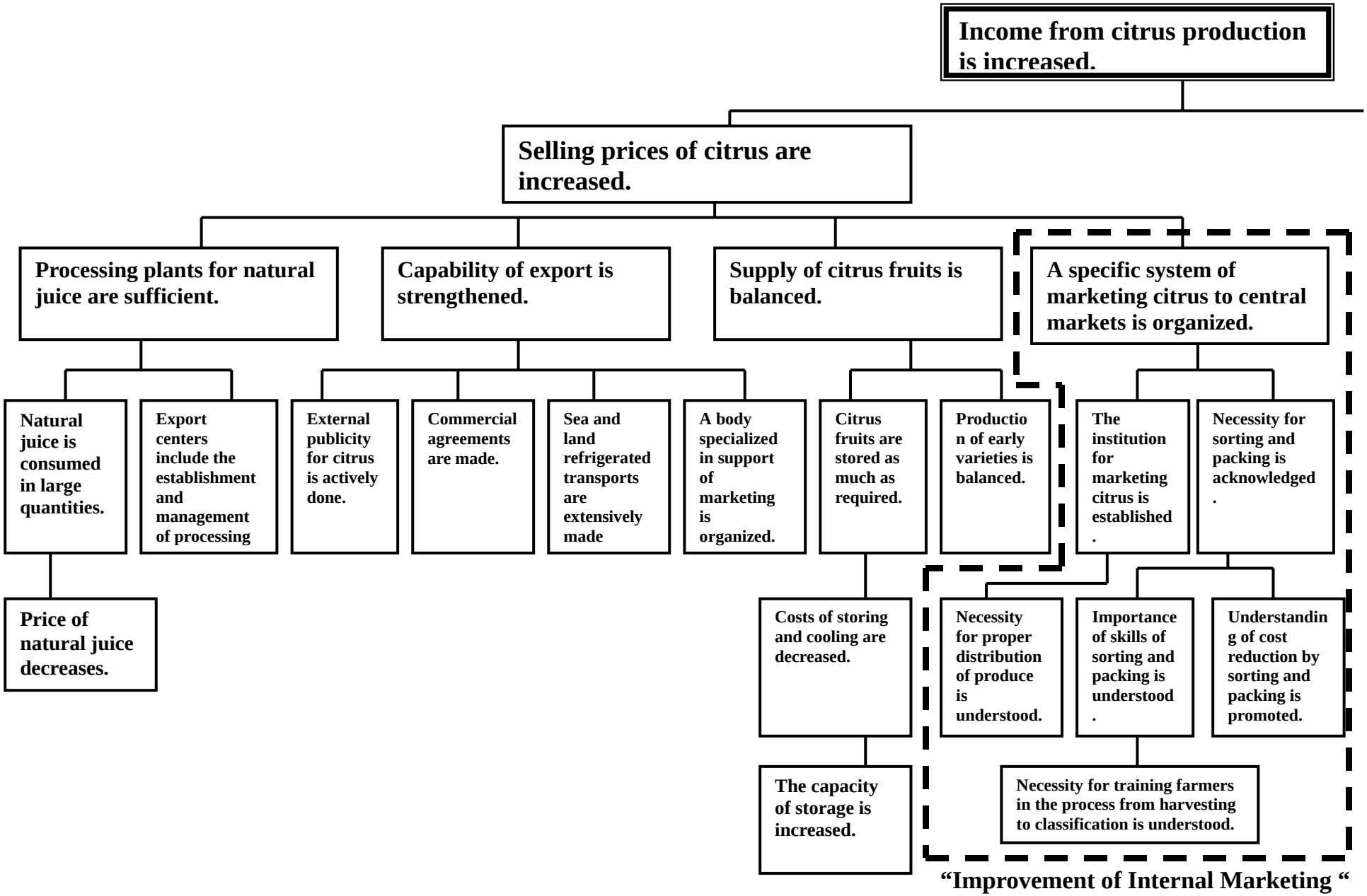
A.Fig. 8.2 Problem tree (1)



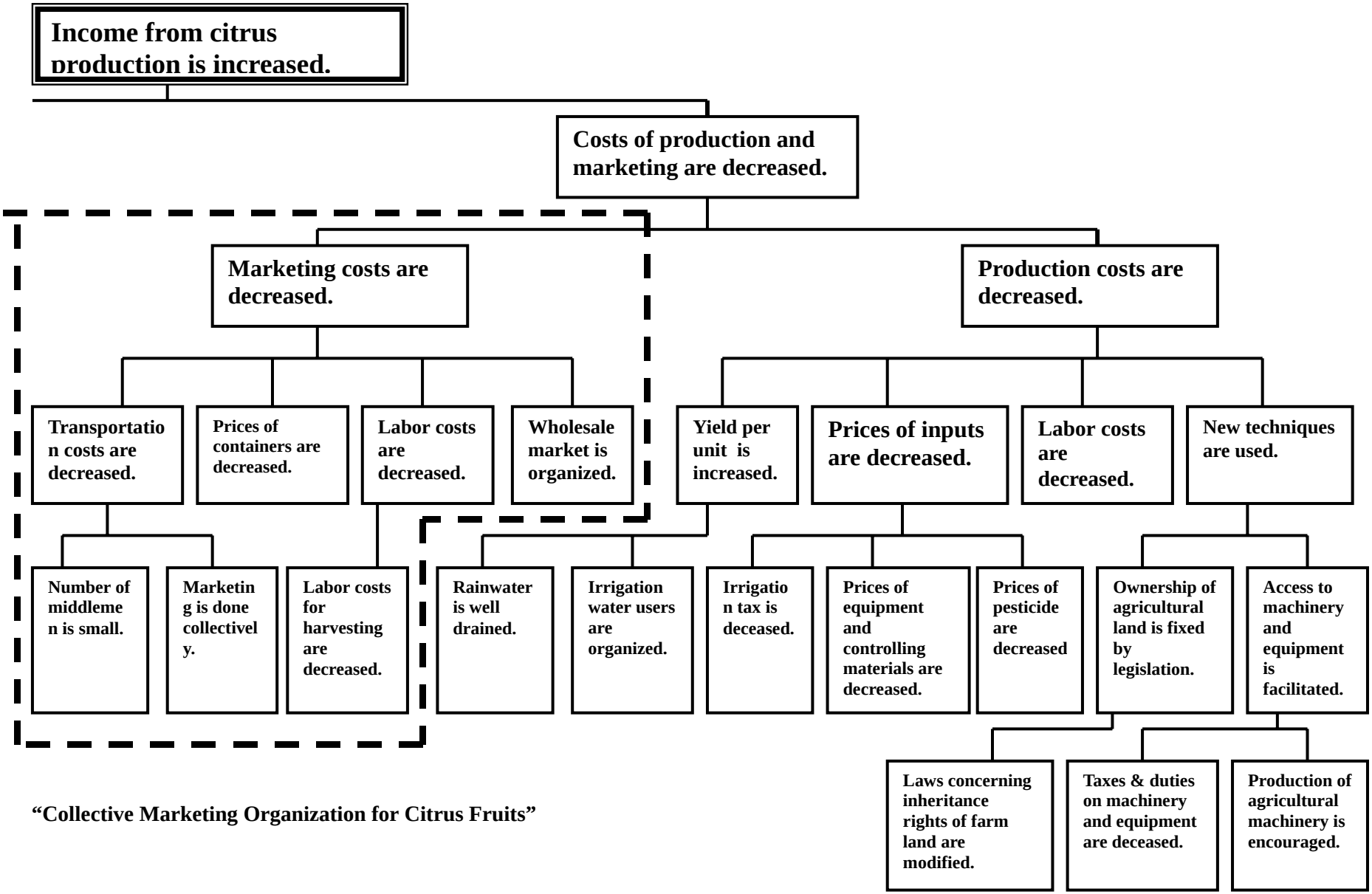
A.Fig. 8.2 Problem tree (2)



A.Fig. 8.3 Objectives tree (1)



A.Fig. 8.3 Objectives tree (2)



"Collective Marketing Organization for Citrus Fruits"

ANNEX

for

MINUTES of MEETING

SCOPE OF WORK FOR THE STUDY
MINUTES OF MEETING ON INCEPTION REPORT
MINUTES OF MEETING ON PROGREE REPORT (1)
MINUTES OF MEETING ON PROGREE REPORT (2)
MINUTES OF MEETING ON PROGREE REPORT (3)
MINUTES OF MEETING ON DRAFT FINAL REPORT

SCOPE OF WORK
FOR
THE STUDY ON THE QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS

AGREED UPON BETWEEN
THE MINISTRY OF AGRICULTURE AND AGRARIAN REFORM
OF THE SYRIAN ARAB REPUBLIC
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Damascus, 21 September, 2000

Dr. Hasan Al-Ahmad
Deputy Minister
Ministry of Agriculture and Agrarian Reform
Syrian Arab Republic

松本訓正

Mr. MATSUMOTO Kunimasa
Leader
Preparatory Study Team
Japan International Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of the Syrian Arab Republic (hereinafter referred to as "Syria"), the Government of Japan decided to conduct the Study on the Quality Improvement of Agricultural Products (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of Syria.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are as follows:

1. To make study reports on: (1) citrus, (2) apple, (3) olive and olive oil, and (4) tomato (hereinafter referred to as "the Commodities");
2. To formulate a plan of implementation and/or operation of priority project(s) proposed in the study reports; and,
3. To transfer technology to the Syrian counterpart personnel throughout the steps of the Study.

III. STUDY AREA

Study area covers the main cultivation area, processing area, and marketing area of the Commodities, however, data analysis will cover whole territory of Syria and other countries related to the Syrian commodities depending on the necessity of the study objective .

IV. SCOPE OF THE STUDY

The Study will be carried out in accordance with the tentative schedule as attached in the ANNEX (the schedule is tentative and subject to be modified if such necessity should arise during the course of the study and both parties agreed).

In order to achieve the objectives mentioned II above, the Study should cover the following items:

1. To evaluate present situation by reviewing existing data and information, and by carrying out field surveys including interviews with both governmental officials and private companies, related to agricultural production and its marketing, to obtain the latest data and information. The major components are stated as below:

(1) Natural, agricultural policy's, social, economical, commercial and technical situation;
(2) Agricultural production (quantity, quality and price, farming technology, processing technology, quality control regulation, packaging, facilities and equipment, etc.);
(3) Distribution systems (transportation and storage);
(4) Marketing of agricultural products (quantity and quality, standard, marketing information, etc.);
(5) Supporting system (institutes, extension services, associations' activities, etc.);
(6) Finances (agricultural banks, investments, existing plans, future prospects, etc.);
(7) Subsidies of the governmental body;
(8) Human resources development;
(9) Implemented, on going or under planning project(s) in agricultural sector related to the Study which is(are) cooperated or funded by other donor(s); and,
(10) Global issues (environmental aspects, etc.).

2. To analyze present situation, and identify constraints and potentials related to the items mentioned above 1.

3. To make the study reports of the Commodities, whose major components are followings:
   (1) Results of the data analyses of the aspects mentioned above 1.(1);
   (2) Demand and supply, and price by 3 or 5 grades of final products (world or regional, and Syrian trends) whose information includes the world total, main competing countries, main importing country and Syrian situation in recent 5 years;
   (3) Cost analysis and possibilities of cost reduction on farming, processing and distribution level in Syria;
   (4) Loss of storing process on farmer's level whose information includes the reasons, scale (amount and prices), countermeasures, etc.
   (5) Regulations and taxation system of products on farmer, retailer and exporter's level regarding main competing countries and Syria.
   (6) Future prospect and target to be achieved by commodity (processing and marketing); and,
   (7) Recommendations.

It should be noted that:

(Note 1) the details of each item would be determined during the Study based upon the data and information availability; and,

(Note 2) improvement of the processing of agricultural products should be within the framework of the Study.

4. To formulate a plan of implementation and/or operation of priority project(s) recommended in the study reports. The plan consists of followings:
   (1) Objectives
   (2) Activities and implementation schedule
   (3) Expected output
   (4) Cost estimation
   (5) Evaluation (confirmation of feasibility)

V. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Syria.

1. Inception Report:	Twenty-five (25) copies at the onset of the study
2. Progress Report(s):	Twenty-five (25) copies on course of the study (*See tentative schedule)
3. Interim Report:	Twenty-five (25) copies at the onset of the second stage
4. Draft Final Report	Twenty-five (25) copies at the end of the second stage *Syrian side shall submit written comments on the Draft Final Report to JICA in one month of time.
5. Final Report	Forty (40) copies within two months after the receipt of comments on the Draft Final Report from Syrian side

VI. UNDERTAKING OF THE GOVERNMENT OF SYRIA

1. To facilitate the smooth conduct of the Study, the Ministry of Agriculture and Agrarian Reform (hereinafter referred to as "MAAR") shall take necessary measures:
   (1) To secure the safety of the Japanese study team:
   (2) To permit the members of Japanese study team to enter, leave and sojourn in Syria for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees:
   (3) To exempt the members of Japanese study team from taxes, duties and other charges on equipment, machinery and other materials brought into Syria for the conduct of the Study;
   (4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study;
   (5) To provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into Syria from Japan in connection with the

implementation of the Study;

(6) To secure permission for entry into private properties or restricted areas for the conduct of the Study;

(7) To secure permission for the Japanese study team to take all data and documents (including photographs) related to the Study out of Syria to Japan; and,

(8) To provide medical services as needed. Its expenses will be chargeable to members of the Japanese study team.

2. The Government of Syria shall bear claims, if any arise against members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

3. MAAR shall act as a counterpart agency to the Japanese study team and also as a coordinating body in relations with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. MAAR shall, at its own expense, provide the Japanese study team with the following, in cooperation with other organizations concerned:

(1) Available data and information related to the Study;

(2) Counterpart personnel;

(3) Suitable office space with necessary equipment in Damascus; and,

(4) Credentials or identification cards.

VII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. To dispatch, at its own expense, the study team to Syria; and,

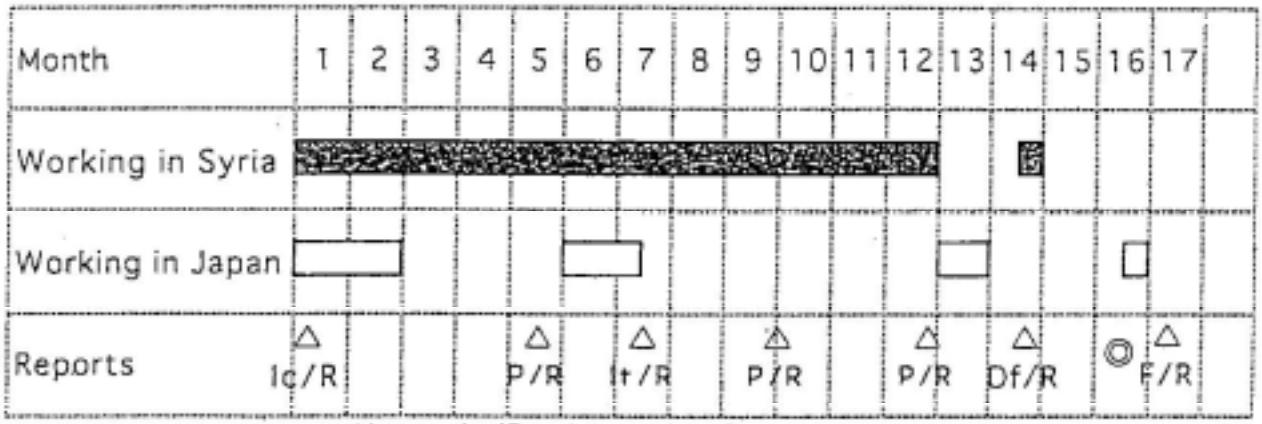
2. To pursue technology transfer to the Syrian counterpart personnel in the course of the Study.

VIII. CONSULTATION

JICA and MAAR shall consult with each other in respect of any matter that may arise from or in connection with the Study.

ANNEX

TENTATIVE SCHEDULE



Note
Ic/R: Inception Report
P/R: Progress Report
It/R: Interim Report
Df/R: Draft Final Report
F/R: Final Report
◎: Comment on Df/R by the Syrian Side

MINUTES OF MEETING

FOR

THE STUDY ON THE QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS

AGREED UPON BETWEEN

THE MINISTRY OF AGRICULTURE AND AGRARIAN REFORM

OF THE SYRIAN ARAB REPUBLIC

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

Damascus, 21 September, 2000

Dr. Hasan Al-Ahmad
Deputy Minister
Ministry of Agriculture and Agrarian Reform
Syrian Arab Republic

Mr. MATSUMOTO Kunimasa
Leader
Preparatory Study Team
Japan International Cooperation Agency

In response to the request of the Government of the Syrian Arab Republic (hereinafter referred to as "Syria"), the Japanese preparatory study team (hereinafter referred to as "the Team") headed by Mr. MATSUMOTO Kunimasa was sent to the Syrian Arab Republic by the Japan International Cooperation Agency from 11 to 21 September, 2000.

The Team held a series of discussions in relation to the scope of the study on the Quality Improvement of Agricultural Products in the Syria (hereinafter referred to as "the Study") with representatives of the Ministry of Agriculture and Agrarian Reform of Syria (hereinafter referred to as "MAAR") and other relevant authorities. The list of participants in the series of meetings is attached as ANNEX.

The main points discussed regarding the scope of the Study are as follows;

1. The commodities to be studied are : (1) citrus, (2) apple, (3) olive and olive oil, and (4) tomato.

2. Agricultural Policy in Syria

Syrian agricultural policy, includes the cost reduction of agricultural products and the efforts to reduce these costs to strengthen competitive power in the markets will be continued by all relative sectors (MAAR, farmer, processor, whole sellers, exporters, etc.).

3. Cost analysis of foreign countries

MAAR requested that the necessity of cost analysis on farmers production in foreign countries related to the item mentioned in IV. SCOPE OF THE STUDY 3.(3) of the Scope of Work. The Team explained that Japanese side could not accept this request considering the Japanese budget scale on the Study.

4. Marketing research of foreign countries

Both sides recognized that its necessity of conducting marketing research in foreign countries related to Syrian agriculture closely, and number of the foreign country to be researched is maximum five(5) countries.

MAAR requested that the following are the countries to be researched.

(1) Spain (olive oil and tomato)
(2) Italy (citrus and olive oil)
(3) Morocco (citrus and olive oil)
(4) Turkey (citrus and apple)
(5) Russia (consumers price information only for commodities, if possible)

The Team promised to convey the request to JICA Headquarter.

5. Final report in Arabic language

MAAR requested that the final report would be made in Arabic in order to utilize the report timely and efficiently. The Team promised to convey the request to JICA Headquarter.
The language adopted in report is English.

6. Counterpart personnel training in Japan

MAAR requested that the counterpart personnel would take the opportunity of training in Japan related to the Study and the number of trainees would be three(3). The Team promised to convey the request to JICA Headquarter.

7. Counterpart personnel

The Team requested to MAAR and MAAR agreed to appoint enough counterpart personnel to the Japanese main study team in the course of the Study. Especially the Japanese main study team leader will be the counterpart to the director of Agricultural Economics of MAAR.

8. Information disclosure

The Team requested that the final report should be disclosed to the public. MAAR promised to convey the request to the State Planning Commission (SPC).

ANNEX

LIST OF PARTICIPANTS

Syrian side

Ministry of Agriculture and Agrarian Reform

Mr. Mohamaed Khazma	Director, Directorate of Agricultural Economic
Mr. Bashar Friesh	Director, Directorate of Arab & International Relations
Dr. Adonan Zowain	Agricultural Economist, Directorate of Agricultural Economic
Ms. Yusura Ishak Samzas	Directorate of Arab & International Relations
Mr. Issam Haj Hassan	Directorate of Arab & International Relations
Mr. Abdul Kadar Isa	Director, Directorate of Agriculture in Aleppo
Mr. Marher Hajiar	Engineer, Directorate of Agriculture in Aleppo
Mr. Mufid Khaizaran	Director, Olive Bureau, Idleb
Dr. Feiruz Sberh	Director, Directorate of Agriculture in Lattakia
Mr. Mahmoud Haddad	Directorate of Agriculture in Lattakia

Other organization

Mr. Mr. Omar M. Al-Shalat	Chairman of Federation of Agricultural Chamber
Dr. Samir El-Sabae Ahmed	Head, Human Resources Development, ICARDA
Dr. Noureddin H. Mona	Agricultural Economist, National Consultant, ICARDA
Dr. Faik Bahhady	Cousultant, Sheep & Range Management, ICARDA
Mr. Ali Ali Adib	Pressident, "National Packing & Storing Co."
Mr. Bashard Bajur	Director, Lattakia Branch, Fruits and Vegetable Company
Mr. Fadel Kanjo	"NADEI" olive oil factory
Mr. Swein Rcey	President of an olive oil factory
Mr. Abdul Ilah Adib	President, S.A.Co.Ltd.
Mr. Gassan Sultani	A citrus farmer
Mr. Nabil Sihada	Staff, "UGARIT" juices company
Mr. Harin M.	A trade and storage company

Japanese side

Preparatory Study Team

Mr. MATSUMOTO Kunimasa	Leader
Mr. OHASHI Makoto	Member, Processing & Quality Control of Agricultural Products
Mr. ONODERA Akira	Member, Farming
Mr. TANIOKA Kiyoshi	Member, Market Research
Mr. KATO Kenichi	Member, Project Planning

JICA Syria Office

Mr. YASUDA Kiyoshi	Project Formulation Advisor

MINUTES OF MEETING
ON
INCEPTION REPORT
FOR
THE STUDY
ON
QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS
THE SYRIAN ARAB REPUBLIC

BETWEEN
MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MAAR).
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Damascus January 21, 2001

Dr. Hasan Al-Ahmad
Deputy Minister
Ministry of Agriculture and Agrarian Reform
Syrian Arab Republic

Mr. TSUCHIYA Haruo
Team Leader
JICA Study Team

Witnessed by

Agr. Eng. Mohamed Khazma
Director of Agricultural Economics
Ministry of Agriculture and Agrarian Reform
Syrian Arab Republic

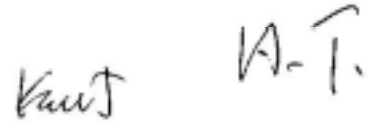
Mr. MATSUMOTO Kunimasa
JICA Advisory Group

In accordance with the Scope of Work (hereinafter referred to as "S/W") for the Study on Quality Improvement of Agricultural Products, the Syrian Arab Republic (here in after referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Mr. TSUCHIYA Haruo for the execution of the First Field Study in January 2001.

At the commencement of the study, the Study Team duly submitted English Inception Report and Arabic Summary of the Report to the Ministry of Agriculture and Agrarian Reform and a series of meetings were held with the participants as listed in the attachment to explain and discuss the Basic Approach, methodology, and schedule of the Study to the Syrian side from January 18 to January 21, 2001.

The major points of the discussion were as follows.

1. Necessary clarification of wording in the Inception Report was made through elaborate discussion between the two parties.
2. The Syrian side confirmed that the content of the Inception Report was prepared in compliance with the conditions set forth in S/W and agreed to proceed to the next stage of the Study based on the Inception Report.
3. Regarding citrus, as one of the commodities mentioned in the S/W, the Syrian side requested to conduct the study for all kinds included in citrus category. The Japanese side selected orange as a representative for its importance to the Syrian agriculture.
4. Upon the request of the JICA Study Team, the Syrian side agreed to nominate national team members, based on their specialization/expertise for the JICA Study Team.
5. Syrian side would provide the necessary office space with relevant equipment and furniture in the Ministry of Agriculture and Agrarian Reform (Damascus) to the JICA Study Team as mentioned in S/W.



List of participants of the meeting

January 21, 2001

The Syrian side,

Ministry of Agriculture and Agrarian Reform

1.	Dr. Hasan Al-Ahmad	Deputy Minister
2.	Agr. Eng. Mohamed Khazma	Director, Directorate of Agricultural Economic
3.	Mr. Abdul Moean Kodmani	
4.	Dr. Shabab Nasser	
5.	Dr. Adnan Zwain	
6.	Dr. Ally Abde Al Aziz	
7.	Dr. Majd Ayoub	
8.	Dr. Riad Ibrahim	
9.	Agr. Eng.Abdul Razak Homsi	
10.	Mr. Elias Khouli	
11.	Mr. Monhamed Al Bahri	

The Japanese side

JICA Advisory Group

1.	Mr. MATSUMOTO Kunimasa	JICA Advisory Group

JICA Study Team

1.	Mr. TSUCHIYA Haruo	Leader
2.	Mr. MORELAND Robert	Member
3.	Mr. BABA Atsushi	Member
4.	Mr. TORII Kazuo	Member
5.	Dr. ISHIDA Ryosaku	Member
6.	Mr. WATANABE Toshio	Member
7.	Mr. NAGAI Yoshito	Member
8.	Mr. KAGAI Etsuro	Member
9.	Mr. MURAMATSU Yasuhiko	Member

MINUTES OF MEETING
ON
PROGRESS REPORT (1)
FOR
THE STUDY
ON
QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS
THE SYRIAN ARAB REPUBLIC

BETWEEN
MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MAAR)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Damascus, March 13, 2001

Agr. Eng. Mohamed Khazma
Director
Directorate of Agricultural Economics
MAAR

Mr. Haruo Tsuchiya
Leader
JICA Study Team

In accordance with the Scope of Work for the Study on the Quality Improvement of Agricultural Products (hereinafter referred to as "the Study"), agreed on September 21, 2000 between the Japan International Cooperation Agency (JICA) and the Ministry of Agriculture and Agrarian Reform, JICA dispatched to Syria the Team headed by Mr. Haruo Tsuchiya for implementation of the Study.

At the commencement of the Field work, the Study Team submitted to and discussed with the Syrian side the Inception Report that included the methods, approach and schedule of the Study.

In line with the schedule of the Inception Report, agreed upon between the two parties on January 21 2001, the Field Study (1) was conducted from the middle of January to the middle of March 2001.

At the end of the Field Study (1), the Study Team has officially submitted the Progress Report (1) which was discussed with the counterpart agencies on March 12 2001. Lists of the participants are attached. The report included the overview of the current situation of the production and marketing of agricultural commodities, mainly focusing on the five commodities referred to in the Scope of work from the Study.

While expressing satisfaction on the cooperation and collaboration during the course of the Study, both sides confirmed the followings.

1. The Syrian side confirms that the contents of the Progress Report (1) are prepared in due compliance with the conditions and methodology set forth in the Inception Report for the Study.

2. The detailed review on the Report will be made by the Syrian side and additional comments if any, will be sent to the Study Team so as to be reflected in the succeeding study.

3. Both sides agree in principle that the Study Team will proceed to the next stage of the Study in accordance with the methodology and schedule mentioned in the Progress Report.

LIST of PARTICIPANTS of MEETING

Syrian Side

Ministry of Agriculture and Agrarian Reform (MAAR)

Dr. Hasan Al-Ahmad	Deputy Minister
Agr. Eng. Mohamed Khazma	Director, Agric. Economics Direct.
Dr. Adnan Zwain	Agric. Economics Direct.
Mr. Majd Meirza	Agric. Economics Direct.
Dr. Shabab Nasser	Deputy Director, Statistics Direct
Mr. Elias Khouli	Agric. Extension Direct.
Mr. Mohamed Al Bahri	Agric. Extension Direct.
Dr. Riadh Ibrahim	Deputy Director, Agric. Affairs Direct.

Agriculture College, Damascus University

Dr. Ally Abde Al Aziz	Lecturer

Ministry of Industry

Agr. Eng. Abdul Razak Homsi	Director, Food Standards Direct. (SASMO)

Japanese Side

1) JICA Study Team

Mr. Haruo Tsuchiya	Team Leader
Mr. Robert Moreland	Member
Mr. Atsushi Baba	Member
Mr. Kazuo Torii	Member
Dr. Ryosaku Ishida	Member
Mr. Toshio Watanabe	Member
Mr. Yoshito Nagai	Member
Mr. Katsutoshi Ohurasaka	Member
Mr. Etsuro Kagai	Member
Mr. Yoshitsugu Ishikawa	Member

H. T.

MINUTES OF MEETING
ON
PROGRESS REPORT (2)
FOR
THE STUDY
ON
QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS
THE SYRIAN ARAB REPUBLIC

BETWEEN
MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MAAR)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Damascus, July 18, 2001

Dr. Hasan Al-Ahmad
Deputy Minister
Ministry of Agriculture and Agrarian Reform
(MAAR)

Mr. Haruo Tsuchiya
Leader
JICA Study Team

In accordance with the Scope of Work for the Study on the Quality Improvement of Agricultural Products (hereinafter referred to as "the Study"), the Government of Japan consecutively dispatched since January 2001 the Study Team through Japan International Cooperation Agency (JICA) for the implementation of the Study to the Syrian Arab Republic.

Following to the Field Study (1) conducted from the latter part of January to the middle of March 2001, the Study Team for the Field Study (2), headed by Mr. Haruo Tsuchiya, was dispatched by JICA from the early part of May to the middle of July 2001.

The Field Study (2), included in depth study on respective field based on the results of the Field Study (1), together with the outcome of the survey conducted by local consultants. .

During the Field Study (2), a workshop was held at the Ministry of Agriculture and Agrarian Reform (MAAR) on July 3rd, 2001, regarding the Wholesale Market, and Demand/ Supply of Orange in Syria. The former introduced the system and current situation of Central Market for fresh fruit and vegetables in Japan, using video films. The latter related the provisional outcome of the Study on the issue.

At the end of the Field Study (2), the Study Team has officially submitted the Progress Report (2) and Commodity Reports (draft) for orange and potato. The Team explained progress of the Study based on the above reports to the counterparts on July 17th 2001. Discussion was made on the contents of reports, with exchange of views and ideas on the and also on succeeding study.

While expressing satisfaction on the cooperation and collaboration during the course of the Study, both sides confirmed the following:

1. The Syrian side confirms that the contents of the Progress Report (2) are prepared in due compliance with the conditions and methodology set forth in the Inception Report for the Study.

2. Further detailed review of the Reports will be made by the Syrian side and additional comments if any, will be sent to the Study Team so these comments can be reflected in the succeeding study.

3. Both sides agree in principle that the Study Team will proceed to the next stage of the Study in accordance with the methodology and schedule mentioned in the Progress Report.

H. T.

LIST of PARTICIPANTS of MEETING

Syrian Side

Ministry of Agriculture and Agrarian Reform (MAAR)

Dr. Hasan Al-Ahmad	Deputy Minister
Agr. Eng. Mohamed Khazma	Director, Agric. Economics Direct.
Dr. Adnan Zwain	Agric. Economics Direct.
Mr. Majd Meirza	Agric. Economics Direct.
Dr. Shabab Nasser	Deputy Director, Statistics Direct
Mr. Elias Khouli	Agric. Extension Direct.
Mr. Saleh Osman	Agric. Extension Direct.
Mr. Riadh Ibrahim	Deputy Director, Agric. Affairs Direct.

Agriculture College, Damascus University

Dr. Ali Mohmud Aziz	Lecturer

Ministry of Industry

Agr. Eng. Abdul Razak Homsi	Director, Food Standards Direct. (SASMO)

Adviser

Mr. Akira Matsukawa	JICA Expert

Japanese Side

JICA Study Team

Mr. Haruo Tsuchiya	Team Leader
Mr. Robert Moreland	Member
Mr. Atsushi Baba	Member
Mr. Kazuo Torii	Member
Dr. Ryosaku Ishida	Member
Mr. Etsuro Kagai	Member
Mr. Katsutoshi Ohurasaka	Member

H. T.

MINUTES OF MEETING
ON
PROGRESS REPORT (3)
FOR
THE STUDY
ON
QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS
THE SYRIAN ARAB REPUBLIC

BETWEEN
MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MAAR)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Damascus, February 18, 2002

Agr. Eng. Mohamed Khazma
Director
Directorate of Agricultural Economics
MAAR

Mr. Haruo Tsuchiya
Leader
JICA Study Team

In accordance with the Scope of Work for the Study on the Quality Improvement of Agricultural Products (hereinafter referred to as "the Study"), the Government of Japan consecutively dispatched since January 2001 the Study Team through Japan International Cooperation Agency (JICA) for the implementation of the Study to the Syrian Arab Republic.

At the end of the Field Study (3), the Study Team has officially submitted the Progress Report (3) and 3 Commodity Reports (Olive & Olive oil, Tomato, Apple).
Discussion was held between the Syrian side, headed by Mr. Mohamed Khazma, Director of Agricultural Economics, MAAR, and the JICA Study Team, headed by Mr. Haruo Tsuchiya on 18 February 2002, on the above reports and relevant issues on future works.
While expressing satisfaction on the cooperation and collaboration during the course of the Study, both sides confirmed the followings.

1. The Syrian side confirms that the contents of the Progress Report (3) are prepared in due compliance with the conditions and methodology set forth in the Inception Report of the Study.

2. The detailed review on the Report will be made by the Syrian side and additional comments, if any, will be sent to the Study Team so as to be reflected in the succeeding study.

3. Both sides agree in principle that the Study Team will proceed to the next stage of the Study in accordance with schedule mentioned in the Progress Report.

LIST of PARTICIPANTS of MEETING

Syrian Side

Ministry of Agriculture and Agrarian Reform (MAAR)

Agr. Eng. Mohamed Khazma	Director, Agric. Economics Direct.
Mr. Hassan Swar	Deputy Director, Economics Direct.
Mr.Nazir Al Khabaz	Agric. Economics Direct.
Mr.mahmoud Hadad	Director of Economic Studies Office In Lattakia
Dr. Riadh Ibrahim	Deputy Director. Agric. Affairs Direct.
Mr. Elias Khouli	Agric. Extension Direct.
Mr. Saleh Othman	Agric. Extension Direct.

Agriculture College. Damascus University

Dr. Ally Abde Al Aziz	Lecturer

Ministry of Industry

Agr. Eng. Abdul Razak Homsi	Director, Food Standards Direct. (SASMO)
Mr. Samer Al Khatib	International Cooperation Direct.

Japanese Side

1) JICA Study Team

Mr. Haruo Tsuchiya	Team Leader
Mr. Robert Moreland	Member
Mr. Atsushi Baba	Member
Dr. Ryosaku Ishida	Member
Mr. Kazuo Torii	Member
Mr. Etsuro Kagai	Member
Mr. Yoshitsugu Ishikawa	Member

MINUTES OF MEETING
ON
DRAFT FINAL REPORT
FOR
THE STUDY
ON
QUALITY IMPROVEMENT OF AGRICULTURAL PRODUCTS
THE SYRIAN ARAB REPUBLIC

BETWEEN
MINISTRY OF AGRICULTURE AND AGRARIAN REFORM (MAAR)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Damascus, May 29, 2002

Dr. Nahy Al Shibany
Director
Directorate of Agricultural Economics
MAAR

Mr. Haruo Tsuchiya
Leader
JICA Study Team

Witnessed by

Agr. Eng Mohamed Khazma
Leader of Counterpart Team
Directorate of Agricultural Economics

Witnessed by

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Ms. Makiko Ue
JICA Advisory Team

At the final stage of the Study on the Quality Improvement of Agricultural Products (hereinafter referred to as " the Study"), JICA dispatched the Study Team from May 20 to May 31,2002, to submit the Draft Final Report prepared through a series of field surveys and discussions.

A meeting was held on May 26, 2002 at the Ministry of Agriculture and Agrarian Reform, for discussion on the report. A list of participants of the meeting is attached as an Annex.

Through the meeting, intensive discussion and exchange of views were made, leading to the following conclusions.

1. The Syrian side has agreed and accepted, in principle, the contents of the draft final report submitted by JICA Study Team

2. Further comments on the draft final report, if any, will be transmitted to JICA Study Team within one month, to be reflected in the Final Report.

3. Both sides expressed satisfaction on the excellent cooperation and collaboration between the two sides during the course of the Study

4. Both side confirmed that the report of the study will be open to all related parties

M. T.
M. V.

LIST of PARTICIPANTS of MEETING

Syrian Side

Ministry of Agriculture and Agrarian Reform (MAAR)

Agr. Eng. Mohamed Khazma	Leader of Counterpart Team
Mr. Hassan Swar	Agric. Economics Direct.
Mr.Nazir Al Khabaz	Agric. Economics Direct.
Dr. Riadh Ibrahim	Deputy Director. Agric. Affairs Direct.
Mr. Elias Khouli	Agric. Extension Direct.
Mr. Saleh Othman	Agric. Extension Direct.

Agriculture College. Damascus University

Dr. Ally Abde Al Aziz	Lecturer

Ministry of Industry

Agr. Eng. Abdul Razak Homsi	Director, Food Standards Direct. (SASMO)
Mr. Samer Al Khatib	International Cooperation Direct.

Japanese Side

1) JICA HQ

Miss Machiko Ue	Staff of JICA

2) JICA Study Team

Mr. Haruo Tsuchiya	Team Leader
Mr. Atsushi Baba	Member
Mr. Robert Moreland	Member
Mr. Etsuro Kagai	Member
Mr. Katsutoshi Ohurasaka	Member
Mr. Yoshitsugu Ishikawa	Member

H. T.
M. U.