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
(Summary)

AUGUST 2002

TAIYO CONSULTANTS CO.,LTD

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TABLE of CONTENTS

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. 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 of 13.5% and a low of –1.8%. 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 limited 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.

2.1.2 Population and Employment

The population is young with 56% under the age of 20 at the last (1994) census. 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.

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. 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%. 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.

The largest of import sources is the EU (30% of the total), of which Germany, the United Kingdom and Italy provide 65%. 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 wholesale and retail price indexes of the Central Bureau of Statistics averaged 5.3% for 1990-99. Both indexes rose by 9.1% annually for 1990-95 and 1.0% for 1995-99.

2.2 The Agriculture Sector

2.2.1 Crops Sub Sector

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. Forest and steppe/pasture land occupy 8.6 million hectares, leaving 6.0 million hectares cultivable, of which 92% is recorded as cultivated.

Field crops in 2000 occupied 4.7 million hectares, or 80% of the total cropped. 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. Wheat and barley are the greatest users of agricultural land, in 2000 being grown on 64% of the total cropped. The next

most important were olive (10% of the total cropped), cotton (6%) and lentil (3%).

GOS has moved to secure production and lift yields by increasing the area with irrigation. The area of crop under irrigation increased 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.

The crops sub sector gives 70% of sector product. Production of all major crops, except barley, increased by more than population in the 1990s and lifted Syria's food self reliance. The major trends 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 GOS's initiative to increase the 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.

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.

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

2.3.1 Fruit

(1) Area

The area of most varieties expanded throughout the 1990s 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 1.1. 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 study subject crops 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.

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 for its classification of vegetables and the exact value of output is thus unclear. Vegetable cropping is very diverse, with at least 20 varieties on more than 1% of cropped area. The most important in area are potato (21% of total vegetable), tomato (14%), water melon (10%), cucumber (7%) and eggplant (6%).

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 almost constant and that of field tomato fell greatly; however, was compensated by a shift to more intensive 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 1.2. 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

Chapter 3 Review of Fruits and Vegetables

3.1 Farm Production and Shipment

3.1.1 Production of Fruits

Total planted area of fruit trees in 2000 was almost 800,000 ha, 4.3% of Syria's total land. Olive accounts for about 60% of total planted area and grape, pistachio, apple and citrus for respectively 9%, 7%, 6% and 3%. Fruit trees are concentrated in the western governorates of Aleppo, Idleb, Tartous and Lattakia, due to their suitable weather conditions. 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 such as Lattakia and Tartous.

Total production of fruits was 2.3 million tons in 1999 and 2.9 million tons in 2000. The year 1999 gave poor harvests of olive and fruits such as cherry, apple, pistachio and orange. There has been great increase in production of major fruits since 1993. Increased output of olive, apple, almond, cherry and orange came from mainly increase planted area and that of orange, mandarin, pomegranates, almonds, pistachio, cherries and pear from mainly increased yield.

Yields of fruits increased remarkably in recent years, with the greatest improvement being achieved for orange and other citrus (mainly mandarin). Yields of orange, mandarin, lemon, plum and figs in Syria are much higher than those of Europe and the world, while those of apple, pear, olive and pistachio are lower.

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.

While many farmers are introducing biological control and organic farming to give safe and marketable products, they are not so eager to produce uniform products with good appearance. For example, most farmers do not thin young trees or prune disused branches, resulting in much variation in quality – of shape, color and taste.

Citrus and peach are mostly irrigated, while fruits such as olive, pistachio, grape and apple are mostly rainfed. The irrigated area of olive is only 6% of the total and that of pistachio, grape and apple respectively 5%, 15% and 34%.

MAAR is developing much new farmland, where many species of fruit trees are being introduced. Selection of fruit species for these areas should include consideration of the costs of irrigation facilities and the need for more labor.

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. Therefore, consumers' preferences should be considered, along with natural conditions, in selecting fruit species for newly developed areas.

For export, higher quality and low cost are critical to gain markets. Thus, 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

The definition of "vegetables" in Syria is unconventional. 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 planted area of vegetables in 2000 was about 114,000 ha, or 0.6% of total land. Major vegetables are potato, tomato, watermelon, cucumber, egg plant, musk melon and broad beans, representing respectively 20, 18, 12, 6, 5, 4 and 4% of total area. Vegetables are concentrated in the western governorates of Aleppo, Idleb, Tartous, Lattakia, Hama and Damascus, which are favored by precipitation, irrigation water and soil conditions. Total planted area of vegetables has declined gradually in recent years, although production has risen due to increases in yield.

Total production of vegetables was 2.05 million tons for 1991-92 and 2.18 million tons for 1999-2000, an increment of only 6% over 8 years. Tomato, potato, watermelon, eggplant and cucumber hold big shares, giving respectively 35, 22, 9, 6 and 4% of total weight. Production of tomato, potato, dry garlic and lettuce has increased, while that of watermelon, egg plant, cucumber and dry onion stayed the same or fell a little.

Yields of most vegetables are increasing gradually. 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 the world average, but lower than that of Europe. Around half of the vegetables have average yields higher than those of the world but lower than those of Europe.

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 but, in near future, seed will be produced by GOSM.

3.1.3 Harvest and Shipment

Most fruit and vegetables in Syria are harvested manually and mechanized harvesting is limited. For the target commodities, harvest of only potato is even partly mechanized – by "potato diggers". Rough or careless handling in harvest damages fruit and tubers physically, leading to increased respiration, moisture reduction by heat, easier invasion by microbes and consequently, further losses in later stages and to inferior appearance. Physical damage is often not immediately visible and becomes so only long after its occurrence or only when skin is peeled.

Syrian farmers usually ship their fruit and vegetables to wholesale markets directly and individually soon after harvest. After harvest, farmers sort their produce, by sight and size, on the farm. Use of tools or machines for sorting is very limited and standards and specifications are not precisely applied. Generally, large products are for sale and small products for farmers' own consumption or animal feed. Farmers make frequent trips (more than 10 per season) to the market by small open trucks, thereby causing damage, increasing cost and spending much time.

Fresh olive fruit is usually processed to oil or table olive for consumption. Oily varieties or smaller, lower grade fruits are used for oil extraction. Fresh fruit for table olive is mostly shipped to wholesale markets soon after harvest, like other commodities.

(3) Losses

Losses of fruit and vegetables occur at all stages between the field and the consumer. However, the definition of "loss" is not clear and only limited data are available. To clarify losses of targeted commodities, a small loss assessment survey was made. The survey reveals:

- Losses caused by harvesting operation (physical damage) are sizable in orange (1.8-6.0%), tomato (1.4-4.2 % for open fields and 3.0-5.6 % for greenhouses) and potato (2.5-4.0%), but not much in apple (1.5-2.0%). Such losses can be reduced by more careful handling of fruit or tubers in harvest.
- Losses caused by other than harvesting operations make produce unmarketable or marketable only at very low price. Such damage, caused by diseases or insects, serious deformity and immaturity, is substantial in apple, orange (20-30% for each) and olive (30-50). Reduction of such losses depends on improving pre-harvest technology.

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

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

3.2 Marketing and Processing

3.2.1 Overview of Fruit and Vegetable Marketing

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

Around 3.2 million tons of fruit and vegetables passed through the wholesale markets in 2000. Other marketing channels are direct sales by farmers to processors, exporters and consumers. As there are no large-scale supermarkets or chain retailers in Syria, the wholesale markets are the major channels connecting producers and consumers. Most producers sell at wholesale markets individually, although there are middlemen who collect and deliver produce to the wholesale markets.

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. Farmers and middlemen bring produce to the wholesalers for sale, at an agreed price, on commission. Wholesalers seem to have the stronger position for price determination, as they have wider experience and knowledge of market conditions. Wholesalers seem to have strong ties with specific suppliers, but not with their customers.

An important player in the market system is the “damman” (guarantor) who buys the produce before harvest. At the point of each deal, the damman pays the amount agreed in cash or in kind and the product (expected crop) is transferred to him. After conclusion of the deal, the damman becomes responsible for crop management. Farmers who face shortage of funds and labor may

prefer to sell to damman to obtain cash in advance. The damman take the risks for actual harvest (volume and quality) and market price to be realized. Damman are multifunctional, as they are often wholesalers, exporters and others. This system seems to be adopted widely, but the magnitude is not clear.

3.2.2 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 in Aleppo and Lattakia. The owners of the wholesale markets are local governments (Governorates), which are responsible for maintenance of their facilities.

The average land area of the markets is 3.3 ha and that of building space is 6,000 ㎡. Market participants average 74 wholesalers, 155 semi-wholesalers and 820 shippers (suppliers). Buyers are around 240 on average, though widely varying by the market. Usually, wholesalers rent their shops (called booths) of 30-50 ㎡. 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, traffic within the markets etc. In each wholesale market, a market committee (of 4-13 members chosen from among wholesalers and semi-wholesalers) deals with liaison and negotiation with local government and resolves 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 at 12,600 tons. Damascus City market has the highest volume of 3,900 tons, followed by Aleppo (1,400 tons), Lattakia (1,100 tons) and Hama (1,100 tons). The five target commodities represent about 50% of total volume.

(3) Major players at wholesale markets

There seems to be no clear difference between **wholesaler** and **semi-wholesaler** in terms of role and function. However, the wholesaler has more funds and experience and is more trusted than the semi-wholesaler. Wholesalers and semi- wholesalers sell the produce upon the request of the shippers to the buyers (retailers, exporters, processors etc.), usually on commission. Many wholesalers and semi-wholesalers have multi-functional characteristics, doing other related business such as export, processing and retailer.

Total number of wholesalers and semi-wholesalers in the 12 major markets is around 1,500,

with individual markets accommodating 28-400. Average volume daily traded by each wholesaler was 58 tons, being highest in summer (69 tons) and lowest in winter (50 tons).

Shippers to the wholesale markets consist mainly of producers (83%) and middlemen (9%). There are transporters who transport the produce to wholesale markets at the request of producers. Shippers deliver most (62%) of their produce to markets in their own governorates and the remainder to other markets elsewhere. Distance of transportation often exceeds 100km.

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

(3) Losses at marketing

Losses at wholesale markets, which occur at unloading and dividing of cargo, are very limited as the commodities are usually disposed within a day. At retail stage, losses occur in transportation, storage and sales; losses by transpiration during storage, depending on the storage period, can be substantial. Very few data on the losses of fruit and vegetable at this stage in Syria are available. Surveys in the losses at the retail stage 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 other ways. Total losses in marketing were estimated at 8.0% for tomato, 6.7% for orange, 4.9% for apple and 4.6% for potato.

3.2.3 Price

Farm gate price of fresh fruit and vegetables is rather difficult to accurately grasp in Syria, as most of the farmers ship their produce directly to the wholesale market. It may be calculated by deducting the transportation cost and wholesaler's commission from the price obtained at the wholesale markets.

Wholesale prices 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.

Trends of wholesale prices over the past 10 years differ by commodity; those of orange and

potato remained rather constant, while those of apple and olive oil have significantly increased. Wholesale price of tomato declined gradually. Long term trends in retail prices and their seasonal fluctuations follow closely those of wholesale prices.

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.

3.2.5 Processing

The recent history of fresh fruit and vegetable processing in Syria is in three phases. In the first phase, from 1946 to 1959, processing for import substitution was encouraged. In second phase, (1960-85), state enterprises were given preferential treatment. Modernization of facilities and quality improvement of the products was not realized and consumer demand was not met. In the third phase, starting from 1985, significant change has occurred. The market-oriented economic policy encourages the private sector to participate in the processing industry. To the end of 1998, about 338 companies had obtained licenses for food processing.

Currently there are 10 state enterprises for fresh fruit and vegetable processing, while private companies number nearly 40. 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.

There are 15 private fruit juice companies in Syria, producing natural and concentrated juice from orange, apple, tomato, grapes and others.

Around 50,000 tons of fresh tomato is processed yearly. Processed tomato includes paste, ketchup and juice, though juice is very limited in amount. Tomato paste is one of the major food processing industries in Syria mainly by 6 state enterprises.

Around 80–85% of fresh olive is used for oil extraction. Total number of oil mills in Syria at the end of 2001 is 808. The number of oil mills did not change much in the past 5 years in spite of the increase in olive production. However, the capacity has increased and quality has been improved by replacement of press type to centrifugal system.

Potato chip production is new in Syria. There are 5 companies producing potato chips, one in Aleppo and 4 in Damascus. As an example, one company in Damascus produces one ton of chips daily using 4-5 tons of fresh potato. Fresh potato for material is procured daily from the

wholesale market. Total number of employees is 150, of them 120 are workers at the factory.

3.2.5 Export

(1) Foreign trade of fresh fruit and vegetables

In the early 1980s, export and import of fresh fruit and vegetables were conducted by state enterprises; major import items were citrus and apple, while 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 private sector to enter into processing and export business.

As Syria has achieved food self sufficiency and export capacity is increasing for fruit and vegetables, export promotion is now a matter of priority. However, as most of the fruit and vegetable export started in the 1990s, the experience and expertise of exporters on these commodities are limited.

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. Exports of agricultural product, particularly of fruit and vegetables, are a very significant part of non-petroleum exports.

In parallel to the increase in export of fruit and vegetables, the number of exporters is increasing. In the year 2000, the total number of exporters is reported as 178, of whom more than 40% are located in Damascus. There are 110 packing companies for export of fruit and vegetables.

Supply of commodities to markets can be adjusted by storing in 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.

3.2.6 Standards

The Government of Syria has, through SASMO and with reference to those developed by UN/ECE and FAO/WHO, developed standards for a range of products from each of the target commodities. 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.

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.

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 1 hectares 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 varieties 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 varieties 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 accepted 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

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.

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. However, Syria faces the difficulty of being a high-cost producer.

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. Production for 2010 is forecast to be about 570,000 tons, which would give supply of about 513,000 tons. Total domestic demand in 2010 is likely to be 432-497,000 tons, depending on the impact of increases in income on demand. The forecasts suggest that supply of orange in 2010 will exceed domestic 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 60,000tons. 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. However, farmers will be under some pressure as falling prices affect profitability. 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.

The export potential of orange is representative of that for all of the five target commodities. Critically, 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 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 and 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 small export opportunities.

4.2.1 Production

Potato, as a rotational crop, has been a consistently profitable one. 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

Fresh is by far the most preferred form for consumption in Syria and processed potato has not become popular. 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.

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

4.2.4 Supply and Demand Forecasts

The basic demand forecast for 2010 is about 535,000 tons, with consumption per person rising to 27 kg. 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 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. There appears little danger that either potato production will expand to such an extent that there is great difficulty finding markets at acceptable prices or that it will be insufficient to meet the food needs of the Syrian people.

4.2.5 Potential

The prospects for successful potato production and domestic marketing are bright. Production is likely to continue its steady expansion, as potato is profitable to farmers. With very good domestic market prospects for potato and limited export prospects, 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.

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.

There is limited scope for expansion of exports because Syria does not seem to have competitive advantage in potato production. 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.

4.3 Apple

Syria’s apple production increased modestly in the past 10 years, reaching to 287,000 tons in 2000 from 216,000 tons in 1991. Physical conditions such as altitude and precipitation may limit the 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 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 need for water saving irrigation technology within the context of improvement to overall use of water resources.

Major 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, at home 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.

4.3.3 Marketing

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.

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.

4.3.4 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 yields gives a forecast of production of about 440,000 tons in 2010.

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 is 440,000 tons which would give supply, after losses between the tree and the consumer, about 400,000 tons, compared to domestic demand of about 380,000 tons. This preliminary analysis suggests that supply in 2010 might exceed domestic demand by about 20,000 tons, which is about the level of current exports.

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 or 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.

Production and marketing costs 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 on Gulf and other Arabic countries, which are already the most important markets. 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 its share of the total to nearly 40%. Tomato farmers, while increasing production greatly, are now facing pressure on profitability as prices have been forced downwards. Declining prices have not yet had negative impact on production - the supply response to falling prices in recent 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.

Falling prices have led Syrian consumers to make slightly larger tomato purchases. 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 a challenge to reduce production and marketing costs and increase 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 summer and spring and autumn crops are limited, leading to large seasonal fluctuations in supply and 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 extreme 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 caused by their efforts to increase the rate of harvesting.

4.4.3 Marketing and Processing

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. While Syrians consume greatly fresh tomato, processing is becoming more important, especially for paste which is more storable and has some export potential. About 50,000 tons of tomato go to food processing companies which make 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.

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 for exports are nearby countries, particularly Saudi Arabia.

4.4.4 Supply and Demand Forecasts

Domestic demand is forecast to rise to about 580,000 tons in 2010, at consumption of 29 kg per person which is the highest level in the past 10 years. Production required satisfying this demand, 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.

4.4.5 Potential

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

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 for mainly processed tomato.

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's market share, from 100,000 tons, was especially high in Saudi Arabia, at two thirds of total imports. Syria has also exported varying amounts of tomato paste to the Gulf. 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. 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 import 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 constraints to export to the Russian Federation and act to support them.

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 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. 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 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 olives for the table are 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 consumption in only four countries exceeded 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 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 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).

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

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

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 difficult strategic choices. There is potential for improvement in farming, processing and 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 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 of 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 market-oriented economy has resulted in a much increased private sector role in marketing agricultural commodities. In the centrally planned economy, farmers did not have to worry about marketing their products as the buyer and price were decided by the government. Since introduction of the market economy, farmers are faced with the problem of identifying markets for their produce. To make the best marketing decisions, farmers need detailed and timely information on prices and other matters.

As urban populations are increasing rapidly in most parts of Syria, more people are becoming 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 increases risk. To minimize that risk, farmers need to make informed 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, faulty preservation, deterioration and decay. To stabilize consumer prices against such a back-drop, a state of equilibrium must be established 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, daily, comprehensive market information available to concerned parties. Creation of an efficient system will contribute to the increasing net returns to farmers and lead to greater market efficiency.

(2) Market information

1) Fruits and vegetables

The majority of 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 neighbors' information 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 though not made public at the moment.

2) Olive and olive oil

Fruits of olive in Syria are consumed in the ratio of four for oil to one for fruit. Marketing of fresh and pickled olive is similar to that of other for fruits and vegetables, major portion being channeled through wholesale markets. Most farmers sell olive oil to wholesalers at warehouses specialized to olive oil, 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 analyzed and compiled by the Directorate of Statistics. Information on current conditions, damage and crop 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 Metrological Agency of Ministry of Defense and MAAR's Rain Enhancement Project (REP).

However, these are considered as administrative and statistical. 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 establishment of the model network, particularly with the Directorate of Extension for linkage with mass media, was emphasized. Other ministries and institutions, such as MSIT, Ministry of Economics and International Trade and 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.

Various methods can be used to provide the information to concerned parties, including the general public (consumers), both regularly and periodically. All these methods rely on the mass media including TV, radio and newspapers. Forms were designed to provide information to the mass media.

(3) Methods of providing market information

DAE will be the center of the network, where all necessary information will be collected by telephone communication, 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.

In the Central Government office, one server computer system, which receives and accumulates 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. Following figure shows the tentative arrangement of the network system.

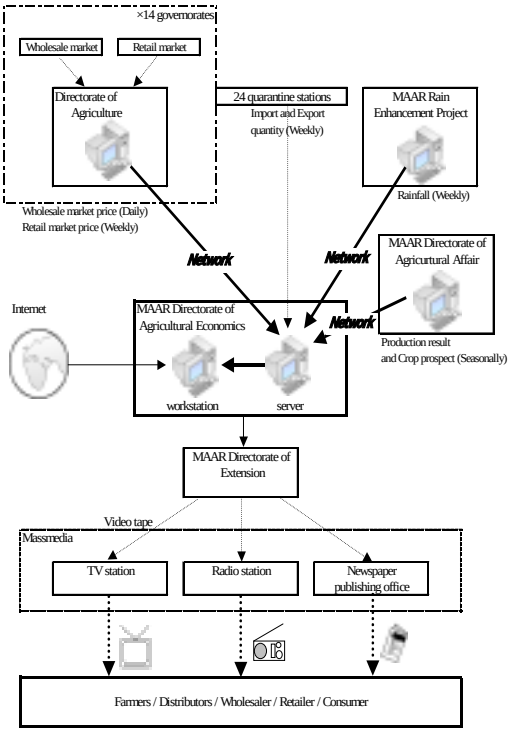


Fig.5.1 Model Market Information System

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 the 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 seeds 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 concerned 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 the 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 to be improved in terms of 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 the quality improvement 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. At the same time, penalties should be applied for breeches of regulations relating to standards. 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 has relatively short history and is limited in scope and

magnitude at present. In parallel to the declining share of the state enterprises, private sector has gaining leading role. However, due to capital market ragging behind, most of the processing firms are of individual or family business in relatively limited scale. In response to the diversification of the diet pattern of the people, particularly due to urbanization, demand for processed food will increase in coming years. Added value by processing will also be significant. Processing will also accommodates the surplus in markets for its disposal. Export of the processed food 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 ineligible to enter Turkish territory on the way to the European Continent. Therefore, 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. Legal control on specification of domestically produced refrigerated truck bed needs to be strengthened in the long run 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 measure include the use of in expensive foreign trucks.

(7) Improved access to and expansion of foreign market

So far, exports of fruit and vegetables have been quite limited in volume and value compared to the general capacity of the country, 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/strengthening associations of exporters
- Exploration of the possibilities of establishing Syrian common brands
- Aggressive export/sales campaign for priority commodity
- Coordinated work with the tourism industry to promote Syrian produce.

6.3 Institutional or Legal Issues

(1) Long-term projection of demand/ supply on commodity basis

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

Current 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 agency should become involved in exercises to prepare continuously forecasts of 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 only be achieved by cohesive legal arrangement.

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

As shift from central planning 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 at the same time to simplify the 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 makes loans for only production and not for marketing. Producers, therefore, often rely on loans from middlemen or wholesalers, or damman, for funds before harvest. This often leads the producers to disadvantageous positions on price. The formal credit system should be modified to respond better to the requirement of producers. So as to include loans for running cost, investment for processing and marketing cost.

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 form 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

Table 7.1 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	B
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 3 issues were selected as a priority project.

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 whom have 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.

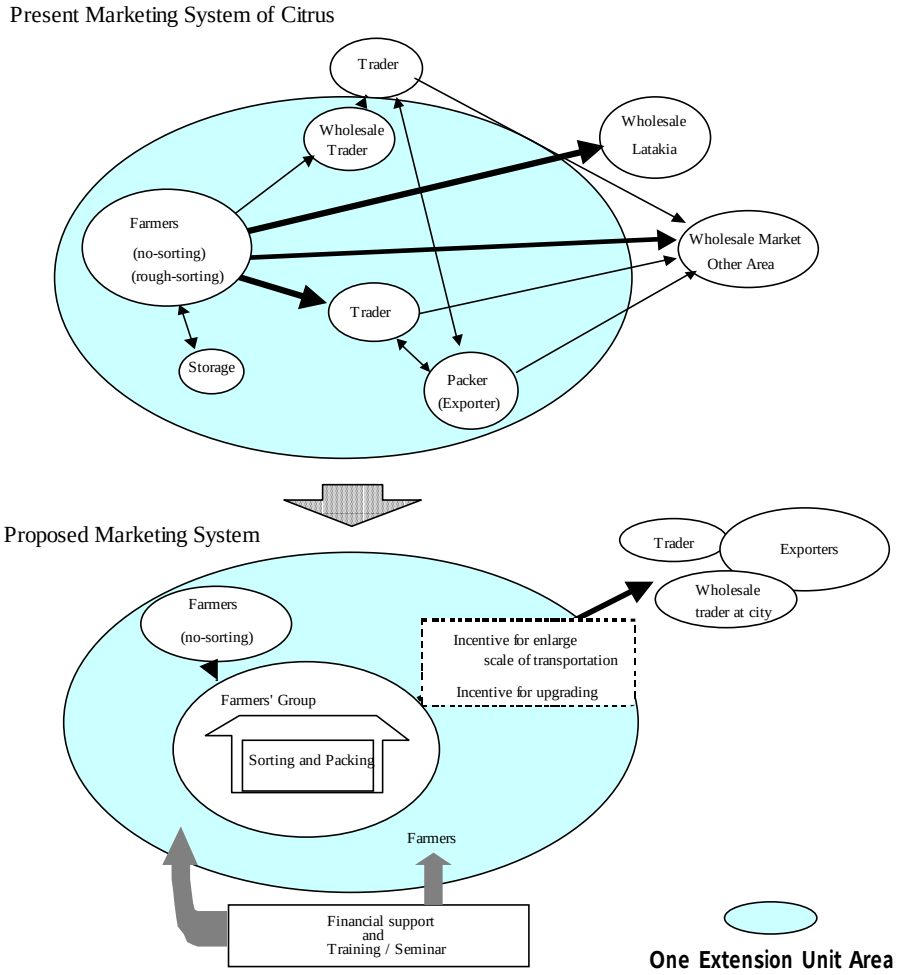


Fig. 8.1 Present and Proposed Marketing System of citrus

8.1.2 Selection of the Target Area in Lattakia

(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 candidate areas 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 consideed. Proposed capacity is as follows:

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

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.

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.

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. 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.

(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.

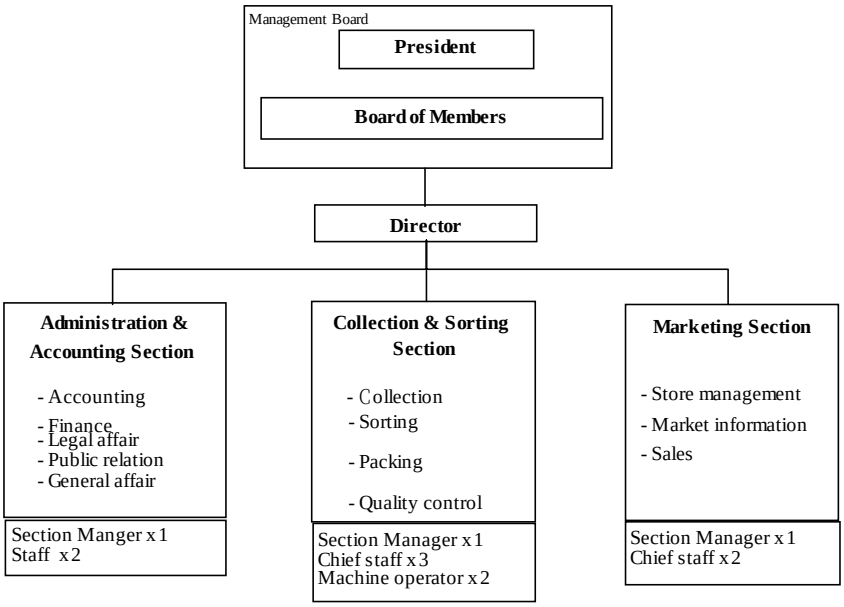


Fig. 8.2 Organization of Farmer's Group

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

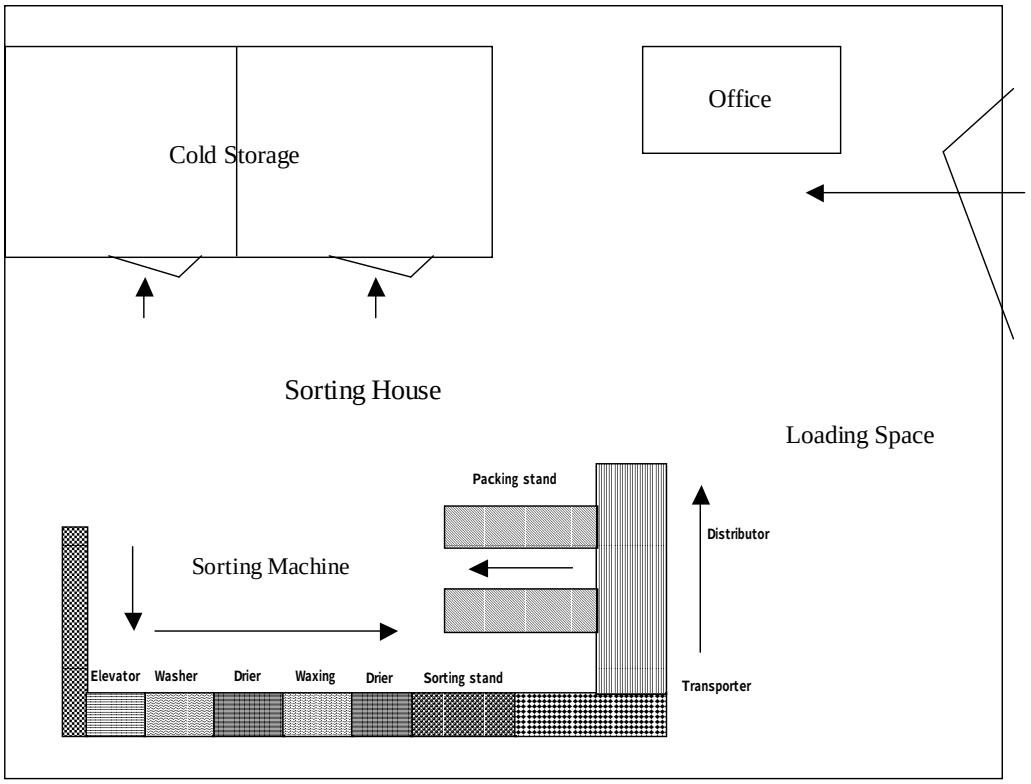
President: who has responsibility for management of the organization.
Vice President: who supports the activities of the president.
Executives: who are responsible for management of each part of activity
Workers/Stuff: who carry out practical activities of the organization

(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.

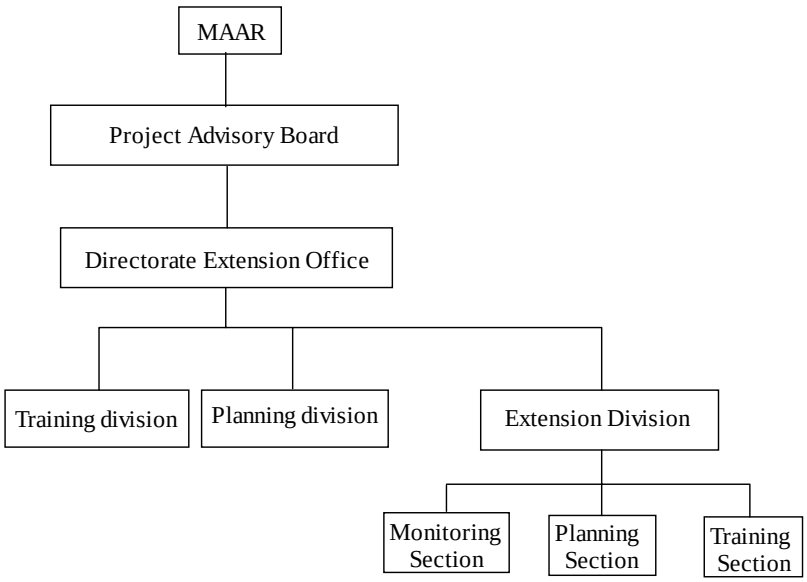


Fig. 8.3 System of Implementation and Operation/Management

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

Title	Contents	Target Persons
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 plans. 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. These implementation of plan are 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**)**

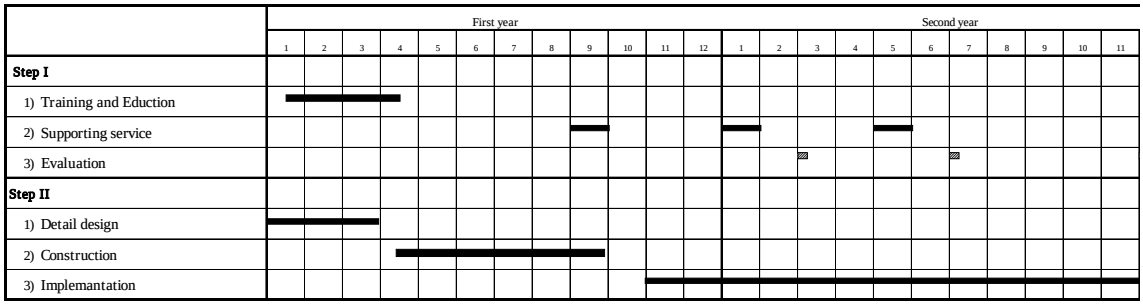


Fig. 8.4 Schedule of the Project

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, Ministry of Agriculture and Agrarian Reform 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
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. A number 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 to 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 trade system
- Fixing the 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.

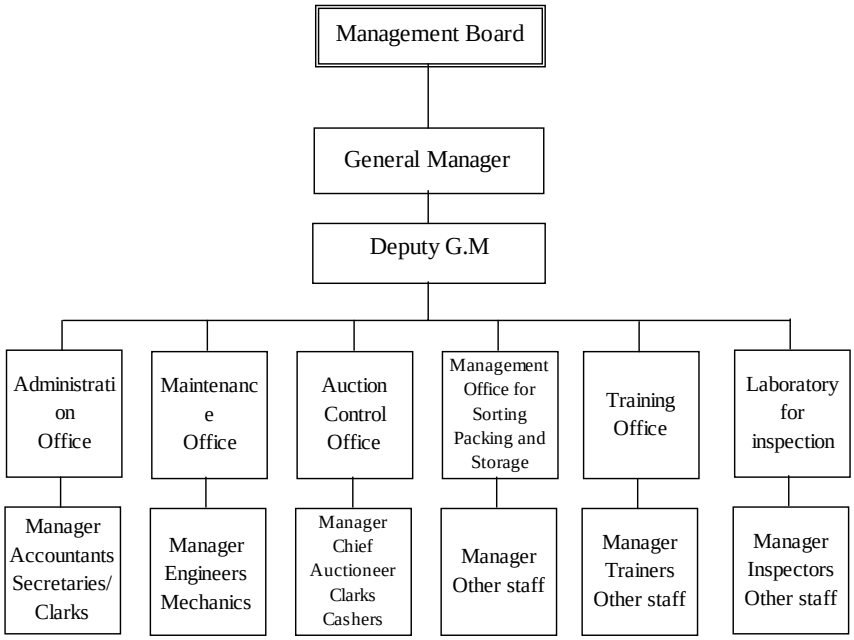


Fig. 8.5 Organization of Wholesale Market

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 are 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' ring. 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/ traders will become more conscious on quality and standards of the commodities.

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

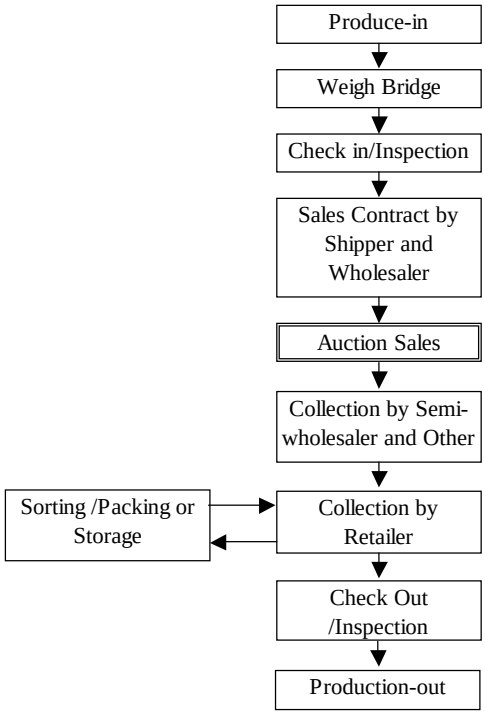


Fig. 8.6 Process of Auction Sales

(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 considerations 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 consumres. 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 include:
  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 need 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

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 of 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.

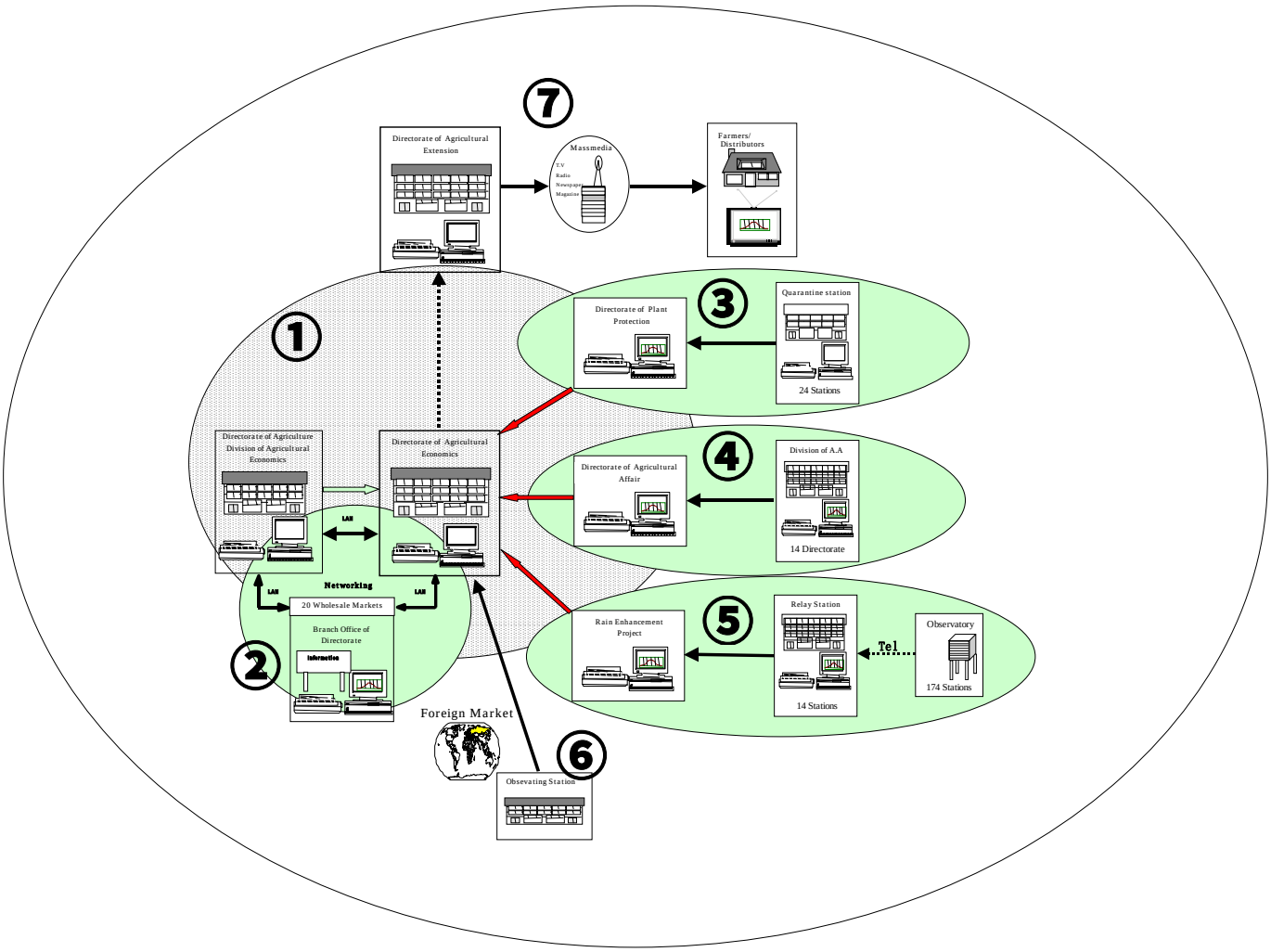


Fig. 8.7 Proposed Marketing Information Network

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 Metrological 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 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 commodity 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.

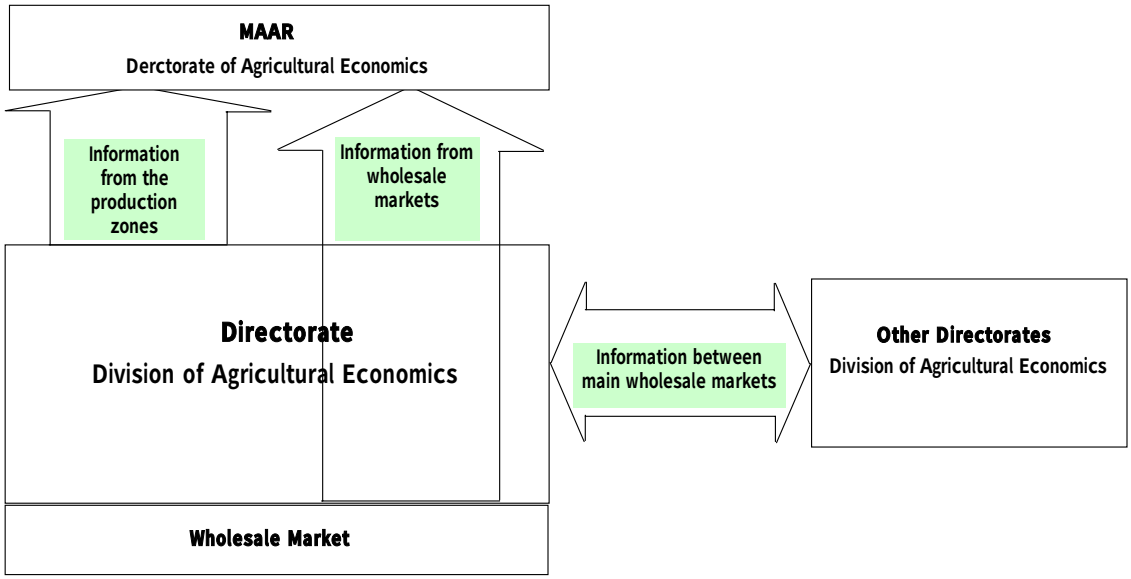


Fig. 8.8 Market Information in Directorate

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 Unit.
- 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 Directorate.

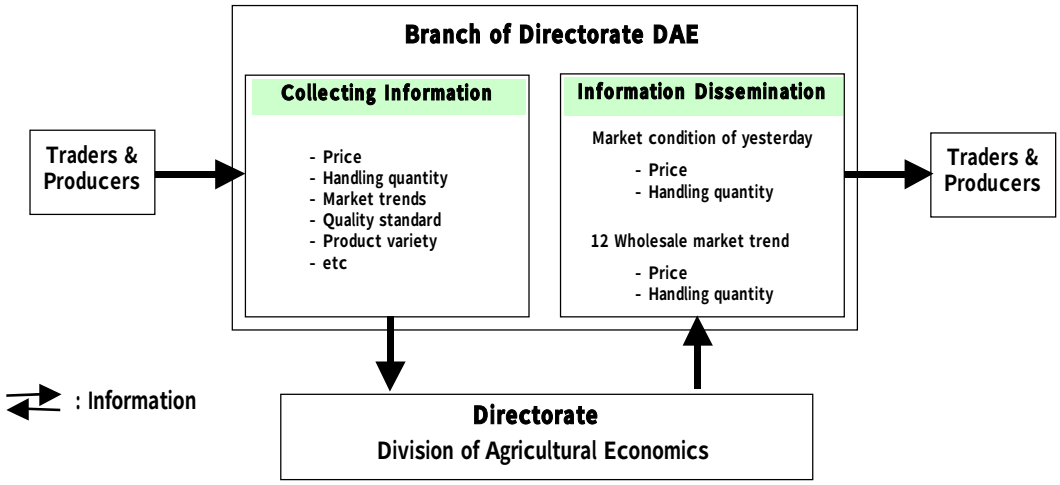


Fig.8.9 Market Information in Wholesale Market

For the establishment of the information system, followings need 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

Market information to be collected at wholesale market are:

- Prices, including lowest and highest and the average,
- 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 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 are 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

In planning, the establishment of market information service, a systematic approach is required. 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.

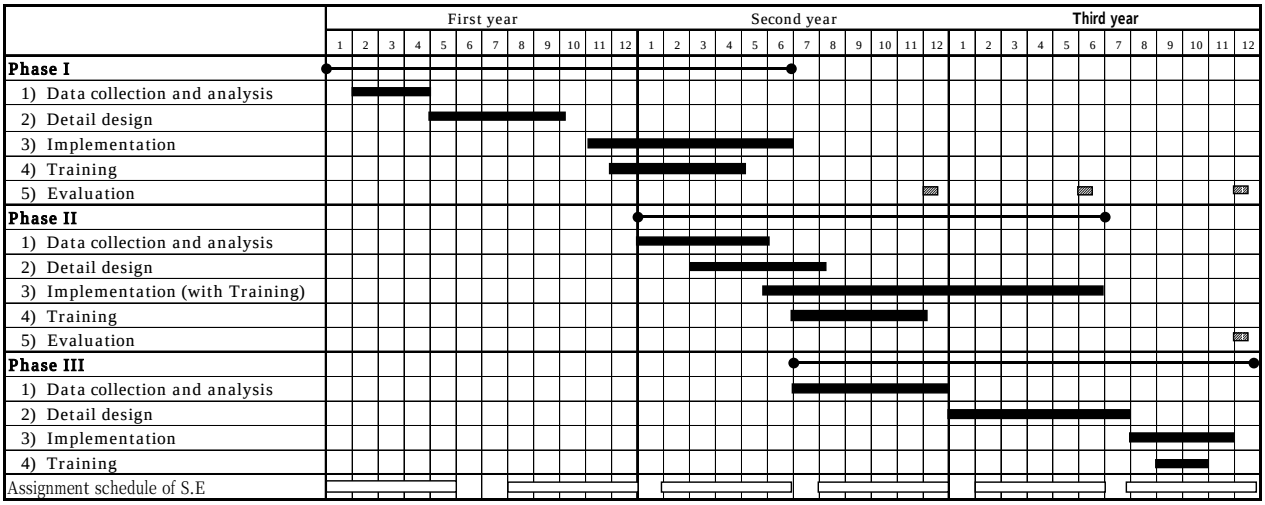
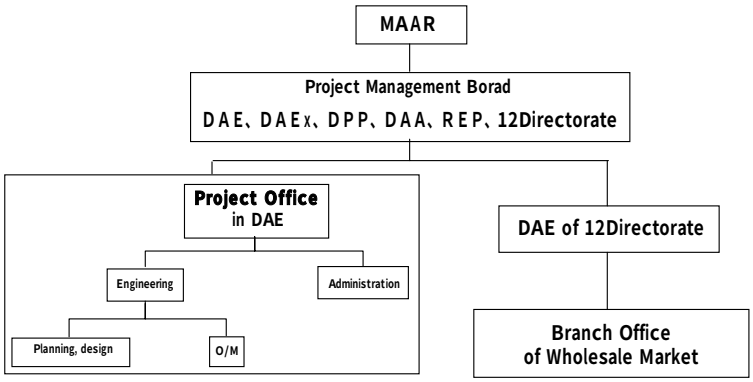


Fig. 8.10 Schedule of the Project

8.3.5 Implementation and O/M Organization



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 Directorate.

Fig. 8.11 Organization Chart for Project

The project office will be under a management board which consists of DAE and other related agencies. The human resources for staffing will be expected 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:

		SYP '000
(Training)		
・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 the internal fund and also ODA fund 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.

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.