

Part II

Cluster Analyses

Chapter Three

The Agriculture Cluster in the Jordan Valley, 2000

Overview

Agriculture is a vital component of the economy, simultaneously impinging on the social and economic sectors. In Jordan the agricultural sector contributes up to 6% of total local employment. Factually its direct input to GDP did not exceed 3.8% in 2000, yet due to its inter-relations, and links with other economic areas, its indirect bearing on the economy went up to the substantial level of 29% all in all.

In terms of agricultural produce, 80% of the Jordanian agricultural production consists of fruits, vegetables and citrus, which make up 61.4% of the agricultural exports. However, the exports of agricultural products stood for 12.1% of the total Jordanian exports, and were mainly directed to the Gulf markets in the year 2000.

Analysis

A. Demand Conditions:

Local demand relies on price rather than quality and, as a result, the local market for agricultural products is not by any means sophisticated. This particular feature has a direct impact on the development of agriculture in Jordan, as it discourages customary practices of product quality enhancement. Accordingly, the foreign demand for Jordanian agricultural products is meager. In fact, the low demand for Jordanian agricultural products on the European markets testifies for the poor quality standards of such products.

Nonetheless, the Gulf countries are the largest markets for Jordanian agricultural products. In quantitative terms, the Arab countries, and in particular the Gulf countries absorb almost 98% of the Jordanian agricultural exports. This segment accounts for approximately 90% of the returns generated by agricultural exports. The agricultural exports to other non-traditional markets, European markets for instance, only come up to 2%, yet account for 10% of the returns generated by agricultural exports in general. However, it is worth mentioning that as a result of the low quality, the export prices of Jordanian agricultural products are comparatively lower. Consequently the sector's dependency on price competition rather than quality is being reinforced on the local as well as external markets.

B. Strategy, Structure and Rivalry:

The Jordanian agricultural sector regards price competition and exports to the Gulf countries as major strategic goals, overlooking significant elements such as quality, and quality control. As a result the investment in Research and Development (R&D), high-tech products, and post-harvest research have been conferred less relevance in Jordan. While in the international markets high-tech products are highly valued, the Jordanian agricultural sector depends heavily on traditional methods. Consequently, in Jordan, new farming techniques have been used with moderation.

In addition, this sector is plagued by an obvious lack of team spirit, which negatively affects other work related issues such as trust, cooperation, motivation and job satisfaction. Consequently, the efficiency of the production process itself is influenced resulting in a relatively low productivity rate for this sector. Hence the volume of exports is quite modest.

Nevertheless, the modest volume of exports can be accredited to the general strategy truism farmers seem to practice in Jordan, "market what is being produced rather than produce what is being demanded." This general trend poses higher risks to farmers and the agricultural sector than is generally assumed, since there is no guarantee that sufficient demand for the product can be secured. Moreover, to successfully market what is being produced, marketing strategies need be "bullet proof"; more precisely they need to be 100% guaranteed to succeed.

Unfortunately, the marketing strategies set for, and implemented in this sector, are flawed in many ways. To be exact, as already mentioned, Jordan's largest export markets are the Gulf countries, while other markets, such as the European markets, absorb a meager 2% of the exports volume. In the case of exports to the Gulf markets, the shipments are carried out directly from the wholesale markets or farms without undergoing prior grading or proper packaging. The only process applied to the product is re-packing and labeling. Accordingly, the Jordanian products are sold at low prices in the Gulf markets.

For instance, Jordanian tomatoes are packed in 12kg wooden boxes when exported to Kuwait, and sold for 1 Kuwaiti Dinar each. Meanwhile Syrian and Lebanese tomatoes, are exported in proper packaging i.e. 4kg boxes, and sold for 1 Kuwaiti Dinar each in the same market. According to one local exporter to Gulf markets, "as a result of inadequate packaging, some traders buy Jordanian tomatoes at low prices, pack them in proper 4kg boxes, and resell the same product at 1 Kuwaiti Dinar per box." Beyond a doubt the deficiencies of the Jordanian marketing strategies affect negatively both the product quality and price, and diminish the potential revenues generated by these exports.

The fact that Jordan has been able so far to secure its share of 2% in the European markets, gaining entry to international markets, is partly owed to the producers' willingness to comply with the pre-requisites set by international export standards, e.g. product washing, grading, waxing, packaging, pre-cooling, packing, cooling, loading and storing. Nevertheless, Jordanian producers keep away from European markets because they are not ready to comply with such elaborate, and mandatory, processes and procedures. Needless to say that such processes and procedures lead to the improvement of product quality, and boost the exports accordingly.

Another detrimental aspect of the Jordanian agricultural sector is the failure of Jordanian producers to protect their brand names beyond domestic borders. In particular, such cases of failure arise in dealings with Eastern European markets. One Jordanian exporter claimed, "Jordanian agricultural products are being bought from local exporting workshops and exported to Eastern European markets under a different label, such as 'Produced in Turkey.'"

Generally speaking, Jordanian exporters do not succeed in exploiting the potential of European markets due to their inability to identify the demand of such markets, as well as their reluctance to meet the requirements of

more sophisticated markets. Jordanian producers fail in three key areas. The first one is pricing; in general Jordanian producers lack informed data regarding the specific pricing of similar products in the destination markets. For illustration please check figure (3.1), which displays the prices of Jordanian grapes in the United Kingdom (UK) market from January to July.

As shown in figure (3.1), the UK wholesale prices for Jordanian grapes by far exceed the fixed Jordanian break-even prices even during the season when the wholesale prices for this product reach the lowest levels. Hence, the potential for Jordanian grape exporters to make good profits during the export season is incumbent should they check and strategize the pricing of their products for European markets.

Secondly, Jordanian producers lack proper and informed data regarding the quantities demanded by such markets. For example, as shown in figure (3.2), Jordan can compete successfully with other grape suppliers in the UK fruit market during the period mid-May to June. In the Jordan Valley, the maturity time for grapes coincides with the above-mentioned period, offering grape exporters a competitive edge on international markets. However, such advantages are not fully utilized by Jordanian producers.

The third and final obstacle is posed by the lack of production know-how and post-harvest technologies. In addition, the shortage of management skills reflects negatively on the quality standards of the products and delivery time. As a result around 30% of the fruits and vegetables produced in Jordan are damaged. For instance, the post-harvest technology is vital in the value added chain of cherry tomatoes (see figure 3.3); proper application of the post-harvest technology boosts the production of cherry tomatoes by reducing the incidence of damaged

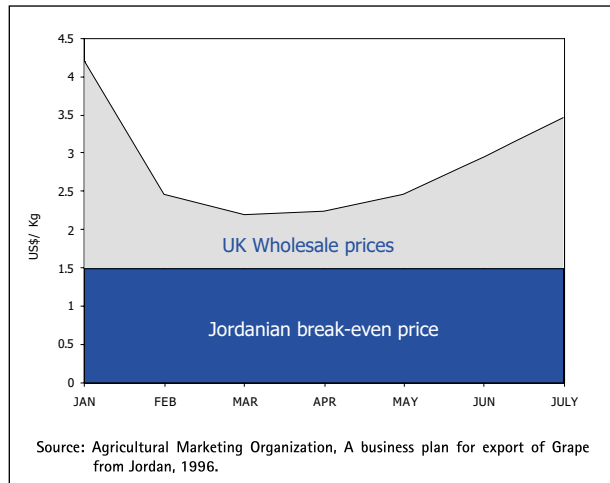


Figure 3.1: Prices of Jordanian Grapes in UK Market (January-July)

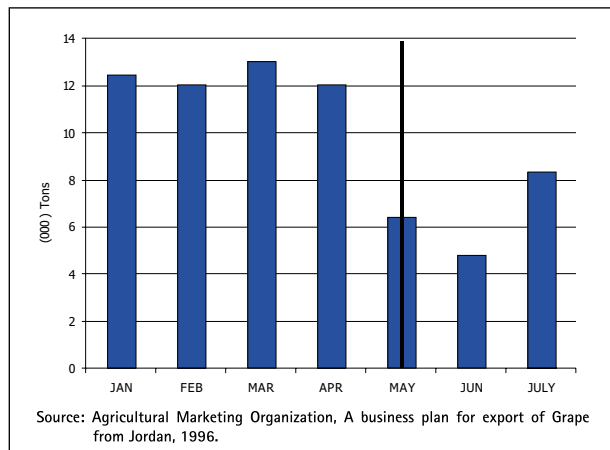


Figure 3.2: Monthly Imports of Table Grapes in the UK Market

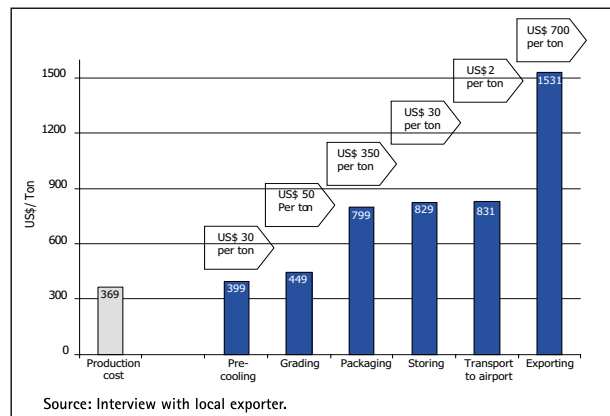


Figure 3.3: The Value Added Chain for Cherry Tomato

products and the production costs. As a result, the quality of the product is enhanced and the productivity process is radically improved. This way, with value added, the product itself sells at better prices and the volume of profits increases accordingly.

Jordanian producers have two possible export options, through brokers whereby they make a profit of US\$ 3000/ton; or targeting directly the consumer, via a chain of retailers and wholesalers (e.g. Safeway), whereby they make a profit of US\$ 5000/ton. Since the more profitable and attractive alternative is the second one, the need arises to adopt contract-based farming, which is not commonly practiced in the Jordanian agricultural sector, and accordingly to adjust the strategy *"to produce what is being demanded"*, rather than *"market what is being produced."*

However, the implementation of contract-based farming needs to be matched by the introduction of new production techniques. For instance, the plants protection technology made available, and practiced by Jordanian farmers, does not bring pest problems under control. Consequently, farmers increase the usage of harmful pesticides, often incurring crop losses, whilst the chemicals used cause environmental pollution. Besides, the rural population and consumers are exposed to unacceptable health risks.

Nevertheless, the alternative to pesticide usage, which is known as Integrated Pest Management (IPM), has been applied in Jordan. Citrus farmers have already adopted this process. It is noteworthy that those who have implemented the IPM encourage their neighbors to do so as well, particularly that the new technique allows farmers to save approximately JD 570 thousands per year in pesticide costs. As for vegetable farmers, the IPM technique is being used and implemented in greenhouse farming. The technique allows them to save around 70% on pesticide expenditure without a reduction in yield or quality. Furthermore, the sales of IPM-certified fruits and vegetables have increased to about 3.5 tons daily since the end of 1996. In short, an increasing number of citrus fruit, apples, olives, and currently more than 15 thousand tons of vegetables are being produced annually with IPM technology and marketed successfully to the local and external consumers.

C. Related and Supporting Industries:

Figure (3.4) represents a cluster map of the agricultural sector highlighting the main elements of the sector, the status of such elements, and the relations between them.

Most elements in the cluster, such as universities and colleges need improvement and updating. For instance the huge numbers of BSc. degree holders graduating annually from various agricultural engineering faculties are in need of on-the-job training, since they lack practical knowledge and experience.

Another weak element is the role played by various agricultural associations involved in the cluster. For example, it is generally admitted that investments in agriculture require long-term loans. Yet, in Jordan, banks have restrictions in providing such credits. Compared to what happens in other economic fields, banks extend the least credit facilities to the agricultural sector. Furthermore, the amount of credit facilities extended to the sector hardly increased between 1993 and 1999.

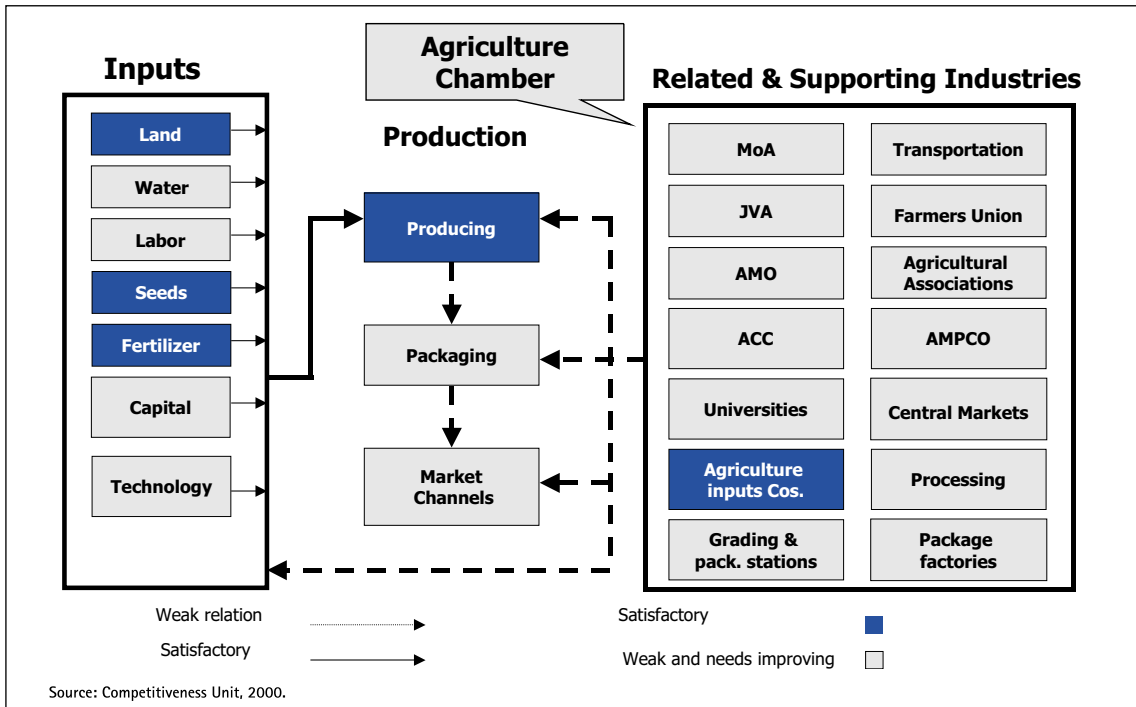


Figure 3.4: Agricultural Cluster Map.

Nevertheless, the Agricultural Credit Corporation (ACC) does provide long-term loans. The total amount of loans issued by the ACC reached about JD 19.7 million in 1998. 87% of this amount was granted to farmers holding land less than 30 dunums¹. Additionally, 80% of loans are small loans of up to JD 10 thousand, as opposed to 10% of loans ranging between JD 10-20 thousand, 4% of loans ranging between JD 20-30 thousand, and only 6% of loans are issued for more than JD 30 thousand. Hence, although unlike banks, long-term loans are given by the ACC, very few large sized loans are issued.

As vital as it may be, transportation of goods to the destination markets, particularly the European ones, is another weak element plaguing the agricultural sector in Jordan. The Royal Jordanian fleet has only two Boeing 707 airplanes available for cargoes to the UK, and one of these flights does not have permission to enter British airspace. It flies to Maastricht currently, and should be discontinued soon. Moreover, air cargoes are very costly. According to one local exporter, the transportation by air of agricultural products to Canada, the only available and least expensive option is the route Amman-Beirut-Paris-Montreal, at the cost of US\$ 1.96 per kg. As a result, the product is sold at a bottom price of US\$ 3 per kg, which is not competitive on the Canadian market and does not produce a minimum net profit.

Transportation by sea remains the least expensive and most convenient transportation means for a large variety of products. However, exporters do not ship the products with European destinations via Aqaba due

¹ One dunum = 0.25 acres

to the long delivery time involved. Disregarding the inconvenience that the volume of exports via the port of Aqaba is usually low, a shipment of agricultural products from Aqaba to any designated European port requires a minimum of 30 days. In addition, the land transportation fleet is not equipped with adequate refrigeration systems posing a huge risk to any agricultural products delivered to the port of Aqaba by land. On the way to the port of Aqaba agricultural products transported by land run a high risk of getting damaged. To circumvent such risks, exporters opt for containers provided with refrigeration systems by the Arab Bridge Company. This way, the goods are transported from the port of Aqaba to Nuabae, then to Port Saeed in 10 hours, and finally to the respective European ports in 10 to 13 days. Overall, however, the delivery time is delayed.

However, there is also the option of transportation by land directly to the respective European destinations. Adequately equipped transportation means can secure proper export of fresh fruit and vegetables to European markets. Yet, out of 800 acting trailers, only 12 meet international standards, and the Ministry of Transport (MoT) has prohibited the use of foreign trailers. The remaining trailers of the Jordanian fleet (788 in number) are not reliable, as they do not present any guarantee for the quality of storage and transport. All above-mentioned circumstances bring the real price of the product down. Moreover the law issued by the Ministry of Interior (MoI), allowing only one plate for both the trailer and container, hampers further the process of transportation by land. If by any chance the trailer has any problems on the road, the whole transport is ruined due to the impossibility of the container to move on, which may result in delayed delivery and possible cargo damages.

With regard to the support extended by other industries, mention should be made that there is a shortage of grading stations at the national level, and the companies involved in the processing and marketing of agricultural products are weak and do not meet the standards. In addition, most of the packages produced locally are inappropriate and definitely inadequate for exporting purposes. As a result the local packaging industry cannot compete with the imported packages. Further, the available exporting workshops otherwise known as packinghouses do not suffice. There are only 31 packinghouses in Jordan and most of them do not meet international standards. The Jordanian agricultural sector should consider the Egyptian model. Currently, the Egyptian government encourages and directs investments in industries that support, or are related to the agricultural sector. The Egyptians are aware that the returns of such investments are high in terms of foreign currency earnings.

D. Factor Conditions:

Jordan is a country with a diverse ecosystem. The Jordan Rift Valley with its specific climate conditions, enabling agricultural cultures all around the year, is a unique gift of the Jordanian ecosystem. The warm climate permits the farming of a wide range of products ranging from vegetables and fruits to field crops. More importantly due to the mild weather enjoyed during the winter season, the Jordan Valley has a competitive advantage over Mediterranean countries. While certain crops cannot be nurtured in the Mediterranean basin during the winter season, the Jordan Valley continues to produce such crops of fruit and vegetables in the cold season as well.

Labor is another element pertaining to factor conditions. 66% of the total labor force involved in the Jordanian agricultural sector is of non-Jordanian origin; 63% of this labor force is concentrated in the Jordan Valley.

Hence the Jordanian labor force involved in the agricultural field in the Jordan Valley amounts to only 37%. These figures point to the shortage of qualified Jordanian labor in the Jordanian agricultural sector.

Nonetheless, in Jordan, the agricultural sector faces another critical problem that is by far more worrisome than the issue of labor force. To be more specific, Jordan has to put up with a serious problem of water shortage and is in desperate need of finding adequate solutions. The agricultural sector consumes up to 68% of the available water resources. It is obviously the largest water-consuming sector in Jordan. This condition calls for the efficient utilization of the scarce water resources available in addition to enhancing and upgrading the performance of the sector at large.

Furthermore, the quality of water has been identified as bad. The low water quality originates in the inefficient usage of Khirbet Al Samra recycling station, which receives 140 thousand m^3 of water, thereby exceeding its capacity of 63 thousand m^3 . Additionally, the disposal and dumping of industrial waste into the Zarqa River and the King Talal dam augments the problem as they supply the agricultural sector with irrigation water. On top of this, the soil quality is deteriorating rapidly due to the increase of salinity negatively affecting agricultural production. As a result the international and regional markets turn down imports of agricultural products from Jordan as they fail to meet internationally acknowledged quality standards.

The Jordanian agricultural sector should focus on the cultivation of products that necessitate the least amount of water yet generate high revenues, e.g. the production of strawberries needs 250 m^3 / dunum and yields JD 8 per m^3 as opposed to bananas, which consume around 2000 m^3 of water per dunum, and yield only JD 1 per m^3 . In other words, Jordan should capitalize on products with a competitive edge, for instance products that involve the least production costs.

Further, this recommendation can be verified against the Revealed Comparative Advantage Index (RCA), which evaluates the relative trade performance of individual countries for particular commodities through comparison between the national export structure and the world export structure. The stronger a nation's relative trade performance is in a certain commodity, the greater the comparative advantage in the production of that commodity. Hence, when the RCA index is greater than 1 for a certain commodity, the country is specialized in the production of that commodity and vice versa. According to the calculated indices for various agricultural commodities, in terms of fruit production Jordan is specialized in watermelons (RCA=8), as opposed to bananas (RCA=0). Similarly, in terms of vegetables, Jordan is mostly specialized in okra (RCA=10) unlike asparagus where the RCA is below 1. These are only a few examples of commodities in which Jordan specializes and possesses a comparative advantage vis-à-vis other competing countries.

However, in spite of Jordan's specialization in many agricultural commodities, to improve the performance of the sector in terms of production and productivity, certain factor conditions should be enhanced and utilized to the full. To emphasize this point, the table below presents a comparison between Jordan and Israel in terms of specific factor conditions. The information in table (3.1) indicates that investment in the agricultural sector in Jordan is comparatively low. As a result, the production barely exceeds that of Israel, whereas Israeli productivity is by far higher than that of Jordan. Nonetheless it should be noted that the agricultural sector in Jordan consists mainly of small producing units that continue to yield high production costs. This state of affairs elucidates the productivity gap between the two countries. Finally, the modest investments in factor

conditions in the sector could explain why the Jordanian production barely exceeds that of Israel, though both countries share the same valley and enjoy the same favorable climate conditions.

Table 3.1: Comparing Jordan and Israel's Factor Conditions in Terms of Production and Productivity.

Factor Conditions	Jordan	Israel
Capital Stock (US\$ millions)	50.9	1100
Imports of Agricultural Inputs (US\$ millions)	21.84	103.8
Vegetable Planted Area/ 1000 dunums	450	243.2
Tractors	4800	24500
Harvesters	79	238
Production (1000 tons)	1261.7	1243.3
Productivity (US\$ 1000/ farmer)	1.43	19.5

Source: World Development Report, 2000

E. Government:

The government is another important element with a direct bearing on the agricultural sector in Jordan. In fact the government took various measures to ameliorate this sector such as including the provision of the price flooding policy as of 1997. It recommended modifications of the Tax Exemption Law in the transportation sector whereby the tax was exempted, and extended the irrigation system in the Jordan Valley up to 360 thousand dunums to secure the sustainability of irrigated agriculture in this area.

The government recommended the implementation of amendments to the Jordan Valley Authority Development Law with regard to property and possession size. This measure was particularly intended to minimize or exclude altogether Jordanian investments in agriculture outside Jordan. For some time, a number of Jordanians started investing in agricultural projects in Sudan. The first amendment concerned the re-allotment of land possession. Initially, the law stated that landowners had no rights to sell any plot of land. However, concessions among partners were permitted. The amendment suggested that the person in charge, more specifically the landowner, had the right to sell land to any Jordanian resident.

The next amendment is related to the rental of agricultural units. Initially, the law stipulated the right of those in charge of land units to authorize the rental of farming units for a minimum period of 3 years and a maximum period of 10 years. Once again such a provision made many producers invest in other countries. However, the proposed amendment permits the lease of land units to any Jordanian resident on a permanent basis for a period of anywhere between 3–30 years, and is subject to renewal. Longer rent periods provide greater incentives for investors, encouraging local investment, and facilitating technological innovation in farming.

The provision of the Investment Promotion Law for tax exemptions is another piece of legislation that has

improved the business environment in this sector. Moreover it contributed to the enhancement of agricultural performance in Jordan. The law states that the net profits of any project are to be exempted from income and social service taxes for a period of 10 years as of the date of production commencement provided the following criteria are considered:²

- Projects in development zone A will receive 25% tax exemption.
- Projects in development zone B will receive 50% tax exemption.
- Projects in development zone C will receive 75% tax exemption. (The Jordan Rift Valley qualifies for this category).

The law also states that any project in the agricultural sector shall enjoy the exemptions and benefits stipulated by it. In addition, a non-Jordanian investor may own up to 50% of any project or economic activity in the agricultural sector.

Despite all the positive initiatives taken by the government, some elements and initiatives still remain weak and may inflict a negative impact on the sector. For example, the Trade Protocols between and among countries need to be improved. The government involvement in the management of central markets and the coordination with the private sector are still weak. Finally, the Ministry of Agriculture (MoA) does not have a strong role in the area of agricultural extension and the R&D sector. The absence of market research and extension programs has a negative impact on the sector as well.

The R&D in this sector is a critical issue and needs further examination as well. There is a public R&D center in Jordan, and this is known under the name of the National Center for Agricultural Research and Technology Transfer (NCARTT). It consists of 6 regional centers, inclusive of 12 agricultural research stations, and 230 researchers who are all Ph.D., and MSc. holders. Nevertheless, there is a shortage of funding for research, and more importantly, agricultural extension is not considered at all.

In Egypt however, the Agricultural Research Center consists of 16 research institutes, 6 central laboratories, 46 experimental research stations, and more than 2500 Ph.D. researchers. On the other hand, it involves over 22 thousand extension experts specialized in various fields whereby Jordan ignores such a vital factor.

The Agricultural Research Organization in Israel consists of 10 research institutes, 37 departments and 850 researchers. The research division within the MoA is responsible for planning, organizing and implementing the major part of research efforts in the agricultural sector in Israel, in addition to the responsibility of obtaining funding at the national and international level. More importantly, it is accountable for current problems arising in the agricultural production due to the introduction of new products, processes and equipment. In addition to R&D, the core functions include optimizing crop returns per unit of land and water, expanding foreign exchange earnings from agricultural exports, and obtaining national and international funding. Significantly, it supervises the activities of the MoA central administration of projects concerning the issue of agricultural extension. As Israel focuses on research for future solutions in agriculture, the Israeli research division within the MoA is also responsible of any problems related to research investigations. However, this is not the case in Jordan. Such tasks and responsibilities still need to be integrated into the functions of the NCARTT. In other

2 The zones were divided for the purpose of ascertaining the development areas which shall enjoy tax exemptions.

words, greater emphasis and attention should be allocated to R&D in the agricultural sector of Jordan, due to its positive impact, particularly in terms of production in the Jordan Rift Valley.

Future Challenges

Although the main elements in the agricultural sector in Jordan have been examined and discussed in detail, it is also necessary to explore the effects of joining the World Trade Organization (WTO) and the Euro-JOR Association Agreement. Such an analysis involves the investigation of future opportunities and challenges.

Joining the WTO helps reduce the cost of agricultural production requirements in the first place i.e. customs on agricultural inputs will be diminished. More importantly, this will reflect positively on the status quo of fruit and vegetable producers. Furthermore, the WTO membership will open the way to more export opportunities for competitive products. Such products include capsicum, cucumber, watermelon, cabbage, eggplant, tomato, beans and strawberries.

However, challenges will arise due to the increase competition against imported products. To overcome this challenge, the private sector needs to produce competitive products, as well as improve product quality and post-harvest processes through optimum utilization of available resources, application of new producing technologies and harmonizing with, or achieving international standards.

The government, on the other hand, should advise producers about the available alternatives in terms of what products need to be farmed. It should also provide a database about the competing foreign markets and seek ways to improve the performance of local wholesale markets.

Another challenge the agricultural sector will have to cope with concerns the reduction of government subsidies on water. Accordingly water costs will increase, and to overcome this challenge, the private sector needs to focus on competitive products that incur low production costs. Production efficiency must be raised through the optimum use and allocation of resources, and as previously mentioned, the application of new production technologies. It is advisable to establish agriculture councils to overcome this challenge. In addition to advising producers about other product alternatives, the government should also use the permissible policies of the amber box, which advocates reduction of support measures that distort agricultural production and trade, to enhance rural and agricultural development.

Due to the diminishing of treasury returns from custom tariffs another challenge arises from the imposition of new taxes. The private sector can overcome this challenge by creating larger production units that eventually lead to the minimization of the financial burden for each unit. The government should play an important role by encouraging and enhancing mergers, and recommend amendments to the regulations regarding larger holdings.

Finally, it is important to understand that it is not possible to overcome all challenges unless the private sector and government work closely together. To benefit fully from the opportunities presented and overcome the arising challenges, it is vital that the two parties, the government and the private sector, collaborate closely and coordinate the process together.

As for the EURO-JOR Association Agreement, table (3.2) compares the advantages given to selected countries for various products under this agreement. The table shows clearly that although the amount of agricultural products exported by Jordan is limited- thereby granting fewer advantages compared to other countries such as Israel, Morocco and Turkey- it is still unable to reach the optimum assigned limit. For example, in the case of cut flowers, Jordan is allowed to export up to 100 tons; nevertheless it currently exports only a total of 78.6 tons.

	Cut Flowers	Strawberries	Tomato	Grapes	Tomato Paste
Turkey	Unlimited	Unlimited	Unlimited	Unlimited	30000 tons
Morocco	500 tons	Unlimited	150000 tons	Unlimited	Not included
Israel	24500 tons	2600 tons	1000 tons	Unlimited	Not included
Jordan	100 tons	100 tons	Unlimited	Unlimited	3000 tons
Total Jordanian Exports	78.6 tons - Spain (13kg) - Romania (1.1 tons) - Austria (480kg)	16.4 tons - Britain (7.1 tons) - Yugoslavia (360kg)	195.3 (000's) tons - Foreign Countries (2000 tons)	1843 tons - Britain (492 tons) - Netherlands (9.6 tons) - Russia (92 tons)	4000 tons

Source: Jordan-EU Association Agreement
Department of Statistics, 2000

Table 3.2: Comparing the Advantages Conferred by the EU Association Agreement to Selected Countries

Table (3.3) demonstrates that Jordan has got great potential to increase the exports of specific products to the European Union (EU) markets especially in the off-season period. Yet, the private sector is advised to produce crops that are competitive as well as tax exempted. Such premises would work towards improving product quality and post harvest processes, while rationalizing and controlling the use of pesticides. Again the efforts of both the private sector and government need to be integrated, and cooperation needs to be reinforced to cope with the new challenges. Hence the government should adjust the current situation regarding air cargo, provide the required database about the competing markets in the Mediterranean countries, and carry out an annual revision of the agreement with the EU Association Council as stated in Article 19, paragraphs 1 and 2 of the same agreement.

Product	Producing Months	Exporting Months
Egg plant Tomato Cucumber Squash Capsicum Green Beans	All Year Round	November-April December-May November-May December-May December- March February- May
Grapes	June- July	June- July
Strawberries	November- February	July- February

Table 3.3: Jordan's Main Producing and Exporting Months to the EU

In conclusion, the current situation of the agricultural sector does not reflect its full potential. Crucial issues concerning product quality and standards, packaging and marketing must be addressed if the sector is to be developed to meet its potential, and compete globally.

Box 3.1 Success Story in Agriculture

Despite the importance of the agricultural sector to the Jordanian economy, the perception has prevailed for quite some time that governmental regulations and laws impede the growth of this sector. The government apparently neglected this sector, allowing its deterioration at a rapid pace. As a result, this cluster was confronted with insurmountable challenges that forced a lot of farmers out of business. The rapidly shrinking agricultural sector reached the stage where the actual farms producing were small family owned enterprises. Moreover, many of the farms were owned and administered by people who lacked adequate training and education.

In fact, the Jordan Valley study has been carried out to improve the status of the agricultural cluster within the Jordanian economy as a whole, trying to identify the challenges posed, and accordingly solve or at least minimize the problems encountered. This cluster proves to be of notable relevance since it employs approximately 6% of the local workforce. Moreover, it accounted for 12% of Jordan's total exports in the year 2000.

During a series of workshops and other meetings held with a group of private sector stakeholders, the JNCT managed to gather pertinent information regarding the agricultural sector in Jordan. Further, the JNCT used the gathered information as a benchmark for targets, as well as assessment.

After evaluating the results, the JNCT embarked on fostering improvements in this cluster and propelling its capabilities. As such, JNCT focused on educating this cluster's stakeholders about the challenges and opportunities opened up by joining the WTO. Moreover, the JNCT managed to form a workgroup made up of representatives of the private sector and the government with the aim of finding solutions to some of the problems encountered within the agricultural cluster, e.g. the wholesale market for fruits and vegetables. From the platform provided by this workgroup the private sector proposed solutions to the government officials.

However, since improvement is a relative concept, the private sector requested setting up a time-bound goal. Accordingly, the JNCT, assisted by experts, structured a vision for the Agricultural Cluster for 2015 and developed an agenda based on Think Tools Software.

The National Agricultural Team (NAT) is the other forum created especially to follow up on issues related to the development of the agricultural cluster within the 2015 timeframe. The NAT consists of 18 members representing the private and public sectors. Ten of the members also sit on the agricultural taskforce of the Economic Consultative Council (ECC) that set the agricultural national strategy. The team meets on a weekly basis to discuss updates and various issues related to the agricultural sector.

With sustained help and support from the JNCT, this workgroup has succeeded in changing the image of the sector as a whole. Furthermore, the agricultural cluster has gained weight on the governmental agenda for development.