



FEMISE RESEARCH PROGRAMME

2002-2004

***The Impact of Euro- Mediterranean Partnership on
the Agricultural Sectors of
Jordan, Palestine, Syria, Lebanon and Egypt
(The Case of Horticultural Exports to EU Markets)***

**Research n°FEM21-03
Directed By
Seyfeddin Muaz, Royal Scientific Society, Jordan**

*In collaboration with
University of Jordan, Jordan*

August 2004



Ce rapport a été réalisé avec le soutien financier de la Commission des Communautés Européennes. Les opinions exprimées dans ce texte n'engagent que les auteurs et ne reflètent pas l'opinion officielle de la Commission.

This report has been drafted with financial assistance from the Commission of the European Communities. The views expressed herein are those of the authors and therefore in no way reflect the official opinions of the Commission.

Femise Coordinators



Economic Research Forum
For the Arab Countries, Iran and Turkey

Institut de la Méditerranée



**Forum Euro-Mediterraneen Des Instituts Economiques
(F.E.M.I.S.E.)**

**The Impact of Euro- Mediterranean Partnership on the Agricultural
Sectors of Jordan, Palestine, Syria,
Lebanon and Egypt
(The Case of Horticultural Exports to EU Markets)**

By

Seyfeddin Muaz, PhD, Royal Scientific Society- Project Coordinator

**Amer Subhi Jabarin, PhD. University of Jordan- Principle Investigator
Laith Assaf, PhD. Royal Scientific Society- Junior Researcher
Mohannad Sahawneh, M.Sc, Royal Scientific Society- Junior Researcher
Obaid El-Roudan, B.Sc. Royal Scientific Society- Junior Researcher
Ali Al-Saeed, PhD. (Egypt)
Hala Shaheen, PhD. (Lebanon)
Atieh Al-Hindi, B.Sc. (Syria)
Abdualah Saleh, M.Sc (Palestine)**

August 2004

Table of Contents

1.	INTRODUCTION	8
2.	PROJECT OBJECTIVES	9
3.	LITERATURE REVIEW	10
4.	CONCEPTUAL FRAMEWORK	12
5.	RESEARCH METHODOLOGY	14
a.	The Policy Analysis Matrix (PAM)	14
b.	Comparative Advantage Measure	16
c.	Potential Unsatisfied Profitable Market Demand	16
6.	DATA	17
7.	HORTICULTURAL PRODUCTION IN THE TARGETED COUNTRIES	18
8.	THE STATUS OF THE ASSOCIATION AGREEMENTS WITH THE STUDIED COUNTRIES	19
a.	Association agreement between Egypt and the EU	19
b.	Association agreement between Syria and the EU	20
c.	Association agreement between Lebanon and the EU	20
9.	RESULTS OF THE ANALYSIS	21
10.	CONCLUSIONS AND RECOMMENDATIONS	39
11.	REFERENCES:	42

The Impact of Euro- Mediterranean Partnership on the Agricultural Sectors of Jordan, Palestine, Syria, Lebanon and Egypt (The Case of Horticultural Exports to EU Markets)

Executive summary

This research project was carried out on the basis of a contract between FEMISE and the Royal Scientific Society situated in Jordan in order to test the Impact of the Euro-Mediterranean Partnership on the Agricultural Sectors of five south Mediterranean countries: Jordan, Palestine, Syria, Lebanon and Egypt.

The purpose of the study was to review and evaluate the consequences the Euro-Mediterranean Partnership agreements on the economic development of the agricultural sector in five countries in south Mediterranean region. The other two objectives include: 1) determining the impact of the partnership on employment in terms of created new jobs and value added to the economies of the five studied countries; and 2) to determine the main impediments and bottlenecks of the Agreement and its implications on the reinforcement of the Euro-Mediterranean interdependence system.

The objectives of this research were translated into five questions that were answered through applying two quantitative methodologies and utilizing primary and secondary data sets. The answered questions were: 1) what are the main horticultural crops that could be produced and exported from the selected countries to the EU countries without competing with EU production seasons? 2) Are these crops utilizing efficiently the limited resources, especially water? In other words, do these crops enjoy a comparative advantage? 3) What are the expected volumes of these crops, which can be exported profitably, taking into consideration the recent steps toward market liberalization?; in other words, Specify (quantify) the size (depth) and the duration of the market window for each selected crop and how it could be synchronized to meet the increasing demand for high quality produce in the EU markets?; 4) What are the major economic and social implications of exporting the expected volumes of the selected crops in terms of national income (GDP), investment, employment and Water?; and 5) What are the implications of the Euro-Med Partnership on horticultural exports to the EU countries in terms of economic and trade policies?.

To answer the above research questions, two quantitative tools were employed in this research: 1) The Policy Analysis Matrix (PAM); and 2) Market Analysis based on the Unsatisfied Profitable Demand concept. The PAM approach serves both as a logical framework for thinking about the effects of changes in economic and agricultural policies and as an empirical analytical tool for measuring the policy impacts. The PAM was used here to answer the research question 1, 2 and 5.

The second quantitative tool is the market analysis of the potential destination markets which is based on the concept of Profitable Demand. This analysis includes the analysis of seasonal supply and demand in addition to the analysis of the seasonal market competition. The approach was used here to update the analysis, which was done about a decade ago in Jordan and to estimate the profitable demand for Syria, Lebanon, Egypt and Palestine. This research

identified the market windows, the profitable demand levels for the five countries in addition to the expected private profit, the needed investments, employment, water and marketing facilities for a group of horticultural products.

The market analysis approach helped in answering the third and the fourth questions "What are the expected volumes of these crops, which can be exported profitably taking into consideration the recent steps toward market liberalization?" and "Specify (quantify) the size (depth) and the duration of the market windows for each selected crop? By quantifying the expected exportable volumes of the selected crops using the break-even prices and the allowed periods and quotas by the commission that was imposed few years ago.

The results of the two approaches in addition to reviewing the EU trade agreements with the studied countries were used to answer the last question "What are the implications of the Euro-Med Partnership on the horticultural exports from the five countries to the EU countries in terms of economic and trade policies".

The answer of the first question concluded that there is wide range of horticultural crops produced in the five countries. However, due to the wide variation in climatic conditions among the different countries and within each country, the production calendar varies tremendously. Eleven crops were studied in this research that is produced across the five countries. The crops were selected based on its potentials as an export crops that don't compete with European production during certain periods of the year. Several reports prepared recently by experts in the five countries concluded that high value crops such as seedless table grapes, cut flowers, cherry tomatoes, strawberries, green beans, melons, herbs, date palm, table grapes and sweet peppers are the main horticultural crops that can be produced and exported from the five countries especially during the winter season when the EU countries are out of production.

The answer to the second research question which is related to the issue of efficiency of the studied crops in utilizing the limited resources in the five countries or do these crops enjoy a comparative advantage? Is YES. The answer is achieved through applying the policy analysis matrix (PAM) approach. The analysis showed that, for almost all of the selected crops, the five countries enjoy a comparative advantage in production and exporting these eleven crops.

The answers to questions 3 and 4 are achieved through applying the EU market analysis and estimating the size of the market windows in the four key EU markets. To estimate the depth of the market at the break-even price in a specific exporting country requires additional logic and analytical effort. In estimating the "depth" or size of the market window, monthly wholesale price data for the particular markets are required, in addition to, breakeven prices for the exporting countries and the marketed volumes of each studied commodity.

The profitable demand was estimated for five crops in the four key EU markets namely: the UK, Germany, France and the Netherlands. The estimated Profitable Demand in the Netherlands market for green beans is 24,041 metric tons distributed over five months from December until April. The total profitable demand for green beans in the other three markets was estimated at 12,736; 12,782 and 28,586 tons in the UK, Germany and France markets, respectively.

The annual estimated profitable demand for table grape in the UK market is 19,974 tons distributed over a period of six months starting at January until June while the annual profitable estimated demand in the other three major markets is estimated at 281,586; 234, 760 and 14,361 tons in Germany, France and the Netherlands markets, respectively.

Melons are demand all year round in the EU markets but there is a huge supply during the summer months of June through September mainly from Spain. The total annual profitable unmet demand of melons in the French market is estimated at 74,479 tons distributed over a period of four months: December, January, February and March. The highest demand is estimated during the months of January and February. Although Spain is a major producer of melons in the EU market but it doesn't compete with melons coming from the south during the winter months. The estimated annual unmet demand in the other three markets was 34,359; 29,753 and 13,121 tons in the UK, Germany and the Netherlands markets, respectively.

Strawberry exports from the southern countries to the EU markets have witnessed a significant increase during the last decade. For instance, strawberry exports from Egypt and Jordan to some of the EU markets was increasing during the last few years. The annual estimated profitable unsatisfied demand to the UK market is estimated at 18,859 tons distributed over four months October, November, December and January. During the period of these four months there is no EU strawberry production which implies that imports to the EU market in these months don't compete with any of the EU producers. The analysis has showed that the annual unmet profitable demand in the other three countries is 62,531; 29,917 and 7,594 in Germany, France and the Netherlands markets, respectively.

The Arab countries are the major dates producers in the worlds especially Egypt, Iraq, Saudi Arabia, United Arab Emirates, Algeria and Tunisia. The EU market is an important destination to dates coming from the south. Since dates are not produced in any of the EU countries, this implies that dates exports from the south do not compete with any of the EU countries. The estimated profitable demand for the four studied EU markets is: 17,057; 8,268; 6,310 and 2,795 tons in the markets of the UK, Germany, France and the Netherlands, respectively.

The fifth research question was answered through estimating the potential major economic and social implications of exporting the expected profitable volumes of the selected crops on the national incomes (GDP), investment, employment and water resources in the five countries. The analysis has shown that meeting the profitable demand of the five crops, only in the four studied key EU markets, will result in creating 119 thousand new permanent job opportunities, a total economic profits to producers and exporters equivalent to US\$ 498 million and a value added to the national economies of the five countries equal to US\$ 756 million.

However, achieving the above potential results requires a lot of hard work in terms of improvement in the quality of exported produce, high quality packing and packaging, advanced post harvest handling procedures, abiding with EU regulations and requirements, sustainable supply of demanded products to importers in the destination markets and keep up with the dynamic changes in consumption patterns in the EU markets in terms of new products, new varieties, and the continuous changes in regulations and requirements.

This study concluded from the conducted analysis and the recommendations of other studies which has been carried out on this issue, that the major bottlenecks face the southern countries in utilizing the opportunities in the EU markets are related to: 1) Lack of investments and financial resources in the region for establishing the needed infrastructure to abide with EU regulations and market requirements in terms of cold storage, pre cooling facilities, grading and sorting equipments, multi-span protected houses and advanced irrigation systems; 2) Lack of enthusiasm of the private investors to invest in large scale projects which is mainly due to the high risk involved in this kind of business. This have left the horticultural export sector unattractive to private investors; 3) Lack of focus on new high yielding varieties and non-traditional crops by research and academic institutions, private business and government; 4) Weak enforcement of regulations relating to grading, standards, and packaging materials for local and export markets; 5) Absence of effective marketing information system that can provide updated data and detailed analysis in terms of trends, projections, and emerging new markets; 6) Weak structure of specialized market organization such associations or cooperatives which results in a very limited lobbying ability to develop the export industry; and 7) The rigidity of the EU-Med agreements and the lack of understanding of the EU market regulations and requirements by many exporters and producers in the south.

It has proven in this study that horticultural products have good potentials in agricultural trade with the EU region. This is due to the comparative advantage which it enjoys as a result of favorable climatic conditions, competitive cost of production especially labor, closeness to the EU markets and the ethnic consumers in the EU region who demands certain products that are produced in the Mediterranean Partner Countries (MPC's). This study has also shown that despite the existence of good potentials for export of horticultural commodities to the EU markets, this industry in many of the MPC's is still suffering from serious weaknesses that hinder its ability to reap these benefits.

The researchers believe that the CAP should be modified to produce a WIN-WIN situation among all players in the Mediterranean arena. The results demonstrated in this paper revealed that a Win-Win option can be achieved through the synchronization of policies and effort between the north and the south. A reciprocal trade liberalization between the EU and MPC's which has been recommended by many studies recently should help in reaching to a Win-Win situation. Recent research concluded that MPC's cannot compete with the EU region in production of cereals, dairy products, and meats of animal bovine. The same research however, showed that good opportunities exist for the MPC's in the producing and exporting horticultural products without competing with the EU countries.

The researchers recommend a regular evaluation process of past implementation of the Partnership agreement in terms of evaluating its' successes and failures in achieving the designed objectives. This evaluation should also include the identification of complementarities and contradictions between existing strategies and official texts on the Euro-Mediterranean process.

One of the main challenges that faces the partnership agreements with the MPC's is to reduce poverty levels at the rural areas through creating and expanding poor people's opportunities to earn a reasonable income in a

sustainable way so that they are able to meet the basic necessities of life. This can be done through empowerment of rural communities through: 1) support micro-credit markets for financing and investment; 2) Assist in the adoption and transfer of new technologies that help improve labor and land productivity; and 3) Assist small farmers in establishing professional associations and cooperatives that can be utilized to obtain and channel needed credit, production inputs, collective deals with larger exporters and in lobbying for granting more rights.

1. INTRODUCTION

The European Union paid special attention to the agricultural sectors of many countries in the southern part of the Mediterranean. Jordan, Egypt, Lebanon, Syria and Palestine received a tremendous support from the EU during the last three decades. Excluding Egypt, the other four countries form the major part of the Fertile Crescent in the Mashraq region. The provided technical and financial grants by the EU in the field of agriculture as noticed from the signed protocols during the period 1977-1997, amounted to hundreds of million Euros paid through the European Union Bank and other EU organizations. Agricultural sector is considered to be one of the most important sectors in the economies of the five selected countries. As these countries depend heavily on agriculture, special attention is needed to be given to this sector in order to increase its participation in the Gross National Product (GNP) and improve the hard currencies earning through high value horticultural exports.

In addition to WTO several other Mediterranean countries such as Tunisia, Jordan, Morocco, Lebanon and Palestine have already signed partnership agreements with the European Union. During Nov 27-28, 1995, the Barcelona Conference launched the process for establishing what is called "a Euro-Mediterranean partnership" after intense discussion and negotiation in Barcelona. The 15 Members of the Union and 12 Mediterranean nations have launched a process of political and economic cooperation with ambitious development and trade objectives. The main medium for progress in this process was the gradual establishment of a free trade area between the EU and the Med-12 by 2010. This process involved a progressive elimination of tariff and non-tariff barriers on manufactured products and a progressive market liberalization of trade in farm products and in services. The EU-MED partnership agreements rely heavily on the philosophy and the governing rules of the WTO and its agreements. The EU-MED agreements aim at establishing a free trade area over a transitional period of twelve years. The free trade area is based on the specified provisions of the Agreement as well as the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Services (GATS). The EU-MED agreement covers a wide array of topics including: trade in industrial and agricultural products, right of establishment, trade in services, payments and capital movements, competition, intellectual property rights, financial co-operation, economic co-operation in the field of industry, agriculture and investment, standards and measurements, transportation, telecommunications and energy, science and technology, environment and tourism, statistics, and the fight against illegal drugs.

The West Asia sub region is formed from several countries of the CWANA region which includes Jordan, Lebanon, Syria, Palestine, Iraq, Iran, Pakistan, Yemen, Afghanistan, Cyprus and Turkey. Within this sub region, the major Mashreq countries (Syria, Iraq, Jordan, Lebanon and Palestine) share some of the common features that characterize this sub region including: 1) the cultural setup of the communities; 2) the high similarity in environmental conditions; 3) the richness and diversity in plant genetic resources; 4) similarity in agricultural practices and cropping patterns; and 5) the common challenges and constraints facing the production of food and agricultural products. As mentioned above the Mashreq countries, except Iraq, were involved during the last decade, in one way

or in another, in the process of global market liberalization. However, the level of advancement in this process varies from one country to another due to the political setup in each country and the regional events that affected and still affecting the stability of the region

The first generation of the association agreements was signed with Cyprus, Malta and Turkey. Then several cooperation agreements were signed between the EU and Algeria, Egypt, Jordan, Lebanon and Syria. The second generation of the association agreements was signed with Algeria, Tunisia, Israel, Jordan, Lebanon, Morocco and the Palestinian Authority. The conditions of the Euro-Mediterranean Association Agreements ruling bilateral relations vary from one Mediterranean Partner to the other but have certain aspects in common including political dialogue, respect for human rights and democracy, founding of WTO-compatible free trade over a transitional period of up to 12 years, intellectual property, competition rules, state aids and monopolies, economic cooperation, cooperation in social affairs, migration, and cultural cooperation.

Association Agreements between the EU and Tunisia, Israel, Morocco and the Palestinian Authority (interim agreement) have already entered into force. The association agreement with Jordan was concluded on March 2002. Negotiations with Egypt were concluded in June 1999 and the Agreement was signed in June 2001. Negotiations with Algeria were concluded in December 2001 and with Lebanon in January 2002. Negotiations with Syria are still going.

Many countries in the West Asia, North Africa and the Arabian Peninsula, including Jordan, Pakistan, Egypt, Morocco, Tunisia, Oman, Qatar, Kuwait, United Arab Emirates and Bahrain, have already become full members in the World Trade Organization. Others are still observers in the WTO and may soon become full members. Few others are still in the process of early negotiations.

The Euro-Mediterranean Agreements are administrated by several protocols that establish the association between the European Communities and their Member States, of the one part, and the Mediterranean Partner Countries (MPC's). Among these protocols, related to this research, is the agricultural protocol which is concerned with the arrangements applicable to the importation into the Community of agricultural products originating in partner country, the protocol concerning the arrangements applicable to the importation into the partner country of agricultural products originating in the Community, the protocol concerning the definition of the concept of 'originating products' and methods of administrative cooperation and the protocol on mutual assistance between administrative authorities in customs matters.

2. PROJECT OBJECTIVES

Limited literature is available on the impact of the EU-Med agreement on the economies of the region. The few available scattered studies are mainly descriptive and very limited.

The major objectives of the governments' strategies in the five studied countries are directed towards developing the agricultural sectors to enhance the efficiency of utilizing the scarce natural resources, mainly water; increase farmers

profitability and income generated by agriculture, maximize exports and value added of the agribusiness sectors and agriculture's share in GNP.

This research is a continuation of a project that was funded through FEMISE Phase I research program. In the first phase the research covered only two countries: Jordan and Palestine. The completed document of the research was published by FEMISE and ERF as a working paper in July 2000. Additional funding from Phase II was provided to collect data to expand the analysis to include Syria, Lebanon and Egypt, and to update the available data on Jordan and Palestine.

The main objective of this research, as in phase I, is to examine how the Euro-Mediterranean Partnership would affect the achievement of the economic development objectives in the five selected countries. Other objectives include: 1) determining the impact of the partnership on employment in terms of created new jobs; and 2) to determine the main impediments and bottlenecks of the agreement and its implications on the reinforcement of the Euro-Mediterranean interdependence system. These objectives are transferred into the following questions that when answered would achieve the objectives of this research. The answered questions were:

1. What are the main horticultural crops that could be produced and exported from the selected countries to the EU countries without competing with EU production seasons?
2. Are these crops utilizing efficiently the limited resources, especially water? In other words, do these crops enjoy a comparative advantage?
3. What are the expected volumes of these crops, which can be exported profitably, taking into consideration the recent steps toward market liberalization? In other words, specify (quantify) the size (depth) and the duration of the market windows for each selected crop and how it could be synchronized to meet the increasing demand for high quality produce in the EU markets?
4. What are the major economic and social implications of exporting the expected volumes of the selected crops in terms of national income (GDP), investment, employment and Water?
5. What are the implications of the Euro-Med Partnership on horticultural exports to the EU countries in terms of economic and trade policies?

3. LITERATURE REVIEW

In April of 2000, the World Bank completed a study in full collaboration with the Royal Scientific Society to examine establishing an agricultural export development project in Jordan. The study focused on the feasibility of exporting high quality horticultural products from the Hashemite Kingdom of Jordan to markets of sufficient demand and capability to pay for such products. The study proposed establishing a specialized production and marketing company to undertake the needed activities to export certain high value crops to the Gulf and European markets. The study also concluded that the horticultural export sub-

sector is facing several chronic problems mainly the lack of the know-how and the marketing system.

In Palestine, a recent study was prepared and funded by FAO/UNDP, for the Capacity Building Project in Agricultural Policy Analysis and Planning, focused on analyzing the comparative advantage and competitiveness of the major crops and crop rotations in Palestine (FAO, 1999). The Policy Analysis Matrix (PAM) approach was used for assessing the comparative advantage of selected products of the Palestinian agriculture. The study specified a number of agricultural products that enjoys a comparative advantage and that can be exported to international potential markets.

Al-Saeed and Jabarin (1998) highlighted the potential economic and social benefits accruing to Egypt from producing and exporting of high value horticultural crops to potential markets mainly in the EU. They concluded that the overall potential benefits that could be achieved in monetary terms would amount to about LE 398 million if a conservative scenario of meeting 15% of unmet profitable demand in the EU market were reached. Nevertheless, if the level of achievements were increased to 20% or 25%, the total benefits would be then increased to LE 568 million or LE 846 million, respectively.

Jabarin et.al. (1995) have also used the Profitable Demand approach to estimate the duration and the size of the marketing window for exporting seedless grapes to UK, France, Germany and the Netherlands. The research, which was funded by the USAID, was used to prepare a business plan for exporting table grapes from Jordan. The report concluded that there is a great opportunity for exporting seedless table grapes from the Jordan Rift Valley areas during the months of May-July.

In their research, Jabarin and El-Habbab (1996) studied the Impacts of Trade Liberalization on the Comparative Advantage and Bilateral Trade of Cereals between Jordan and Syria by using the Policy Analysis Matrix (PAM) Approach. The researchers calculated the Domestic Resource Coefficient (DRC) and some other protection coefficients such as the Nominal Protection Coefficient (NPC) and the Effective Protection Coefficient (EPC). The DRC coefficient was used to test if the two countries enjoy a comparative advantage in producing wheat and barley under different production system. The study concluded that there is an ample room for exporting cereals from Syria to Jordan.

The SRD Group used the Profitable Demand approach to estimate the market size and duration of exporting selected fresh fruits and vegetables to the EU markets (SRD, 1989). The Group produced a set of booklets to help exporters to explore the opportunities in the EU markets.

As mentioned above, this research project is a continuation of a research project that was conducted in Phase I (FEMISE, 2002). The main results of the completed analysis of Phase I for Jordan and the Palestine, which were used by the researchers to derive conclusions and recommended needed actions to promote exports and improve the welfare of the people in Jordan and Palestine, were:

- 1) The Partnership agreement is expected to have a positive economic impact on horticultural exports and in turn on

employment and national economies of Jordan and Palestine. The analysis showed that the potential exports of the three studied crops to the UK market alone could amount to 12,900, 18,858 and 12,700 tons for table grapes, strawberries and green beans, respectively.

- 2) Achieving the above-mentioned prospects export will imply generating about 2,227 new jobs and will yield a sum of US\$ 43 million in value added to the economies of the two states.
- 3) Achieving the expected profitable demands requires huge investments in terms of technology transfer and managerial training;
- 4) The improvement in production and handling technology for export purposes will have an indirect benefits in terms of improving the quality of produce sold at domestic markets;
- 5) Production of the newly introduced high value crops for export to the EU markets will force growers to comply with environmental regulations and standards in the EU which in turn will push Jordanian and Palestinian growers to reduce the usage of chemical. This will definitely have a positive impact on the surrounding environment except for the additional amounts of plastic which will be used in expanding the plastic houses needed to fulfill the prospect demands. Many farmers especially in the Jordan Valley region have already started using the Integrated Pest Management (IPM) technique to produce exportable qualities, which implies further reduction in the usage of agricultural chemical.
- 6) Intensive production techniques using plastic houses utilize also the advanced techniques of irrigation. Drip irrigation technique, which is used in plastic houses, is so efficient in terms of volume and distributions of irrigation waters and in turn increase the economic returns per cubic meter of water compared to surface or sprinkler irrigation.
- 7) Small farmers could also benefit from expanding production of these crops. Production of such crops could be achieved through what is called "satellite farming system" which utilizes the capabilities of small farms and in turn improve their incomes and reduce poverty level in rural areas; and
- 8) In the long run, the agreement creates good opportunities for regional cooperation in terms of technology transfer and utilizing the supporting systems.

4. CONCEPTUAL FRAMEWORK

As part of the economic development process, the five selected countries have been attempting to build up an agricultural infrastructure capable of meeting the growing domestic demand for agricultural commodities and to the highly absorptive markets of the Gulf States and high-end markets in the EU countries. A considerable portion of investment in agriculture has been devoted to the development of projects in the agro-export sector especially in Egypt, Syria and Jordan. In this regard, another three significant events are expected to have a

serious impact on the agricultural sectors of these countries: the Peace Treaty with Israel, joining the Euro-Mediterranean Partnership and joining the World Trade Organization (WTO). Hence, this research will be focused on analyzing the horticultural sub-sector of the five countries in a regional perspective. Two methodologies will be employed here to answer the research questions mentioned above: 1) The Policy Analysis Matrix (PAM); and 2) Market Analysis based on the Unsatisfied Profitable Demand concept.

The PAM approach serves both, as a logical framework for thinking about the effects of changes in economic and agricultural policies, and as an empirical analytical tool for measuring the policy impacts. Person and Monke (1989) were the first who developed the Policy Analysis Matrix (PAM). They described the method in a book, which was published in 1989. Many researchers in the region and abroad used the approach to evaluate the impacts of macroeconomic and agricultural policies. The PAM was used here to answer the research question 1, 2 and 5.

The PAM approach was used in answering the first question "What are the main horticultural crops that could be produced and exported from the five countries to the EU countries without competing with EU production seasons?" through identifying those crops which yield economic profits to growers and rank-order them based on this criterion.

The approach was also used to answer the second question "Are these crops utilizing efficiently the limited resources of the five countries mainly water? In other words, do these crops enjoy a comparative advantage?" by calculating the Domestic Resource Ratio Coefficient (DRC) to determine if the selected crops enjoy a comparative advantage.

A country is said to have a comparative advantage in the production of a tradable good if that country's production is efficient; if not, then it has a comparative disadvantage. The concept of comparative advantage has two meanings: efficiency of production is being compared among two or more trading nations, where nations with the lowest opportunity costs are relatively more efficient and have a comparative advantage. The other meaning of comparative advantage is referred to the efficiency of different kinds of production within the domestic economy, which are compared in terms of earnings or savings a unit of foreign exchange.¹

The concept of opportunity cost is employed in this research to assess the comparative advantage of the country in question. This assessment involves determining the opportunity cost of exchange rate, calculating the value added in border prices, calculating the cost of domestic resources used in the production process, and comparing the domestic resource cost with the net benefits estimated at opportunity costs.

The PAM approach was also used to partially answer the fifth question "What are the major economic and social implications of exporting the expected volumes of the selected crops in terms of national income (GDP), investment, and

¹ Tsakok, Isabelle, 1994, "Agricultural Price Policy-A practitioner's guide to partial-equilibrium analysis", Cornell University Press, Ithaca and London.

employment?" Through estimating the economic (social) profit per unit of land (hectare) in addition to the other technical coefficients such as the amount of required labor, capital, and water for each of the selected crops. These estimates were used later combined with results of the second approach to derive the expected impact at the national level on GDP, investments, employment and water usage.

The market analysis of the destination markets is based on the ***Profitable Demand*** concept. This analysis includes the analysis of seasonal supply and demand in addition to the analysis of the seasonal market competition. In 1991 the SRD Group, Inc used this approach to conduct a strategic market intelligence analysis. The Jordan Agricultural Marketing Development Project funded this sophisticated market research. The approach was used here to update the analysis, which was done about a decade ago in Jordan and to estimate the profitable demand for Syria, Lebanon, Egypt and Palestine. This research identified the market windows, the profitable demand levels for the five countries in addition to the expected private profit, the needed investments, employment, water and marketing facilities for a group of horticultural products.

The market analysis approach helped in answering the third and the fourth questions "What are the expected volumes of these crops, which can be exported profitably taking into consideration the recent steps toward market liberalization?" and "Specify (quantify) the size (depth) and the duration of the market windows for each selected crop? By quantifying the expected exportable volumes of the selected crops using the break-even prices and the allowed periods and quotas by the commission that was imposed few years ago.

The results of the two approaches in addition to reviewing the EU trade agreements with the studied countries were used to answer the last question "What are the implications of the Euro-Med Partnership on the horticultural exports from the five countries to the EU countries in terms of economic and trade policies".

5. RESEARCH METHODOLOGY

The following part includes an elaboration of the research methods that was applied. It also shows the nature of needed data and its sources and how the results were used in answering the above mentioned research questions.

a. The Policy Analysis Matrix (PAM)

The Policy Analysis Matrix (PAM) is used as analytical tool in this research to serve in achieving the objectives. Private and social budgets were built for the selected crops in the five different countries. Comparative advantage coefficients were estimated and used to provide policy bids and recommendations

Economic profit is the fundamental part of the Policy Analysis Matrix (PAM) analysis. Profit is defined as the difference between the value of outputs (revenues) and the costs of all inputs (costs).

The PAM model is shown in Table 1. Private profits are defined in the first row as $D=A-B-C$. The letter A is used to define the private revenues (the revenues at the prevailing market price). Costs are divided into two components. Costs of tradable

inputs (inputs which are traded in the world markets) such as fertilizers, pesticides, and seeds, are included in the second column.

Table 1. The Policy Analysis Matrix

	Revenues	Costs		Profits
		Tradable Inputs	Domestic Factors	
Private Prices	A	B	C	D
Social Prices	E	F	G	H
Policy Effects	I	J	K	L

The symbols (capital letters) stand for:

- A Total Revenues in private prices (market prevailing prices-some times is called financial prices).
- B Costs of tradable inputs (such as fertilizers, seeds, plastic mulch, etc.) in private prices.
- C Costs of domestic factors (such as labor, capital, etc.) in private prices.
- D Private Profit.
- E Total Revenues in social prices (prices which are adjusted to government interventions).
- F Costs of tradable inputs (such as fertilizers, seeds, plastic mulch, etc.) in social prices.
- G Costs of domestic factors (such as labor, capital, etc.) in social prices.
- H Social profits.
- ** Private Profits (D) $D = A - B - C$
- ** Social Profits (H) $H = E - F - G$
- ** Output Transfers (I) $I = A - E$
- ** Input Transfers (J) $J = B - F$
- ** Factor Transfers (K) $K = C - G$
- ** Net Transfers (L) $L = D - H$

The value of tradable inputs at the prevailing market prices (private prices) are recorded in the first row, second column and denoted by the letter B. Tradable inputs can be imported from or exported to other countries.

The third column of the matrix includes domestic factors costs of domestic factor in private prices are denoted by the letter C. Domestic factors include land, water, labor, and capital. Domestic factors are also called non-tradable inputs because there are no international markets for these inputs.

Column four in the matrix is labeled profits. Private profits, denoted as D in the matrix, are included in the first row of the fourth column. Values in the fourth column are calculated by subtracting values in column two and three from the

revenues in the first column. A positive difference at prevailing market prices, means an excess profit exists which encourages other firms to enter the business. Positive profits also work as a stimulus for existing firms with positive profits to increase output to earn more profits. When more firms enter the market and existing firms expand, those two actions will induce economic growth. If either taxes or subsidies distort the market prices of inputs or outputs, then private profits could be a misleading indicator.

The second row of the PAM is used to calculate social profits, $E-F-G=H$. Social profits or ("without policy" profits) are those profits without divergences. In Table 1, the E portrays the revenues valued at efficiency prices (social prices) and F and G indicate the efficiency values of tradable inputs and domestic factors, respectively. Positive social profits H provide an incentive for expansion of these activities, and result in apparent economic growth in the national income.

The third row of the matrix shows the divergences or differences between the first row (private valuation) and second row (social valuation). If market failure does not exist in the product market, distorting policies causes all divergences between private and social prices of tradable output and inputs.

b. Comparative Advantage Measure

Standard measures of the degree of price distortions have been estimated to compare profitability and efficiency of different crops. Ratios are a convenient approach for avoiding the problem of a common numeraire for comparisons among activities, particularly when the production process and outputs are dissimilar. Ratios are estimated from values of the PAM. Ratios can be used to rank alternatives according to different policy objectives. The standard measures or ratios have been calculated in the standard PAM, that is, Nominal Protection Coefficients (NPCs) and Effective Protection Coefficients (EPC).

The Domestic Resource Coefficient (DRC) is used to determine if the production of a specific crop makes efficient use of the domestic resources. The analysis of comparative advantage utilizes the Domestic Resource Cost (DRC) concept. The set of data described above to estimate the protection coefficients can be utilized also to estimate the comparative advantage of a specific crop in a particular country.

The DRC as a measure of efficiency, or comparative advantage is calculated by dividing the factor costs G in table1 by the value added in social prices E-F. A DRC value greater than one indicates that the value of domestic resources used to produce the commodity is greater than the contribution of its value added at social prices, in other words comparative disadvantage exists. A DRC value less than one indicates that the country has a comparative advantage in producing that commodity.

c. Potential Unsatisfied Profitable Market Demand

This methodology is used to estimate the volume of the unsatisfied (or unmet) demand in each of the destination markets (EU importing countries). Monthly profitable demand is used here as a measure to explore the potentiality of the

selected crops for export to the EU market. The monthly *profitable market demand* is that quantity which is already being imported during the peak import month in the country of destination.

The above information is used to tell the potential exporters, in the five countries, the quantity in the destination markets that can be absorbed each month at the above prices, which will give him a profit. In addition it tells them how strongly deep demand would be during the “marketing window” of that market (the size of the market window). The following steps summarize the estimation methodology of the potential unmet profitable demand:

1) To estimate the Profitable Demand, the researchers started with an estimate of the average producer/exporter “break-even” price in each export market to be analyzed. The breakeven price was estimated by adding up the farm production costs, packaging costs, transport costs, tariffs, handling and marketing fees for supplying one kilo of fresh produce from the five countries to the four studied key European markets (UK, Germany, France and the Netherlands). The breakeven price was slightly different in the four various markets because of difference in tariff and transportation costs; and

2) The depth or the size of the market window for products originated from the five exporting countries was estimated using the monthly wholesale price data and the monthly-marketed quantities in each of the four EU market.

6. DATA

Crop budgets for the proposed crops were used to build several accounting matrices known as Policy Analysis Matrix (PAM). These matrices were designed to perform the following analysis:

1. Estimate the DRC (Domestic Resource Coefficient), NPC (Nominal Protection Coefficient) and PC (Profitability Coefficient) to show the Comparative Advantage of the five countries in producing and exporting the selected crops (strawberry, green beans, table grapes, cherry tomatoes and melons). Based on the availability of the data the research team may consider adding some additional potential crops.
2. Estimate the private (financial) costs, revenues and net profits for the selected seventeen horticultural crops, which might be exported to Europe.
3. Estimate the social (economic) costs, revenues and net profits for the proposed crops.

Cost information and trade data were also needed for this analysis. The researchers updated the crop budgets from recently published reports by FAO, ESCWA, and the Ministries of Agriculture in the five countries. The prices of the selected crops were obtained from the EU commission database "ERUOSTAT".

Social valuation of outputs and inputs is a major segment in the building process of the Policy Analysis Matrix (PAM). Social prices in the PAM are also referred to as efficiency prices. Social or efficiency prices demonstrate the opportunity costs

of consumption. World prices of inputs and outputs are the cornerstone for estimating the efficiency prices. The social prices were calculated by adjusting the international market prices for exchange rate, insurance, handling, losses, domestic marketing and transport costs to the farm level. Different assumptions were used for adjusting the prices of different inputs and outputs. In specific, the data required included:

- Crop budgets for crops produced in Jordan, Syria, Egypt, Palestine and Lebanon;
- Weekly quantity supply, in metric tones/week, for each of destination markets (UK, France, Germany, and the Netherlands) during 1994-2001;
- The break-evens prices of the selected crop in the five countries. The break-even price is the total cost of production, packing, transport, tariffs, and handling to place one kilogram of fresh produce in the destination wholesale market. It is recommended to use the higher break-even price for the analysis (i.e. the most costly adopted technology);
- The average weekly wholesale price in the wholesale markets in the country of destination during 1994-2000;
- Trade maps to illustrate transport distances of major European suppliers; and
- Production calendar of each of the proposed crops (the earliest harvest dates in the most suitable production regions of the five countries).

7. HORTICULTURAL PRODUCTION IN THE TARGETED COUNTRIES

There is a high similarity in the agricultural production in the five studied countries due to its geographical location in the southern part of the Mediterranean. The production of fresh fruits and vegetables in the five selected countries was on continuous increase during the last three decades. This was mainly due to the expansion in irrigation projects, introduction of plastic houses, introduction of new hybrid-high yielding varieties, and increased demand for fresh produce domestically and in the international markets. The main horticultural crops that are produced in the five studied countries are; tomatoes, cucumbers, eggplants, squash, sweet peppers, melons, potatoes, apples, table grapes and dates. Still, there is a high potential for increasing vegetable production base through: 1) intensification of technology and methodology used in production processes; 2) increase the cropping intensity through planting vegetables in two or more seasons per year which is possible even if the present level of water supply is maintained; and 3) enlarging the production base capacity of vegetables and fruits through changing the cropping pattern.

8. THE STATUS OF THE ASSOCIATION AGREEMENTS WITH THE STUDIED COUNTRIES

In this part of the study we shed the light on the major components of the Association Agreement between the EU from on side and with each of the governments of Egypt, Syria and Lebanon from the other. The association agreement with Jordan and Palestine were discussed in the study report of Phase I.

a. Association agreement between Egypt and the EU

The Association Agreement with Egypt will fully enter into force by summer 2004 after finalizing some administrative procedures. Egyptian government as well as all the EU Member States has ratified the Agreement.

The agreement will cover a wide array of products subjected to tariff dismantling. The tariff dismantling schedule for agricultural products indicates the following:

- Egyptian agricultural products (processed or not): For almost all products on the list, the Association Agreement grants a 100% reduction of customs duties, in many cases up to certain tariff quota, in other cases free (such as grapes, watermelons, asparagus, etc.).
- European agricultural products: Reduction of customs duties between 25% and 100% for a list of products, in some cases within the limit of a tariff quota (dairy products, seeds, etc.).
- European processed agricultural products: gradual reduction in accordance with the following schedule:
 - For products listed on Table 1 of Protocol 3, duties shall be abolished on 01/01/2006 (natural sponges, animal fats, cocoa paste, and preparations for infant use).
 - For products listed on Table 2 of Protocol 3, duties shall be gradually reduced from 01.01.2006 to 01.01.2008 (from 5% first year to 15% final reduction) (yoghourt, margarine, tomato ketchup, soups).
 - For products listed on Table 3 of Protocol 3, duties shall be gradually reduced from 01.01.2006 to 01.01.2008 (from 5% first year to 25% final reduction) (sweet corn, pasta, chocolate, waters).

During the third year of implementation of the Agreement, Egypt and the EU shall reexamine the situation in order to determine the measures to be applied from the beginning of the fourth year after the entry into force of the Agreement in accordance with the progressive establishment of a greater liberalization of their trade in agricultural, fisheries and processed agricultural products.

b. Association agreement between Syria and the EU

In the 9th of December 2003, an understanding was reached between the negotiators from the EU and the Syrian Government on all issues. The negotiations of an EU-Syria Association Agreement are currently in their final phase. The Draft Agreement foresees provisional application of all trade and trade-related provisions as soon as it has been adopted by the European Community and Syria until the entry into force of the Association Agreement. The body of the Agreement will now have to be politically approved by both sides (Council Working Group for the EU) with a view to initialing the agreement before the end of 2004, paving the way for the legal ratification from both sides

The draft EU-Syria Association Agreement is similar in pattern to other Euro-Mediterranean Association Agreements, but contains provisions in a number of new areas: non-proliferation, counter-terrorism, sanitary and phyto-sanitary measures, trade facilitation and trade dispute settlement mechanisms. It also contains more far-reaching and substantial provisions in the areas of right of establishment and services, comprehensive tariff dismantlement on agricultural products, technical barriers to trade, government procurement and intellectual property rights. It will necessitate co-operation on far-reaching reform and modernization of the Syrian economy.

As in the case of the countries who signed association agreement, Syria can benefit from the Agreement and improve the trade balance. To optimize the benefits from the agreement, Syrian exporters will need better access to information concerning market arrangements and import rules for the EU and other markets, particularly for agricultural and processed agricultural products.

c. Association agreement between Lebanon and the EU

The association agreement between the EU and the Lebanese government was put in force since March 1, 2003. The agreement contains the following protocols related to agricultural products:

Protocol 1: Import into the EU : full liberalization (no duty, no quota) for all Lebanese agricultural products, with a list of exceptions (for the main part: olives, olive oil, table grapes, wine, potatoes, pears, apples, garlic, tomatoes) for which there are individual zero duty tariff quotas for each product group, with an annual increase of the quotas. These concessions apply immediately when the Agreement comes into force.

Protocol 2: For the EU, Lebanon has granted a range of reciprocal concessions in the form of tariff reductions. These are particularly important where high tariffs (generally, from 35% to 70%) are currently applied. The EU will thus benefit from lower duties on such items as meat, milk, eggs, cheese, potatoes, tomatoes, garlic, various vegetables and fruits, flowers and quality wine. The tariff reductions will take place five years after entry into force of the Agreement (i.e. after March 2008). At the beginning of the 6th year, taxes for the agricultural products currently submitted to 5% tariff are abolished. Additionally, at the beginning of the 6th year, taxes on other agricultural products originated from the

EU are reduced by 20 to 30%. Taxes on the olive oil are kept. The situation will be reviewed five years after entry into force of the Agreement.

Protocol 3: concerns processed agricultural products. EU is to remove duties completely and immediately, on entry into force of the Agreement, on a wide range of food and other processed farm products from Lebanon, and has maintained the agricultural element only on a restricted list of goods (including buttermilk, cream yoghurt, sweet corn, margarine, fructose, some malt, flour and cocoa products; pasta; tapioca; ice cream, certain alcohols). Lebanon is to remove duties completely on some 120 product groups from EU, and to make 30% tariff cuts to some 100 product groups (such as yoghurt, margarine, chewing gum, sweets, cocoa, chocolate, biscuits, sweet corn, certain potato products, ice cream, mineral water, beer). Tariffs on most EU cheeses are to be reduced to 20%. These tariff reductions are to be phased gradually, from year six to year 12 of the transition period, after entry into force of the Agreement (as for industrial products).

9. RESULTS OF THE ANALYSIS

As mentioned above, this research is a continuation of a project that was funded through FEMISE Phase I research program. In the first phase the research covered only two countries: Jordan and Palestine. The completed document of the research was published by FEMISE and ERF as a working paper in July 2000. Additional funding from Phase II was provided to collect data to expand the analysis to include Syria, Lebanon and Egypt, and to update the available data on Jordan and Palestine.

The main objective of this research is to examine how the Euro-Mediterranean Partnership would affect the achievement of the economic development in the five selected countries. The other sub objectives include: 1) determining the impact of the partnership on employment in terms of created new jobs in the agricultural sector; and 2) to determine the main impediments and bottlenecks of the Agreement and its implications on the reinforcement of the Euro-Mediterranean interdependence system.

In this part of the study the results are presented in the same sequence of the raised research questions that were used as a translation of the above objectives of this research. The answered questions in this research were:

What are the main horticultural crops that could be produced and exported from the selected countries to the EU countries without competing with EU production seasons?

Are these crops utilizing efficiently the limited resources, especially water? In other words, do these crops enjoy a comparative advantage?

What are the expected volumes of these crops, which can be exported profitably, taking into consideration the recent steps toward market liberalization?

Specify (quantify) the size (depth) and the duration of the market windows for each selected crop and how it could be synchronized to

meet the increasing demand for high quality produce in the EU markets?

What are the major economic and social implications of exporting the expected volumes of the selected crops in terms of national income (GDP), investment, employment and Water?

What are the implications of the Euro-Med Partnership on horticultural exports to the EU countries in terms of economic and trade policies?

The answer of the first question concluded that there is wide range of horticultural crops produced in the five countries. However, due to the wide variation in climatic conditions among the different countries and within each country, the production calendar varies tremendously as indicated in table 2. In this research we selected eleven crops that are produced across the five countries. The crops were selected based on their potentials as an export crops that don't compete with European production during certain periods of the year. Several reports prepared recently by experts in the five countries concluded that high value crops such as seedless table grapes, cut flowers, cherry tomatoes, strawberries, green beans, melons, herbs, date palm, table grapes and sweet peppers are the main horticultural crops that can be produced and exported from the five counties especially during the winter season when the EU countries are out of production.

Table 2. Production calendar for selected crops in the studied countries

Crop	Jordan	Egypt	Lebanon	Syria	Palestine
Tomato (Green Houses)	All Year Round	All Year Round	Jan-Jul	Oct-Jun	Nov-Jun
Green bean (Green houses)	Dec 15 – May	All Year Round	-	Oct-Mar	Oct-Mar
Strawberry (Green houses & open field)	Dec 5 - May	Dec 5 - May	Jan-June	Jan- Feb	Dec 5 - May
Sweet melon	Mar-Aug	May - Oct	-	May-Aug	May - Oct
Sweet Pepper (Green houses)	All Year Round			Nov-Dec	
Grape	May - Sept	May - Sept	Aug - Oct	Jun - Nov	June - Nov
Apple	Aug-Oct	-	Sep-Oct	Aug-Oct	-
Date Palm	Sep-Oct	Sep-Oct	-	-	Sep-Oct
Olive	Oct-Nov	-	Oct-Nov	Oct-Nov	Oct-Nov
Anise	May-Jun	May-June	-	May-Jun	-
Roses	Nov-May	Nov-May	May-Dec	May-Aug	Nov-May

The second research question is related to the issue of efficiency of the studied crops in utilizing the limited resources in the five countries. In other words, the question is: do these crops enjoy a comparative advantage? The answer to this question is achieved through applying the policy analysis matrix (PAM) approach as explained in the methodology section above. The answer to this question is "yes" for almost all of the selected crops in this study: The PAM was used to determine if the five countries enjoy a comparative advantage in production and exporting the selected crops. The Domestic Resource Cost coefficient (DRC) was calculated using private and social enterprise budgets prepared by research

fellows in the participating countries. The social prices of output were obtained through calculating the export parity prices for all outputs and inputs used in preparing the social (economic) budgets. To compare prices, costs and revenues across the five countries, all prices were converted to US dollars using the real exchange rate prevailing in each country. FOB (Free on Board) prices and CIF (Cost of Insurance and Freight) prices for exportable and importable, respectively, were obtained from foreign trade statistics and exporters in the five countries.

Tables 3 through 7 contain the main competitiveness indicators calculated using the PAM approach for the five countries Jordan, Palestine, Egypt, Syria and Lebanon, respectively. The first indicator in these tables is the private profits (in US\$ per hectare) which shows the amount of net profit the producer gains at the prevailing domestic market prices (i.e. the distorted prices of inputs and outputs). While the second indicator shows the net social (economic) profits in US\$/hectare which is the net profits that producers should gain if markets are free and there is not governmental distortions. The difference between the two types of profits gives the amount of net distortions per hectare of the selected crop in each of the five countries. The third indicator portrays the social value added by one hectare for each crop. The value added is an important indicator since it shows the amount of money retained in the country after deducting the cost of tradable inputs used in the production process. The social value added is also an indication of the economic returns to domestic resources used in the production process such as land, labor, water and capital. The fourth indicator is the Domestic Resource Coefficient ratio (DRC) which is the proxy used to determine if the crop in question enjoys a comparative advantage in the specified country. The DRC is a ratio of the total costs of domestic resources used in the production of one hectare of a specified product to the amount of value added per hectare generated from production that product measured in social (economic) terms. If the ratio is less than one, which implied that the cost of domestic resources is less than the generated value added, then the crop in question enjoys a comparative advantage. The last two indicators in table 3 provide additional alternative efficiency indicators for the allocation of domestic resources such as water and labor.

Table 3 summarizes the different estimated indicators for nine selected horticultural crops produced in Jordan. It is clear from the table that seven out of the nine crops enjoy comparative advantage as concluded from the DRC value. Only sweet melon and thyme have a DRC value higher than "one" which means that these two crops do not allocate scarce domestic resources efficiently as in the case of the other seven crops.

Table3. Competitiveness and efficiency indicators for nine selected crops in Jordan

Indicator	Green beans	Tomato	Strawberry	Sweet melon	Sweet pepper	Thyme	Roses	Carnation	Grapes
Private Profits (\$/ha)	1405	18671	16945	-1040	8596	13771	159342	145533	10329
Social (Economic) Profits (\$/ha)	6363	8774	24534	-3985	11315	-5652	247302	228236	13410
Social Value Added (SVA) (\$/ha)	9209	21819	37518	4672	19972	9115	311345	295704	24059
Domestic Resource Cost Coefficient (DRC)	0.31	0.60	0.35	1.85	0.43	1.62	0.21	0.23	0.44
Water Requirement (Cm/ha)	1600	13900	6000	3000	3910	10000	66000	40000	15000
labor Requirement (person/ha)	187.5	350	862.5	118.75	612.5	1200	1881.25	4558.75	122.5
Economic profits to labor (US\$/Person)	33.9	25.1	28.4	-33.6	18.5	-4.7	131.5	50.1	109.5
Economic profits to water (US\$/CM)	4.0	0.6	4.1	-1.3	2.9	-0.6	3.7	5.7	0.9

Figures 1 through 3 in box 1 complement table 3 and provide a detailed analysis of the other competitiveness and efficiency indicators estimated for the selected crops in Jordan.

Box 1: Main competitiveness indicators (Jordan)

Figure 1 shows that roses and carnation possess the highest economic profits and economic value added. There is a huge difference between those two crops and the other seven crops. The lowest were thyme and sweet melons

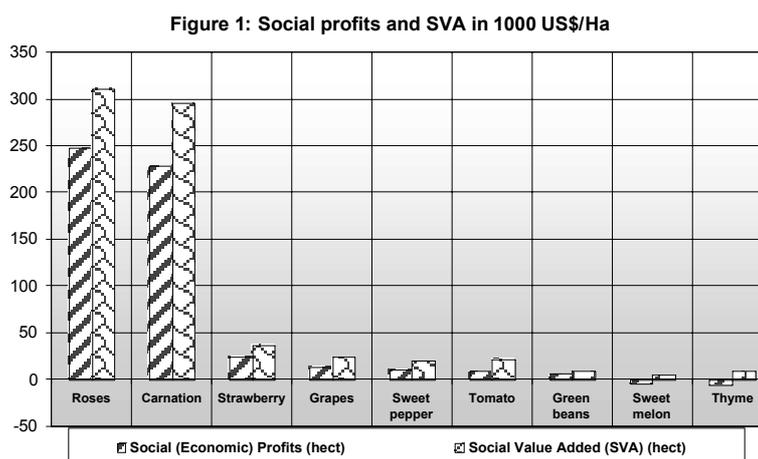


Figure 2 demonstrates that roses have the highest return to labor followed by grapes and carnations. Roses, grapes and carnations are known as a labor intensive crops which employ lots of laborers in a small intensive production area.

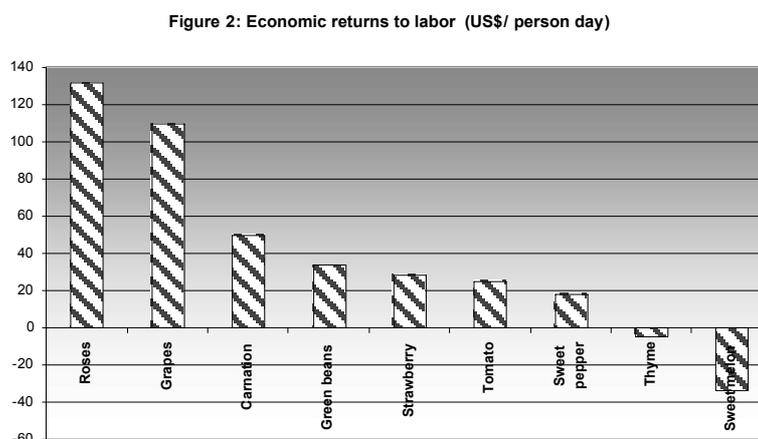


Figure 3 portrays a crucial efficiency indicator in the south Mediterranean countries. Since water is the most limiting production factor, returns to water should be considered in the decision making process. Carnation is the most efficient crop followed by strawberry, green beans and roses.

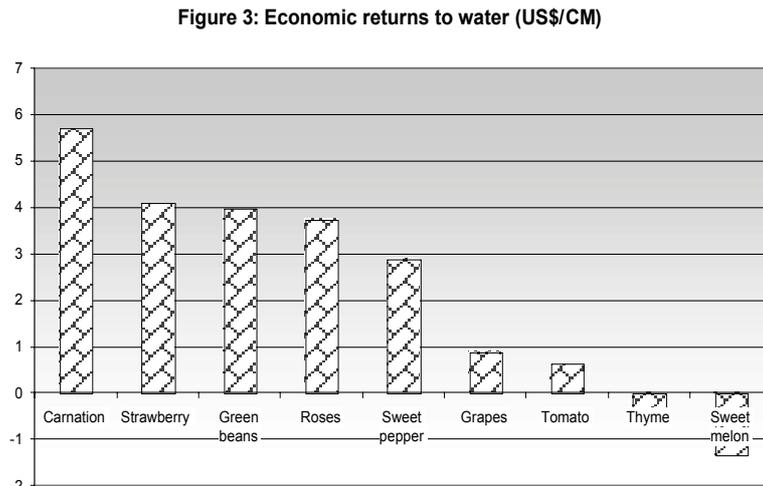


Table 4 includes the same competitiveness and efficiency indicators that were calculated for Jordan. Seven crops were studied in Palestine similar to those selected for Jordan. The DRC indicates that all the seven selected products enjoy a comparative advantage in production and export which means that the seven crops allocate the domestic resources efficiently. The DRC values indicate that sweet pepper (Capsicum) is the most efficient crop followed by strawberry, carnation and grapes.

Table 4. Competitiveness and efficiency indicators for nine selected crops in Palestine

Indicators	Green beans	Tomato	Strawberry	Sweet melon	Sweet pepper	Carnation	Grapes
Private Profits (\$/ha)	7862	55723	11253	-6175	3434	38309	1301
Social (Economic) Profits (\$/ha)	12531	20525	39568	7104	30915	61840	13228
Social Value Added (SVA) (\$/ha)	20141	33935	54312	16101	39912	94675	20267
Domestic Resource Cost Coefficient (DRC)	0.38	0.40	0.27	0.56	0.23	0.35	0.35
Water Requirement (Cm/ha)	7500	13000	10000	4800	7000	18000	11600
labor Requirement (person/ha)	296	838	1220	220	488	3000	123
Economic profits to labor (US\$/Person)	42.30	24.51	32.43	32.29	63.42	20.61	107.98
Economic profits to water (US\$/CM)	1.67	1.58	3.96	1.48	4.42	3.44	1.14

Figures 4 through 6 in box 2 provide a detailed analysis of the other competitiveness and efficiency indicators estimated for the selected crops in Palestine.

Box 2: Main competitiveness indicators (Palestine)

Figure 4 shows that carnation and strawberry enjoy the highest economic profits and economic value added. There is a huge different between those two crops and the other five crops. Sweet melon have the lowest economic profits

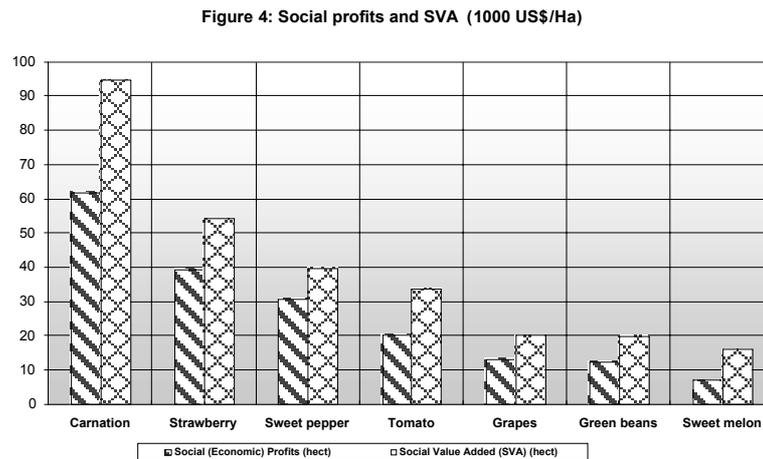


Figure 5 demonstrates that grapes have the highest return to labor followed by sweet pepper and green bean. Grapes, green beans and carnations are known as a labor intensive crops which employ lots of laborers in a small intensive production area.

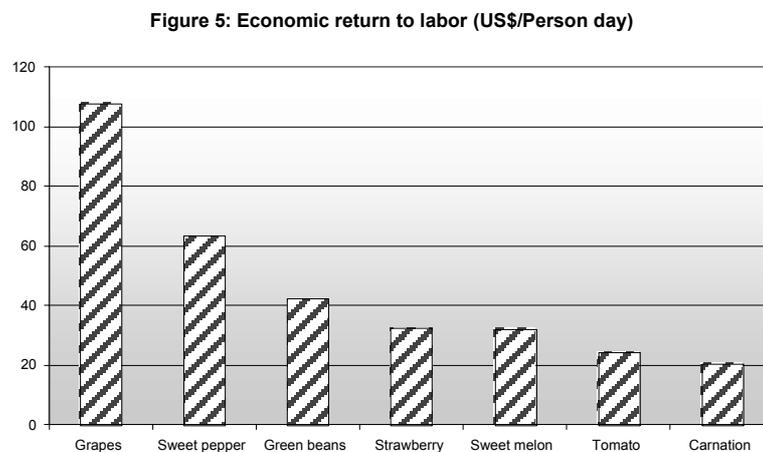


Figure 6 portrays the water use efficiency indicator. Water is the most limiting and precious production factor which implies that returns to water should be considered in the decision making process. Sweet pepper is the most efficient crop followed by strawberry, carnations and green bean.

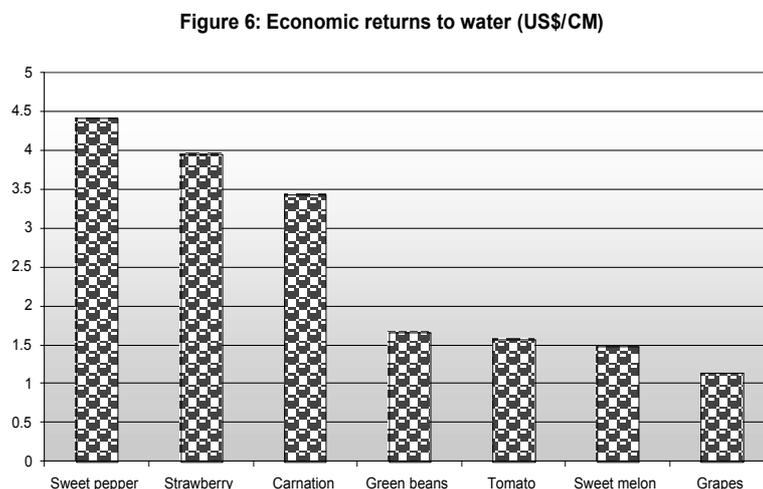


Table 5 is a continuation of the results of the analysis included in the above tables 3 and 4. The table contains the same competitiveness and efficiency indicators that were calculated for Jordan and Palestine. Eight crops were studied in Egypt which included four other crops that were not mentioned in the other countries such as spring onions (green onions), sugar pea, cherry tomato and dates. Egypt is the largest dates producers in the Arab region. The DRC indicates that all of the eight selected products enjoy a comparative advantage in production and export which means that the eight crops allocate the domestic

resources efficiently. The DRC values indicates that sweet pepper (Capsicum) is the most efficient crop followed by in a descending order strawberry, tomato, cherry tomato, grape, spring onions, sugar pea and dates.

Table 5. Competitiveness and efficiency indicators for nine selected crops in Egypt

Indicator	Spring Onion	Sugar Pea	Sweet Pepper	Strawberry	Tomato	Cherry Tomato	Grapes	Dates
Private Profits (\$/ha)	509	1374	502	2246	2599	6714	3546	366
Social (Economic) Profits (\$/ha)	5819	2210	10811	28561	8915	21310	8260	2049
Social Value Added (SVA) (\$/ha)	7466	3480	12148	32339	10369	25318	10015	3567
Domestic Resource Cost Coefficient (DRC)	0.22	0.36	0.11	0.12	0.14	0.16	0.18	0.43
Water Requirement (Cm/ha)	20000	15000	30000	40000	40000	36000	64989	26319
labor Requirement (person/ha)	2664	1365	1095	1489	830	2409	6000	15912
Economic profits to labor (US\$/Person)	2.18	1.62	9.87	19.18	10.74	8.85	1.38	0.13
Economic profits to water (US\$/CM)	0.29	0.15	0.36	0.71	0.22	0.59	0.13	0.08

Figures 7 through 9 in box 3 provide a detailed analysis of the other competitiveness and efficiency indicators estimated for the selected crops in Egypt.

Box 3: Main competitiveness indicators (Egypt)

Figure 7 shows that strawberry and cherry tomatoes have the highest economic profits and economic value added. It can be noticed that there is a large gap between those two crops and the other six crops

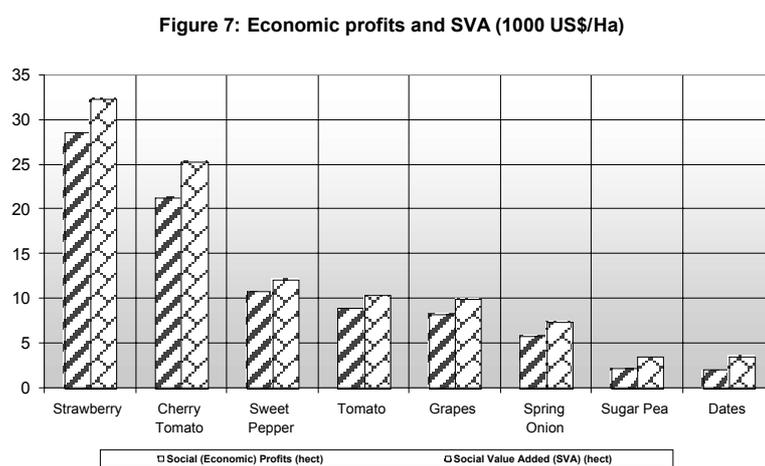


Figure 8 demonstrates that strawberry has the highest return to labor followed by tomato, sweet pepper and cherry tomato.

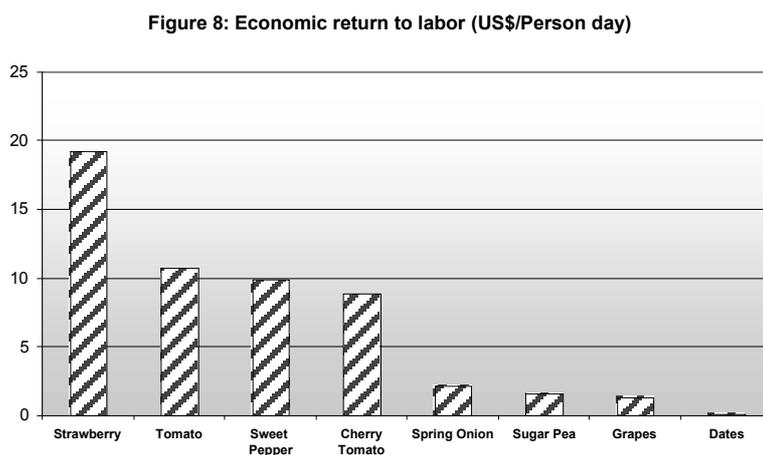


Figure 9 portrays the coefficient of return to water efficiency which is an important indicator. Strawberry and cherry tomato are the most efficient crops followed by sweet pepper, spring onion, tomato, sugar pea, grape and dates.

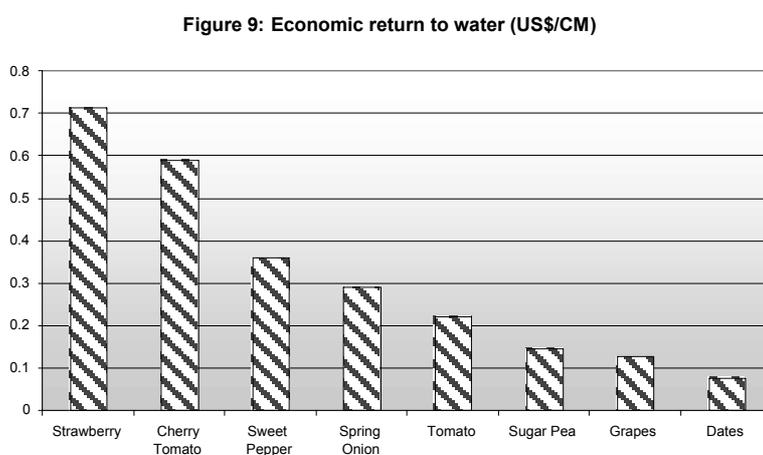


Table 6 demonstrates the results of the competitiveness analysis for Syria which is similar to those included in the above tables 3, 4 and 5. The table contains the same competitiveness and efficiency indicators that were calculated for the other three countries above. Seven crops were studied in Syria. The DRC indicates that all of the seven studied products enjoy a comparative advantage in production and export which means that the seven crops allocate the domestic resources efficiently. The DRC values indicates that strawberry is the most efficient crop followed by in a descending order green bean, tomato, apples, sweet pepper, sweet melon and anise.

Table 6. Competitiveness and efficiency indicators for nine selected crops in Syria

Indicators	Green bean	Tomato	Strawberry	Sweet melon	Sweet pepper	Anise	Apples
Private Profits (\$/ha)	1002	2602	7805	657	934	860	6650
Social (Economic) Profits (\$/ha)	6261	5596	28792	1233	1337	275	3476
Social Value Added (SVA) (\$/ha)	7545	7226	32925	2782	2886	823	6423
Domestic Resource Cost Coefficient (DRC)	0.17	0.23	0.13	0.56	0.54	0.67	0.46
Water Requirement (Cm/ha)	6000	7920	12000	6500	7180	4000	6000
labor Requirement (person/ha)	143	113	388	43	173	45	281
Economic profits to labor (US\$/Person)	43.93	49.75	74.30	29.00	7.75	6.10	12.36
Economic profits to water (US\$/CM)	1.04	0.71	2.40	0.19	0.19	0.07	0.58

Figures 10 through 12 in box 4 provide a detailed analysis of the other competitiveness and efficiency indicators estimated for the selected crops in Syria.

Box 4: Main competitiveness indicators (Syria)

Figure 10 shows that strawberry have the highest economic profits and economic value added. There is a huge difference between strawberry and the other five crops. Anise is the lowest crop in terms of economic profits and added value.

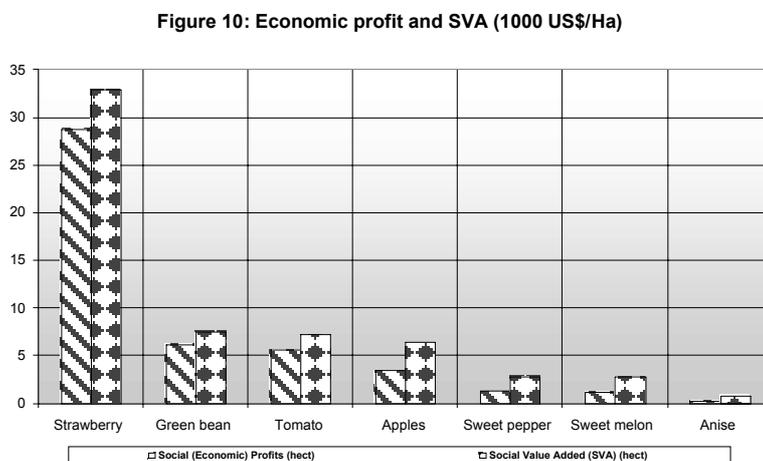


Figure 11 indicates that strawberry has the highest return to labor followed by tomato, green bean, sweet melon, apples, sweet pepper and anise. Strawberry is known as a labor intensive crop which employs many laborers.

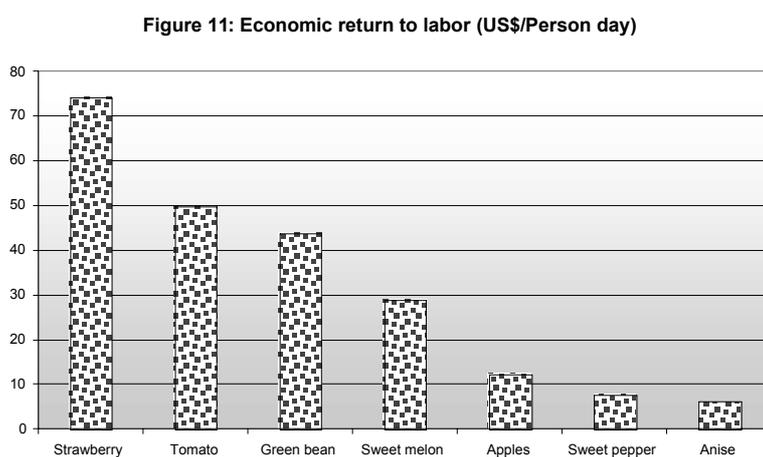


Figure 12 shows the water efficiency indicator in producing the seven crops. Strawberry is the most efficient crop followed by green beans, tomato and apples.

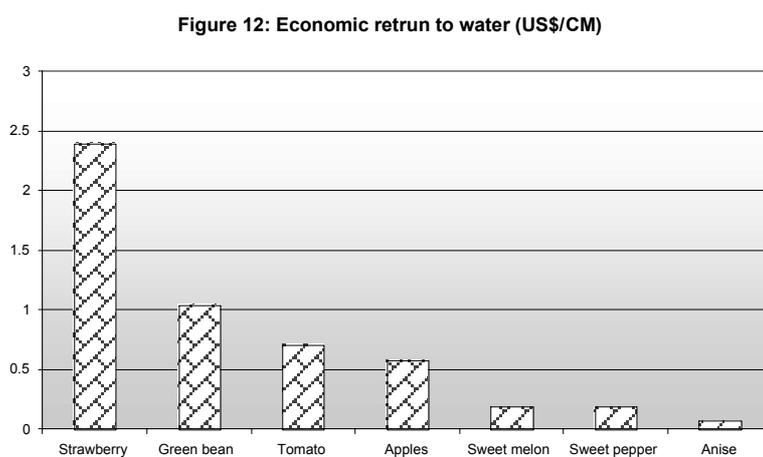


Table 7 contains the results of the competitiveness analysis for Lebanon in a similar style as those included in the above tables 3, 4, 5 and 6. The results in

this table complement the results of the analysis for the other four countries and it contains the same competitiveness and efficiency indicators that were calculated above. Six crops were studied in Lebanon. The DRC indicates that all the six studied crops enjoy a comparative advantage in production and export which means that the six crops allocate the domestic resources efficiently. The DRC values indicate that roses are the most efficient crop followed by, in a descending order, strawberry, apples, rainfed grape, sweet pepper and tomato.

Table 7 Competitiveness and efficiency indicators for nine selected crops in Lebanon

Indicators	Tomato	Strawberry	Sweet pepper	Apples	Roses	Rainfed Grapes
Private Profits (\$/ha)	614	74878	4012	10636	84622	6734
Social (Economic) Profits (\$/ha)	2199	54572	3588	4142	176811	2987
Social Value Added (SVA) (\$/ha)	9423	61309	7219	5316	187647	4130
Domestic Resource Cost Coefficient (DRC)	0.77	0.11	0.50	0.22	0.06	0.28
Water Requirement (Cm/ha)	4500	12000	7200	500	5000	0
labor Requirement (person/ha)	940	387.5	172.5	66.25	1606.25	90
Economic profits to labor (US\$/Person)	2.34	140.83	20.80	62.52	110.08	33.19
Economic profits to water (US\$/CM)	0.49	4.55	0.50	8.28	35.36	0

Figures 13 through 15 in box 5 provide a detailed analysis of the other competitiveness and efficiency indicators estimated for the selected crops in Lebanon.

Box 5: Main competitiveness indicators (Lebanon)

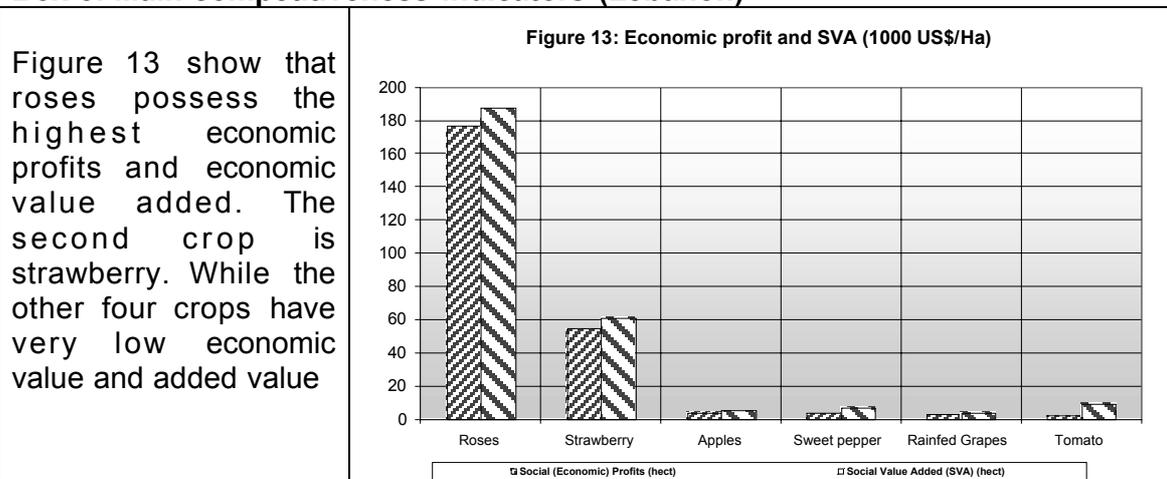


Figure 14 indicates that strawberry has the highest return to labor followed by roses, apples, rainfed grape and sweet pepper. While tomato has a very little economic return to labor.

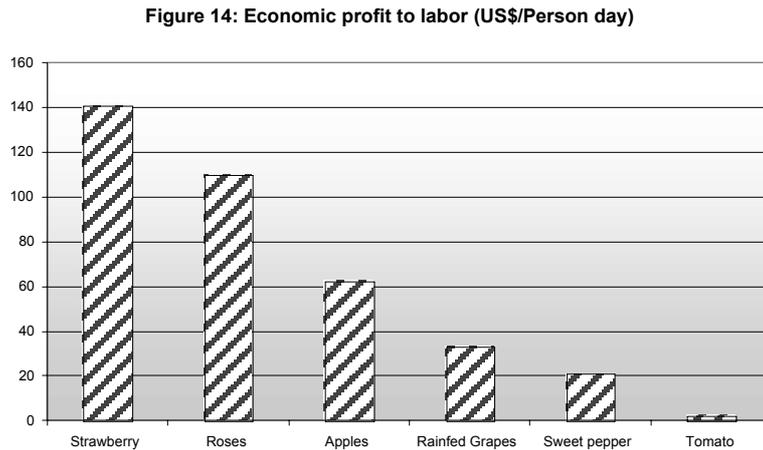
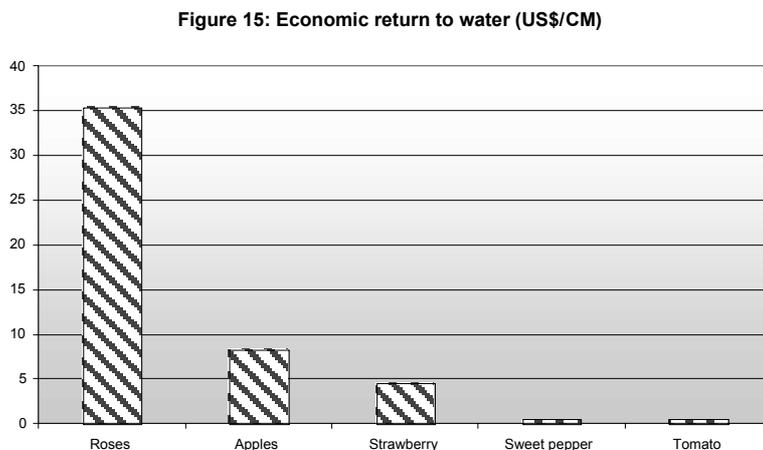


Figure 15 contains the water efficiency indicators for the five irrigated crops in Lebanon. It is very clear that roses are the most efficient crop in utilizing water resources in Lebanon. As shown in the graph, there is a large difference with other crops.



Export market opportunities for the studied crops from the five countries to the European markets can be categorized into two types of opportunities: The first option is to supply additional fresh produce to the EU markets before the beginning of southern EU countries' main season gets underway such as Spain, Italy and Greece. Some of the competitors in the south have already utilized this option like Israel, Morocco, and Tunisia who have increased their exports significantly in recent years using that strategy. The five countries should be able to do the same, if profits are high enough to justify the effort. The second option is to export during the off season when prices are highest. This means that the market window opportunities for the different selected crops should be studied carefully.

The analysis of market window opportunities involves estimating the expected profitability and the potential size of export opportunities in each month of the year. Knowing when the market window of opportunity occurs in a given market is much simpler than knowing the depth or magnitude of the window.

The analysis of profitable demand is based on using price data alone to identify the weeks or months when the price in the targeted market is above the break-even price in the exporting country. These weeks or months are called the Market Window open for the studied county. The grower in the exporting country must avoid supplying the market while the prices fall below the break-even price. Although it is impossible to know what the price will be in the future, low prices can be avoided through analyzing the trends of the past years.

To estimate the depth of the market at the break-even price in a specific exporting country requires additional logic and analytical effort. The concept of Profitable Demand is a practical way of estimating amount of product which might be sold in a given month in a given country. To estimate the "depth" or size of the market window, this requires not only weekly or monthly wholesale price data for a particular market, but also the marketed volumes of each studied commodity.

The Profitable Demand methodology is used in this research to estimate the depth of unmet demand in the four major EU importing countries: England, Germany, France and the Netherlands. However, the same methodology would apply for the rest EU countries.

The profitable demand concept is presented here in graphs which indicate the total quantity of imports which could be absorbed in a given month at a price which exceeds the delivered cost per Kg from the supplying country. The graphs also show the amount of imports already arriving in the market. In every case there is excess demand which is not being met at prices which would be profitable for exporters in the five studied countries.

Figures 16 through 20 are just samples of the estimated monthly profitable demand for the studied horticultural crops in the four major EU importing countries. For instance, figure 16 shows that the estimated Profitable Demand in the Netherlands market for green beans is 24,041 metric tons distributed over five months from December until April. The profitable demand is demonstrated in figure 16 by the gray shaded area below the black solid line. The total profitable demand for green beans in the other three markets was estimated at: 12,736; 12,782 and 28,586 tons in the UK, Germany and France markets, respectively.

**Figure 16: Netherlands
Green Beans Profitable Demand Volumes for the Five Countries**

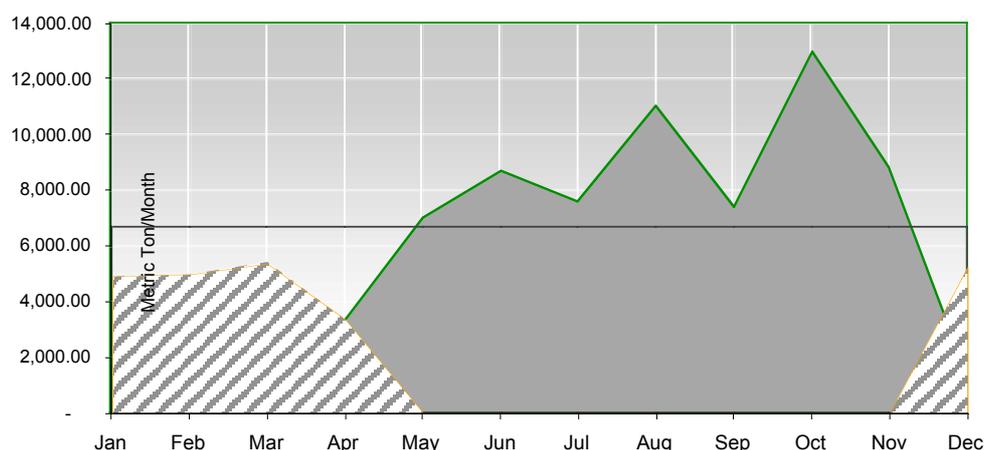
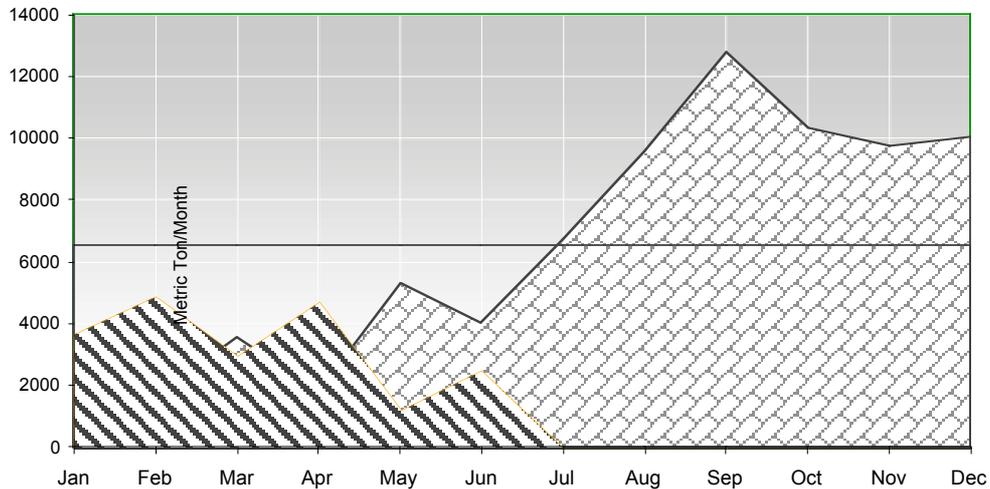


Figure 17 shows another sample graph for table grape in the UK market. The graph shows that the annual estimated profitable demand for table grape in the UK market is 19,974 tons distributed over a period of six months starting at January until June. Prices during these winter months in England as well as in the other EU countries soar especially during December throughout Christmas and New Year holidays.

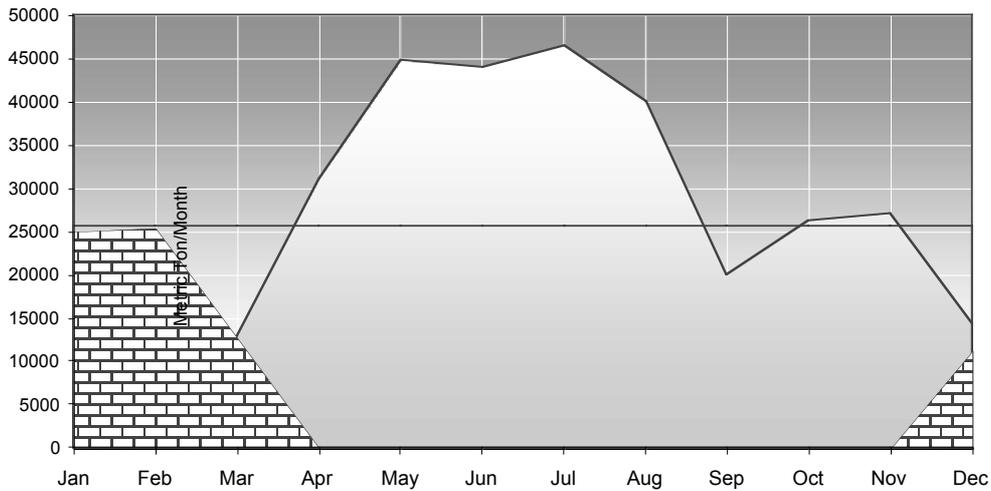
The profitable unsatisfied demand of table grape is shown in figure 17 as the shaded gray area. The annual profitable estimated demand of table grape in the other three major markets was estimated at 281,586; 234,760 and 14,361 tons in Germany, France and the Netherlands markets, respectively.

Figure 17: UK Fresh Table Grape
Profitable Demand Volumes for the five countries



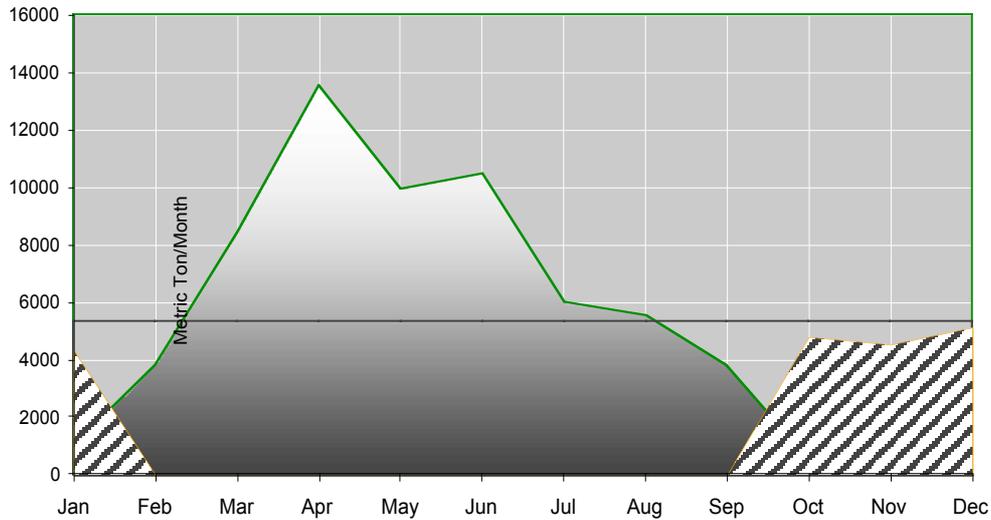
Galia melon is the one of the most demanded varieties in the EU markets. Melons are on demand all year round but there is a huge supply during the summer months of June through September. Figure 18, is a sample of the four studied markets of Galia and other types of melons. The figure demonstrates that the total annual profitable unmet demand of melons in the French market is 74,479 tons distributed over a period of four months: December, January, February and March. The highest demand is estimated during the months of January and February. The monthly profitable unmet demand is shown in figure 18 as the gray shaded area. Spain is a major producer of melons in the EU market but it doesn't compete with melons coming from the south during the winter months. The estimated annual unmet demand in the other three markets was 34,359; 29,753 and 13,121 tons in the UK, Germany and the Netherlands markets, respectively.

Figure 18: France Galia and Other Melons
 Profitable Demand Volumes for the five countries



Fresh strawberry is another highly potential export crop from the five studied southern countries. Strawberry exports from Egypt and Jordan to some of the EU market was increasing during the last few years. Figure 19 shows the estimated profitable demand in the UK market which is presented here as a sample of the other four studied EU market. The figure shows that the annual estimated profitable unsatisfied demand to the UK market is estimated at 18,859 tons distributed over four months October, November, December and January. During the period of these four months there is no EU strawberry production which implies that imports to the EU market in these months don't compete with any of the EU producers. The analysis has showed that the annual unmet profitable demand in the other three countries is 62,531; 29,917 and 7,594 in Germany, France and the Netherlands markets, respectively.

Figure 19: UK Fresh Strawberry
Profitable Demand Volumes for the five countries



Dates are produced mainly in Egypt, Iraq, Saudi Arabia, United Arab Emirates, Algeria and Tunisia. Dates are marketed in three different forms: fresh (Khalal); full ripen (Rutab) and pressed or dried (Tamer). The southern Mediterranean counties consist the major producing and exporting region of all forms of dates. The EU market is an important destination to dates coming from the south. The ethnic groups in all European countries are the major consumers of this product especially the Muslim community during the holly month of Ramadan. In addition, dried dates are used in food industry for producing special types of confectionery.

The total estimated profitable unsatisfied demand of dates in the German market is 8,268 distributed all over the year as portrayed in figure 20. However, the peak month of profitable demand differs from year to year according to the timing of the month of Ramadan which changes every year by 10 days according to the Lunar Calendar.

Since dates are not produced in any of the EU countries, this implies that dates exports from the south do not compete with any of the EU countries. The estimated profitable demand for the four studied EU markets is: 17,057; 8,268; 6,310 and 2,795 tons in the markets of the UK, Germany, France and the Netherlands, respectively.

Figure 20: Germany Dates, Fresh or Dried
 Profitable demand volumes for the five countries

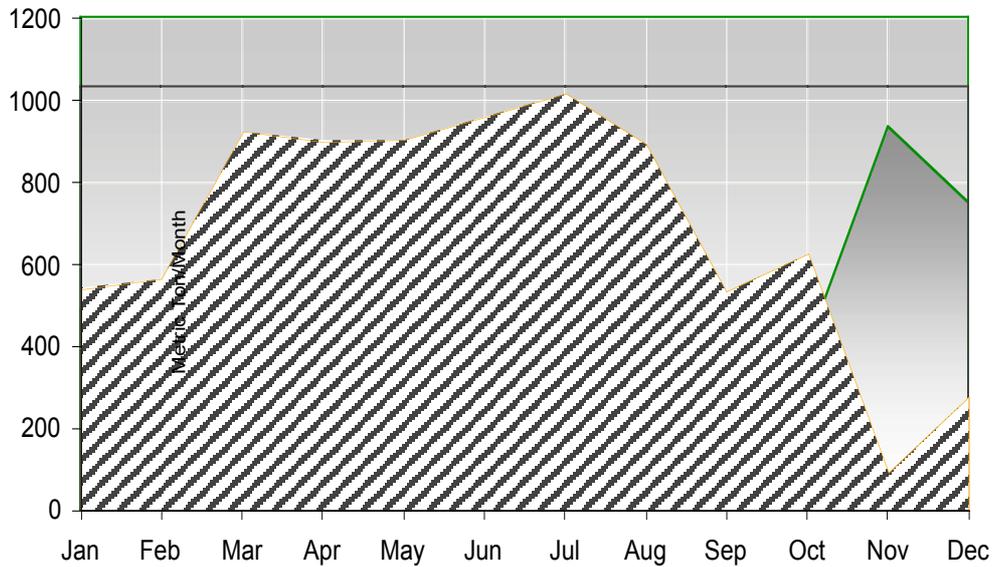


Table 8 includes an estimation of the monthly unmet profitable demand for the five major products analyzed in this study. The analysis was performed for the four key EU markets: UK, Germany, France and the Netherlands. It is clear from the table that much of the estimated demand can be met by the five countries as it matches the production calendar of these crops. The table shows the potential volume that can be exported to these four countries only. Given the new expansion of the EU and the huge increase in the population, it should be expected that the demanded quantities would reach to a much higher levels than those reported in the table. These estimated volumes in table 8 are used in this study as the minimum potential volume of exports that could be shipped to the EU markets. These figures are then used to predict the potential major economic and social implications of meeting these levels of exports on the five countries.

Table 8: Estimated monthly unsatisfied profitable demand for five major products in the four key EU markets (UK, Germany, France and Netherlands) in Tons

Month	Green Beans	Table grape	Melons	Strawberries	Dates
Jan	13,648	88,134	39,149	19,912	3,012
Feb	14,466	75,848	38,160	14,533	4,225
Mar	15,874	83,804	23,580	-	4,276
Apr	10,998	75,501	10,605	-	4,239
May	3,856	71,031	-	-	4,810
Jun	2,767	83,734	-	-	3,006
Jul	614	11,261	-	-	4,750
Aug	-	-	-	-	5,056
Sep	-	-	-	2,965	4,313
Oct	-	-	3,132	16,421	3,388
Nov	-	-	12,841	32,174	1,778
Dec	15,922	61,366	24,244	32,897	1,577
Total	78,145	550,681	151,712	118,901	44,430

Table 9 shows the monthly unit value in US\$/ton for the five products in the four EU markets. This value was obtained through dividing the total value of countries imports by the quantity of imports in the year 2000 as reported in the statistical year book of the EUROSTAT. This unit value is used here as a proxy of the CIF price in the EU markets. It is clear from table 9 that prices of table grapes, strawberries and melons tend to increase during the winter season or the off-production season in Europe. The increase in prices is a result of the short of demand.

Table 9: Monthly unit value of the five major products in the EU markets in the year 2000 in (US\$/Ton)

Month	Green Beans	Table grape	Melons	Strawberries	Dates
Jan	1,682	1,703	1,078	3,599	3,116
Feb	2,089	1,370	1,072	2,669	3,076
Mar	1,891	1,288	1,252	1,439	2,406
Apr	1,441	1,159	1,258	1,432	2,218
May	1,738	1,244	1,030	1,669	2,233
Jun	1,551	1,527	924	1,676	2,140
Jul	1,528	1,448	724	1,727	2,694
Aug	1,492	1,012	658	1,680	2,749
Sep	1,534	952	685	1,621	2,073
Oct	1,265	999	739	2,604	2,021
Nov	1,247	1,641	778	3,318	1,877
Dec	1,289	1,467	922	3,476	2,141

The unit value per metric ton reported in table 9 was used to estimate the potential value of revenues that can be achieved by the five countries if the unsatisfied profitable demand is met in just four of the EU countries and for the five reported crops. Table 10 indicates that achieving the estimated unmet

profitable demand through exporting the estimated quantities of green bean, table grape, melon, strawberry and dates would create revenues equivalent to a sum of US\$ 1,551 million. However, as mentioned earlier, the potential value should be much higher than this figure since the estimated value is limited to only five crops and only four key countries in Europe.

Table 10: Estimated value of the monthly unmet profitable demand for the five major products in the four key EU markets in the year 2000 in (US\$/Ton)

Month	Green Beans	Table grape	Melons	Strawberries	Dates
Jan	22,953,745	150,108,882	42,210,687	71,662,663	9,385,755
Feb	30,216,950	103,904,543	40,898,373	38,791,615	12,996,152
Mar	30,020,062	107,968,272	29,522,789	-	10,288,809
Apr	15,847,842	87,534,454	13,338,008	-	9,401,770
May	6,702,444	88,352,079	-	-	10,738,938
Jun	4,291,752	127,870,863	-	-	6,434,109
Jul	938,689	16,308,384	-	-	12,797,293
Aug	-	-	-	-	13,902,296
Sep	-	-	-	4,806,935	8,941,101
Oct	-	-	2,313,944	42,759,505	6,845,836
Nov	-	-	9,994,099	106,744,324	3,337,686
Dec	20,531,050	89,999,342	22,342,187	114,339,651	3,375,979
Total	131,502,532	772,046,820	160,620,087	379,104,693	108,445,725

To predict the social and economic impact of meeting the estimated unsatisfied profitable demand of the five crops, the demanded quantity in metric tons was transferred to area in hectare since all input-output coefficients are reported per hectare. Table 11 shows a summary of the impact indicators for the five studies crops in the four markets. For instance, if the 118,901 tons of unmet profitable demand of strawberry alone is satisfied this will generate economic profits to producers equivalent to US\$167.4 million and the same time it will generate a value added to the economies of the five country equivalent to US\$ 207.8 million. In terms of new created jobs, the new cultivated areas with strawberry will also create 1,723 new permanent jobs opportunities.

Meeting the demand of the five crops only will result in creating 119 thousand new job opportunities, a total economic profit to producers and exporters equivalent to US\$ 498 million and a value added to the economies of the five countries equal to US\$ 756 million.

Table 11: Expected social and economic impacts of achieving the unsatisfied profitable demand.

Indicators	Strawberry	Grapes	Dates	Green beans	Sweet melon
Unmet profitable demand (tons)	118,901	550,681	44,430	78,145	151,712
Acreage needed to meet the demand (Ha)	4,756	23,943	14,810	7,587	6,596
Total labor requirement	516,773	4,739,953	29,456,702	758,694	104,783
New Job opportunities (Permanent job)	1,723	15,800	98,189	2,529	349
Economic profits gained	167,438,027	226,762,885	30,341,575	63,616,064	9,567,119
Social Value Added (US\$)	207,746,476	349,984,158	52,825,531	93,306,542	51,788,855
Water Requirement (cubic meters)	76,096,548	548,220,791	389,780,964	38,187,585	31,441,726

The demonstrated values in table 11 represent the direct impact on the agricultural sector and does not account for the other impacts on the packing and packaging industries, input providers, local and international transportation sector and other supportive services. In addition, this also does not account for the created multiplier effects in the whole economy of the five countries. The economies of the five countries suffer from many serious problems especially high unemployment rates and high population growth rates. Table 12 shows that unemployment rates varies from 12 to 50% which is an alarming indicator especially if it is linked to the high population growth rates which reaches in some countries in the region to more than 3%. Another disturbing indicator is the growth rate of the Gross Domestic Product (GDP) which is very close to or even less than the growth rate in population in some countries. This situation calls for effective and quick actions to generate more sustainable job opportunities in all sectors.

Table 12: Major economic indicators in studied countries

Indicators	Egypt	Syria	Jordan	Lebanon	Palestine
Arable land (%)	2.9%	26%	3%	18%	26%
Population (Mn)	74.70	17.60	5.40	3.70	3.30
Pop. growth rate (%)	1.9%	2.5%	2.8%	1.3%	3.6%
GDP Real growth rate (%)	1.7%	3.5%	3.5%	1.5%	-18.5%
Ag share in GDP (%)	17%	27%	4%	12%	90%
Unemployment rate (%)	12%	20%	16%	18%	50%
Ag. Labor force (%)	29%	NA	5%	NA	13%

10. CONCLUSIONS AND RECOMMENDATIONS

Achieving the above potential results requires a lot of hard work in terms of improvement of the quality of exported produce, high quality packing and packaging material, advanced post harvest handling procedures, abiding with EU regulations and requirements, sustainable supply of demanded products to importers in the destination markets and keep up with the dynamic changes in

consumption patterns in the EU markets in terms of new products, new varieties, and the continuous changes in regulations and market requirements.

Interviews with farmers, decision makers and researchers in the five countries revealed that many of the south Mediterranean countries face serious impediments that hinder the ability to utilize the tremendous opportunities in the EU markets and other potentials high end markets. It can be concluded from the analysis of this study and the recommendations of other studies which have been conducted on this issue, that the major bottlenecks face the southern countries in utilizing the opportunities in the EU markets are:

Lack of investments and financial resources in the region for establishing the needed infrastructure to abide with EU regulations and market requirements in terms of cold storage, pre cooling facilities, grading and sorting equipments, multi-span protected houses and advanced irrigation systems;

Lack of enthusiasm of the private investors to invest in large scale projects which is mainly due to the high risk involved in this kind of business. This have left the horticultural export sector unattractive to private investors;

Lack of focus on new high yielding varieties and non-traditional crops by research and academic institutions, private business and government;

Weak enforcement of regulations relating to grading, standards, and packaging materials for local and export markets;

Absence of effective marketing information system that can provide updated data and detailed analysis in terms of trends, projections, and emerging new markets;

Weak structure of specialized market organization such associations or cooperatives which results in a very limited lobbying ability to develop the export industry;

Water is becoming the most limiting factor in production in terms of quality and volume;

Inadequate and inefficient extension and training services at both production and marketing levels;

Poorly developed business skills in international trade have resulted in creating serious limitations for developing the industry; and

The rigidity of the EU-Med agreements and the lack of understanding of the EU market regulations and requirements by many exporters and producers in the south.

The analysis conducted in this research proved that horticultural products have good chances in agricultural trade with the EU region. This is due to the comparative advantage which it enjoys as a result of favorable climatic conditions, competitive cost of production especially labor, closeness to the EU markets and the ethnic consumers in the EU region who demands certain products that are produced in the Mediterranean Partner Countries (MPC's). This study has also shown that despite the existence of good potentials for export of horticultural commodities to the EU markets, this industry in many of the MPC's is still suffering from serious weaknesses that hinder its ability to reap these benefits.

Times gone by have proven that the North and South shores of the Mediterranean rely heavily on each other. The EU is, and has been, the major trade partner with the south countries. The balance of trade was always to the benefit of the EU. It is believed that the coherent and comprehensive EU policies towards the Mediterranean region are far from being achieved. The aim of the partnership should be to develop, adopt and implement a Euro-Mediterranean strategy or action plan at the regional level beyond the present bilateralism and in order to promote the sharing of concerns among the Mediterranean non EU countries. The EU-Med agreement should focus on complementarities rather than competition. The researchers believe that the CAP should be modified to produce a WIN-WIN situation among all players in the Mediterranean arena. The results demonstrated in this paper revealed that a Win-Win option can be achieved through the synchronization of policies and effort between the north and the south. A reciprocal trade liberalization between the EU and MPC's which has been recommended by many studies recently should help in reaching to a Win-Win situation. Recent research concluded that MPC's cannot compete with the EU region in production of cereals, dairy products, and meats of animal bovine. The same research however, showed that good opportunities exist for the MPC's in the producing and exporting horticultural products without competing with the EU countries.

The researchers recommend a regular evaluation process of past implementation of the Partnership agreement in terms of evaluating its' successes and failures in achieving the designed objectives. This evaluation should also include the identification of complementarities and contradictions between existing strategies and official texts on the Euro-Mediterranean process.

The economies of almost all of the MPC's are still going through transitional stage due to the serious economic adjustment process which took place during the last decade as part of restructuring its economies to fulfill the requirements for joining the WTO or other agreements. This situation calls for providing support and guidance to the MPC's to overcome decades of unsustainable developments. However, as it has been shown in many other countries, the main victims of the economic structural adjustments programs are the vulnerable groups mainly subsistent farmers and rural poor. Therefore, the main challenge is to reduce poverty levels at the rural areas through creating and expanding poor people's opportunities to earn a reasonable income in a sustainable way so that they are able to meet the basic necessities of life. This can be done through empowerment of rural communities through: 1) support micro-credit markets for financing and investment; 2) Assist in the adoption and transfer of new technologies that help improve labor and land productivity; and 3) Assist small farmers in establishing professional associations and cooperatives that can be utilized to obtain and channel needed credit, production inputs, collective deals with larger exporters and in lobbying for granting more rights.

11. REFERENCES:

1. Ahmad El-Ahmad, 1998, "Economic and Political Cooperation between the Hashemite Kingdom of Jordan and the European Union", , Institute of Diplomacy, Amman/Jordan.
2. Bani-Hani, M. "Irrigated agriculture in Jordan" Ministry of Water and Irrigation. Amman, Jordan. 1992. p 2.
3. El-Jafari, M. (1994). *Main features of domestic and external merchandise trade of the West Bank ad Gaza Strip*. Geneva: UNCTAD.
4. El-Jafari, M. (1995a). *An econometric analysis of the agricultural sector or the Palestinian Territories*. Bethlehem, West Bank: Data-Studies and Consultations
5. El-Habbab, M.S., and A. Jabarin. "The Impact of Wheat Policy on Irrigated Wheat Production in Jordan". *Dirasat*, 18B -No.4 (1991):95-114.
6. El-Habbab, M.S., and A. Jabarin." The Impact of Wheat Policy on Traditional and Modern Rainfed Wheat Production in Jordan". *Dirasat*, 18B-No.3 (1991):7-29.
7. FAO/UNDP, for the Capacity Building Project in Agricultural Policy Analysis and Planning, focused on analyzing the comparative advantage and competitiveness of the major crops and crop rotations in Palestine (FAO, 1999).
8. FEMISE, 2003, "The impact of agricultural liberalization in the context of the Euro-Mediterranean partnership FEMISE report", November 2003 FEMISE coordinators
9. Jabarin Amer. and M.S. El-Habbab. 1996 " The Impacts of Trade Liberalization on the Comparative Advantage and Bilateral Trade of Cereals Between Jordan and Syria (A Policy Analysis Matrix Approach" . *Dirasat*,
10. Jabarin et. al, 1996," A Business Plan for Export of Grapes from Jordan". A team work prepared for the Agricultural Marketing Development Project, Jordan, under a contract of the United States Agency for International Development.
11. Jabarin, et. al, (1995)." Production, Productivity, Farm Gross Margins, Farm Net Returns and Farm Optimization of Resources in the JRV". In "Future Adjustment of the Agricultural Production Systems in the Jordan Rift Valley" Prepared by Office for Integrated Agricultural Development (OIAD) and Financed by the GTZ
12. Jamaledine Zarrouk, 1998 ,“the State of Arab Trade Policies and their prospects in Light of WTO’s Agreements” in the *Journal of Development and Economic Policies*, Arab Planning Institute, Kuwait, volume 1,December 98.
13. Ghezawi et.al, (Royal Scientific Society),1997. “ Feasibility Study and Business Plan for the Formulation of an Agricultural Marketing and Service Company in the Jordan Valley of the Hashemite Kingdom of Jordan” , Amman, Jordan.
14. Royal Scientific society, 1998 “ Proposed Projects for Industrial Estates in Jordan” , , Amman-Jordan.
15. Monke E. and Person S.R. (1989). *The Policy Analysis Matrix for Agricultural Development*. Cornell University Press, Ithaca. P 23.

16. Tsakok, Isabelle, 1994, "Agricultural Price Policy-A practitioner's guide to partial-equilibrium analysis", Cornell University Press, Ithaca and London