



Project no. **SSPE-CT-2004-502457**

Project acronym : : **EU-MED AGPOL**

Project full name :

**Impacts of agricultural trade liberalization between the EU and
Mediterranean countries**

Instrument type : Specific Targeted Project

Priority name : 8.1 Policy-oriented research

**Deliverable D19
Egyptian production and export potential
for fruit and vegetables
An expert panel analysis**

Due date of deliverable: January 2006

Actual submission date: February 2006

Revision: May 2006

Start date of project: 01 March 2004

Duration: 36 months

Organisation name of lead contractor for this deliverable :

CIHEAM-Institut Agronomique Méditerranéen de Montpellier (IAM-M France)

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	PU
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Gamal Siam
CAES, University of Cairo - Egypt

ACRONYMS AND ABBREVIATIONS

ATUT	Agricultural Technology Utilization and Transfer Project
ERSAP	Economic Reform and Structural Adjustment Program
EU	European Union
EUEPA	EU-Egypt Partnership Agreement
EUREPGAP	Euro-Retailer Produce Working Group Good Agricultural Practices
GOE	Government of Egypt
HEIA	Horticultural Export Improvement Association
LE	Egyptian Pounds
MALR	Ministry of Agriculture and Land Reclamation
MFN	Most Favored Nation
SME	Small and Medium Enterprises
UC-CAES	University of Cairo, Center for Agricultural Economic Studies
USAID	United States Agency for International Development
WTO	World Trade Organization

Contents

1. Introduction
 - 1.1. General background for the study
 - 1.2. Rationale for use of expert opinion
 - 1.2.1. Impossible to get reliable econometric estimates
 - 1.2.2. Possible changes in protection beyond the scope of any standard quantitative analysis technique
 - 1.2.3. Delphi method has been shown to be a reliable method of obtaining expert opinion
 - 1.3. Overview of the remainder of the report
 2. The Delphi method
 - 2.1. Overview of the approach
 - 2.2. Implementation of the approach in Egypt
 - 2.2.1. Panel membership
 - 2.2.2. Product coverage
 - 2.2.3. Questionnaire
 - 2.2.4. Exact procedures used
 3. Delphi analysis results
 - 3.1. Quantitative results
 - 3.1.1. Potential increase in exports for each product
 - 3.1.1.1. Partial liberalization
 - 3.1.1.2. Total liberalization
 - 3.1.2. Other quantitative results
 - 3.1.2.1. Production constraints
 - 3.1.2.2. Protection constraints
 - 3.1.3. Delphi difficulties encountered
 4. Conclusions
 - 4.1. Summary of the export increase potential for Egypt in a more liberal trading regime with the EU
 - 4.2. Other important conclusions
- Annex
- References

1. Introduction

1.1. General background of the study

Egypt's trade relations with the EU have risen by more than 5% in the last five years to reach around 10 billion euro in 2003. The EU is Egypt's biggest partner and currently accounts for 40% of Egyptian exports and 34% of its imports, with the balance of trade still in the EU's favour.

Agriculture contribute a significant part in trade between Egypt and EU. Agricultural products represent 9% of Egypt's exports to EU, while they represent 10% of its imports from EU.

Before May 2004 and back to 1977, trade relations between EU and Egypt had been organized by the Protocol of Economic Cooperation under which some of Egypt's agricultural products were given certain preferences in terms of zero tariff quota but with specific protection measures such as minimum entry price and season. As of May 2004, the EU-Egypt Partnership Agreement (EUEPA) has been enforced. Even though the EUEPA has not liberalized trade in agricultural products, it has improved market access in the EU markets for larger number of Egypt's agricultural products either through larger zero-tariff quota and/or wideend season or reduced tariffs.

The main objective of this study is to forecast Egypt's export potential of major F & V export commodities under different liberalization scenarios. Another objective is to explore the major constraints in increasing Egyptian exports of fruits and vegetables to the EU and the procedures that could be taken to eliminate these constraints whether at the horticultural export section level or at specific commodity level.

1.2. Rationale for use of expert opinion

1.2.1. Impossible to get reliable econometric estimates

To reliably estimate the impacts of prospective policy changes, quantitative models are best. However, for fruits and vegetables, it would be very difficult, if not impossible to use any modeling approach in estimating policy impact.

Use of quantitative models are best used when products are relatively homogenous when the policy instruments are straight forward, and when the envisioned changes are not large. None of those conditions exist for fruits and vegetables, so it is not wise to use such techniques for this impact estimation.

Having these reservations in mind, expert opinion method seems to be good alternative of modeling and econometric techniques. Using expert panels, makes it possible, a priori, to consider all relevant factors and the way they combine, thus generating a judgment from an essentially systematic perspective.

The Delphi method aims to systematically structure the information provided by a pre-selected group of individuals on a complex problem, with a view to establishing consensus. Delphi method could also be used for constructing different scenarios using the expert panels.

1.2.2. Possible changes in protection beyond the scope of any standard quantitative analysis technique

Change in protection in many cases is beyond the scope of standard quantitative analysis technique which makes this technique inapplicable for forecasting export potential.

1.2.3. Delphi method has been shown to be a reliable method of obtaining expert opinion

Delphi method normally used when one or more of the following conditions exist:

- The problem is not easily solved with analytical techniques.
- The individual experts have no history of communicating in the manner needed to reach near consensus on the topic.

- The group is larger than can be accommodated effectively in face-to-face meetings.
- Time and cost for multiple meetings would be prohibitive.
- There are likely to be strong differences of opinion among the panel members.
- Group dynamics in a meeting might result in a dominant player carrying the day.
- Increased efficiency can be obtained over a standard group meeting

1.3. Overview of the remainder of the report

The remainder of the report include three sections. The first, which the second after the introduction, describes the general methodology that will be used in working with expert panels using Delphi approach. In addition, this section will address how the approach is implemented including the panel membership, product membership, product coverage, questionnaire and the exact procedures used. In section 3 Delphi analysis results are presented. Potential increases in exports for each product that might be possible under partial and total liberalization scenarios are dealt with.

The remainder of the section discusses the quantitative results of Delphi analysis with respect to constraints facing Egypt's exports of the studied commodities to the EU in both production and protection sides. In section 4 conclusions of the results are presented.

2. The Delphi method

2. 1. Overview of the approach

In this study we will make use of expert panels for each major export commodity to forecast export potential to the European Union under different liberalization scenarios.

We will use the Delphi method for constructing different export scenarios using the expert panels. We will select the most important fruit and vegetable products. We will assemble expert panels ask them to provide their assessment of the export potential for each crop or product.

The Delphi method was first developed at the RAND Corporation in 1969 to do technology and defense forecasting. Since then its use has grown dramatically, and it is used today for all kinds of forecasting, work on environmental issues, policy development, and even curriculum development in higher education. There is a vast literature covering a wide range of applications and variants of the basic method.

The Delphi method is used when other approaches are not possible or are too costly. The basic idea is to make use of a panel of experts - to draw upon their rich knowledge and understanding of the area to make predictions about the future in a given domain. In the classic Delphi method, questionnaires are used, and the responses are anonymous. The information gathering process is iterative with panel members being given feedback on all members' responses in each round. Through the iterative process, the objective is to achieve some degree of consensus among the panel members. The classic Delphi process is illustrated in Figure 1.

In their primer on the Delphi method, Linstone and Turoff describe the Delphi process as follows:

Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem.¹

¹ Harold Linstone and Murray Turoff, *The Delphi Method*, 2002, p. 3. This 613 page book contains many case examples of Delphi studies of all sorts many of which have questionnaires and other details of the study. The book is available on the web in PDF format. See also: Michel Godet, 2001, *Manuel de prospective stratégique*, 2 tomes, Dunod, Paris, p. 77 +.

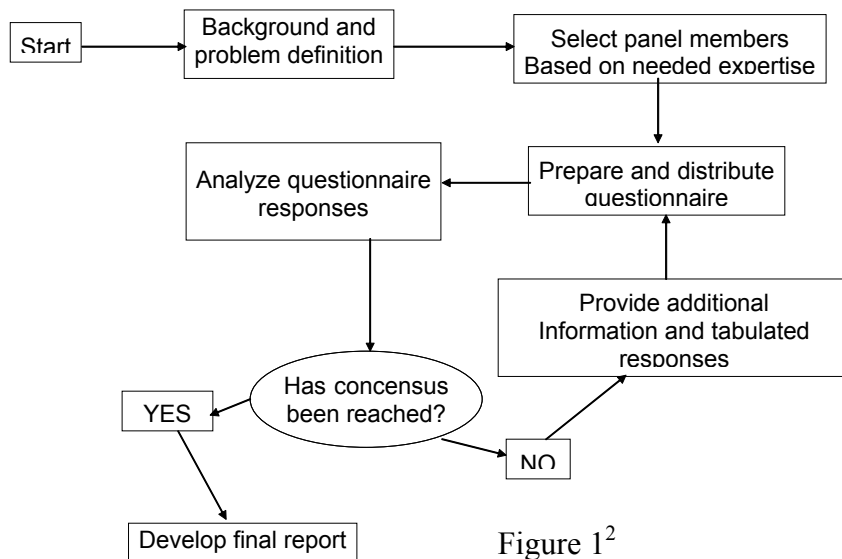


Figure 1²
Delphi Method

The questionnaire asks specific questions of the panel members. Once the initial responses are received, the convener or monitor tabulates the results and (assuming there are differences of opinion) sends the results and any additional information back to the group for a second round. In the second round, the panel members have before them all the responses from the first round plus reasons for those responses and any additional information provided by other panel members. All the information is anonymous. Panel members then provide their revised views, and the process is repeated until some degree of convergence is achieved. Keeping the responses anonymous is important to the process because it prevents individual members being unduly influenced by certain individuals, and it also makes it easier for each person to change their view since it is not attached to them by other panel members.

In modern practice, the Delphi method is sometimes handled through computer programs instead of with a human monitor. However, most of that work is done in the private sector and is proprietary. Hence, there is less published literature on that approach. For our analysis, we will use a human intervention to tabulate the results of each round and provide feedback to panel members.

The expert panels will be composed of individuals with intimate knowledge of the sub-sector. Typically, they will be individuals who are:

- Major exporters of the commodity.
- Important producers of the commodity.
- Academics who specialize in analysis of this commodity.
- Government officials who specialize in this commodity.

The next step is constructing the questionnaire. This step can be approached in many different ways each with advantages and disadvantages. Some of the approaches are as follows:

- Open response.
- Dichotomous choice.
- Range of choices.

² Adapted from: <http://www.ryerson.ca/~mjoppe/ResearchProcess/841TheDelphiMethod.htm>.

Analysts who work in contingent valuation will recognize that these are similar to the options normally employed in that technique of valuing non-market goods. Open response has the advantage that each individual provides his/her estimate without any suggestion from the questionnaire. Open response is prone to produce a wider range of responses than other approaches. Very optimistic individuals might indicate that production could easily double, while more pessimistic responders might respond with an increase of 10 percent. Dichotomous choice provides the responder with only two choices, say greater or less than 40 percent. Then in subsequent rounds, the choices get finer as the group converges on a number. A range of choices asks responders to select choices from among a limited set, say 20, 40, 60, 80, and 100 percent. This approach is subject to what is called "starting point bias." That is, the choices provided constrain the answer. Suppose the responder really thought the increase would be between 200 and 300 percent, s/he would have no choice but to respond 100 percent. However, the drawbacks of all these approaches are more limiting for contingent valuation than they are for the Delphi method for the simple reason that "errors" in the initial round can easily be corrected in subsequent rounds. Also, much of the Delphi method literature on response approaches concerns the use of ordinal scales, which are not an issue for our analysis.

The next step is to analyze the questionnaire responses. This is a relatively simple matter of tabulating the results and preparing them in a clear easily understandable format for panel members to use in the next round. Normally, all the individual responses are provided (without identification) as well as the median response. In addition, other information or comments provided by panel members are summarized in the report. Based on this information, the questionnaire (modified as needed) is sent back to panel members together with the report of the previous round. Panel members then complete the questionnaire again using the additional information from the previous round. This process is continued until the group approaches a consensus. Normally, this takes 2-4 rounds, but it can be more or less depending on the topic, group size, etc.

Once the consensus is reached, the monitor prepares a report on the exercise, which is used for our own analysis and is provided to the panel for their own information. Receiving the findings of the exercise is one of the incentives for busy individuals to participate in the activity.

The Delphi analysis would be conducted using email. It would function much like the pen and paper approach in the literature except that it would be delivered and received electronically. Recruitment of panel members would be done through personal contacts either by phone or personal visits. The personal contacts are important to obtain buy-in for the process. The person making the contacts also should indicate that participants will receive a copy of the results, which they should find useful for their work. The contact can also determine if the participant prefers to participate by email or through a paper questionnaire.

2.2. The implementation of the Delphi method in Egypt

2.2.1. Product coverage

Horticulture produce in Egypt covers a wide range of products. Egypt has a climate that allows it to produce this entire range of products. But production is only feasible when there is a market.

Selection of the products subject to this study is based on their importance in both production and export. In the selection process, emphasis has been put on Egypt's products that are important in terms of exports to the EU in addition to growth rates of these exports.

Another criterion of selection is concerned with the protection measures imposed on the EU imports. Products to be studied should be among these which are subject or to any protection rules such as quota, window, entry price and tariffs.

Based on the above-mentioned considerations, eight products have been selected: potatoes, orange, green beans, table grapes, strawberry, melons, onion, and tomatoes.

Total value of Egypt's exports of the selected products to EU is USD 168.2 million in 2004 representing 43.6 percent of the total value of Egypt's agricultural exports (table 1). Potato's exports contributes the largest share among the eight products but with decreasing trend during the period 1992-2004.

The volume of domestic and export markets for the studied products are presented in Table (2) It is noticed that green beans exports are around 10 percent of production as are strawberry exports, and grape exports are increasing rapidly as more sophisticated production comes on line. Through show a steady expansion in production of most crops. The volume of exports is a small proportion (about 9%) of the total production.

Export of table grapes have risen significantly over the last decade, and given the level of plantings, should continue to increase dramatically. The situation for green beans is different. "Bobbi" bean exports have stayed constant or slightly declined, while "fine" bean exports have risen sharply. Strawberry exports have also increased in volume and value, and continue to rise. The other products also show steady growth in both production and export. It should be noted that exports of oranges were at their peak in the late 1980s when significant tonnage was shipped to the former soviet Union, With the collapse of that market in the early 1990s, Egypt's exports also declined, but recently appear to have recovered. Egypt's of selected commodities to the EU have been steadily increasing during the period 1992-2004.

Table (1): Value of Egypt's exports of studied products to EU and their relative importance

Value in thousand US Dollars

Year	Potatoes		Green beans		Orange		Table grapes		Strawberries		Onions		Melons		Tomatoes		Total		Total value of Agr. Ex.
	value	%	value	%	value	%	value	%	value	%	value	%	value	%	value	%	value	%	
1992	44,412		3,973		7,891		-		301		856		-		43		57,475		
1993	36,948		6,332		4,943		-		526		609		-		1		49,360		
1994	33,532		11,125		2,144		-		618		1,921		-		11		49,351		
1995	101,383	37.69	13,680	5.09	4,092	1.52	-		761	0.28	4,997	1.86	-		43	0.02	124,956	46.5	269,000
1996	69,004	32.55	15,907	7.50	4,247	2.00	-		1,484	0.70	1,167	0.55	112		178	0.08	92,099	43.4	212,000
1997	43,892	21.41	13,078	6.38	3,848	1.88	-		1,367	0.67	2,699	1.32	19		328	0.16	65,231	31.8	205,000
1998	62,772	25.62	15,511	6.33	3,447	1.41	3,468	1.42	1,350	0.55	4,957	2.02	108		326	0.13	91,939	37.5	245,000
1999	51,442	20.17	17,701	6.94	3,406	1.34	4,083	1.60	3,070	1.20	2,064	0.81	368		227	0.09	82,359	32.3	255,000
2000	31,057	12.47	19,440	7.81	4,645	1.87	5,421	2.18	3,909	1.57	2,675	1.07	103		368	0.15	67,617	27.2	249,000
2001	44,375	15.30	22,739	7.84	6,969	2.40	9,521	3.28	7,775	2.68	3,984	1.37	353		446	0.15	96,162	33.2	290,000
2002	57,822	17.74	21,831	6.70	11,374	3.49	16,596	5.09	8,298	2.55	7,038	2.16	157		1,012	0.31	124,128	38.1	326,000
2003	46,704	15.02	24,601	7.91	13,184	4.24	15,457	4.97	10,574	3.40	6,576	2.11	204		977	0.31	118,277	38.0	311,000
2004	60,385	15.64	32,746	8.48	27,788	7.20	27,045	7.01	12,413	3.22	6,028	1.56	932		908	0.24	168,244	43.6	386,000

Table (2): Total Production and exports of fruits and vegetables in Egypt (tons)

Crop	1994		1997		2001		2004	
	Prod.	Exp.	Prod.	Exp.	Prod.	Exp.	Prod.	Exp.
Green Beans	127000	5383	219527	20900	221893	21000	335778	31000
Cantaloupe, Melons	345000	4599	546814	1879	850000	2644		
Grapes	707049	1272	867905	2500	117960	6500	196852	28000
Onions	481000		396132		654940			
Oranges	1513050		1522098		1713720			
Potatoes	1324649		1802761		1800000		2039351	374800
Strawberries	32000	969	52321	3000	69106	6000	79771	2580
Tomatoes	5010682		5873441		6579910		7140198	6500
Watermelons	923000		1735448		1730480		1705038	10800

Source: The Ministry of Agriculture and Land Reclamation.

Tomato

Tomato is the most geographically dispersed horticulture crop in Egypt. Tomatoes are produced in all Governorates. Most tomato production comes from small and medium sized farms growing under open field conditions using flood irrigation. Large corporate farms in the New Lands grow tomatoes using plastic row tunnels, intensive cultivation, and drip irrigation to grow tomatoes in the winter season and for a small, irregular export market (5-19,000 mt in 1998-2000). It is generally believed that there is over-production of tomatoes, especially in seasons following high prices. There are many anecdotal stories about over-production (for example, plowing tomatoes under due to low prices). It is not certain this is due to general over-production-it may result from local market distortions. Regardless of any real or imagined over-supply, farmers continue to produce increasing tonnage, and exports have declined significantly. All tomatoes are grown from expensive imported hybrid seed. Yellow Leaf Curl Virus (YLCV) became a problem in the late 1980s. This, and the need to produce tomatoes that withstand poor post-harvest handling conditions, has restricted farmers to a relatively limited number of mostly processing varieties. These sell in the domestic market but are not acceptable in some potential export markets, most notably Europe. They also ripen in a short time frame, thus contributing to over-supply problems. Tomato producers benefit from its relatively high tolerance for salinity. Yield varies greatly by season and area, ranging in 2000 from a national average of 16.3 mt/feddan in winter to 13.4 tons/feddan in the summer; and from 22.7 mt/feddan in Upper Egypt to 15.3 mt/feddan in Middle Egypt (total year).

Tunnel producers experience significantly higher yields. In the 1970-80s new varieties that increased yields at unprecedented rates of growth have been introduced.

Potato

The principal potato producing regions are Behairah, Noubaria, Menoufia, Gharbia, Ismailia, and Dakahlia, all in Lower Egypt. In 2000 they accounted for almost 70 percent of total production. The majority of production for domestic consumption comes for over 100,000 traditional smallholders in the Delta and Valley. Most of these farms are $\frac{3}{4}$ -1 feddan, with $\frac{1}{2}$ – $\frac{3}{4}$ feddan devoted to potato production. Corporate farms in desert lands of up to 5,000 feddan each and are increasingly the principal suppliers to export and processing markets. This is largely a quality issue: corporate desert farms are better able to forestall and control brown rot and provide potatoes meeting processor specifications. Potatoes are a multi-seasonal crop with three crops grown for food, two crops for seed. Almost all production in the Delta and Nile Valley goes to meet local demand or to the wholesale markets in Alexandria and Cairo. In most years, about 15 percent of total production is exported. Approximately 20 percent of the crop is saved for seed, however Egypt is entirely dependent on Europe for disease resistant seed potatoes. Small farmers average 8-9 mt/feddan, while large corporate farms employing highly productive farming techniques average about 12 mt/feddan cannot presently afford to implement some of these practices—for example, certified seed and adequate chemical application—but others are correctable through effective extension.

Orange

Orange is Egypt's leading fruit crop. Planted area increased significantly through the early 1990s, due primarily to plantings in newly reclaimed lands. The principal orange produced is the navel—approximately 80 percent of all production. Mandarin, Valencia, and Clementine varieties make up the other 20 percent. Behairah, Kalyoubia, Noubaria, Sharkia, and Menoufia are the principal production areas. In 2000 they accounted for just over threefourths of total production. With the exception of the Valencia, oranges are harvested during December-April, and are primarily for eating, being relatively low in juice content and in compounds preferred for frozen concentrate. Usually less than 5 percent total production is exported, with Saudi Arabia being the principal market. Nile Valley and Delta production is generally on very fertile but small lots-2-3 feddan although there are some lots of up to 50 feddan. These lots are flood irrigated with Nile water. New Lands orchards are larger, on less fertile soil, of younger trees, and irrigated with drip systems. Both production systems make extensive use of low cost labor. National yields approximate 8.0 mt/feddan, ranging from 8.6 tons in Lower Egypt to 6.1 tons in Middle Egypt. The Mediterranean fruit fly is present in Egypt but has been well controlled through appropriate action at both the field and packing house levels.

2.2.2. Panel membership

As has been mentioned earlier, the expert panels should be composed of individuals who are knowledgeable of the sub-sector. Based on this criterion, the panel is combined of major exporters of the selected commodities, and academics who specialize in analysis of these commodities, and government officials who are involved in production and trade of these commodities.

Most of the private exporters selected to the panel are members of the Horticultural Export Improvement Association (HEIA) whose members handle the vast majority of fresh and vegetable exports. HEIA is composed of more than 150 exporters of fresh horticultural products. The members being exporters are also primarily growers. The association has organized itself by commodity groupings, i.e there are councils for table grapes, strawberries, melons, green beans as well as nurseries and cut flowers. The mission of HEIA is to improve the capacity of Egyptian exporters to export high quality horticultural products.

Table (3): Exporters-commodity matrix

No.	Participant	Company name	Commodity										
			Table grapes	Strawberries	Green beans	Melons	Onion	Potatoes	Orange	Tomato			
1	Amr Osman	Dina Farms	*	*		*			*				
2	Ashraf Salama	Orchard	*			*		*					*
3	Mohamed Kamel	Techno Green											
4	Hammam Malt	Export	*			*		*					
5	Hany ElBeltagy	Talaat Mostafa	*		*								
6	M. Abd. M. Esmael	Al Watanya Export	*	*									
7	Ahmed AlHodeeby	Trade Wave	*	*				*					
8	Mostafa Ahmed	Medi Gardens	*	*		*		*		*		*	*
9	Salah Yousef	Daltex											
10	Khaled Saada	IQT	*	*	*	*		*		*		*	*
11	Khaled Alanany	Al Dakahkiya											
12	Ahmed Al Sobki	Egypt Green											
13	Mohy El Batanoony	Star											
14	Hamdy Fayed	Fayed	*	*									
15	Reda Al Nahrawy	El Habeeba Farms	*			*			*				
16	El Mamlaka Farms	Toshki	*			*			*			*	*
17	Ahmed Abolnaser			*				*		*		*	*
18	Ehab Esokot	Grapes	*										
19	Mohamed Korany	HEIA	*	*	*								

2.2.3. Delphi questionnaire for EGYPT

The questionnaire was designed with to the core problem identified as the forecasting of Egypt's export potential of selected commodities by the year 2015. in this context, most of the questions concern the exports estimates of the potential increase in exports that might be possible under different EU liberalization scenarios. In each case, this is a partial liberalization and full liberalization question. For the partial liberalization, for each product, parameters are given concerning increase of the quotas and import windows extension. For the full liberalization scenario, it is assumed that there are no EU import restrictions (quotas, tariffs, windows, minimum import prices, etc.) other than standard phyto-sanitary standards. In designing the questionnaire, we have benefited from the previous experience learned from the case of Morocco that it should not be too long or too complicated. We have avoided asking the participants how much they thought production could be increased and then how much exports could be increased. Alternatively we simply ask them how much they think exports to the EU could increase by 2015 under partial and total liberalization. This requires the participants to think through for themselves potential production increase, potential total export increases, potential competition, etc. But the participants are only asked to give us the actual number we need, that is, potential export increases to the EU. Thus, the questionnaire is simple as possible potential production increase, potential total export increases, potential competition, etc. But we only ask them to give us the actual number we need – potential export increases to the EU. This makes the questionnaire much simpler; yet hopefully gets us to the results we need.

Finally, we choose to indicate to the experts in the instructions that if they do not feel qualified to answer the question to leave it blank and go on to the next question. Another approach commonly used is to ask the experts to provide the level of confidence they have in their response (often on a scale of 1-5). Then one does not use for round two feedback, the answers that indicated a level of confidence of 1 or 2. Feel free to use whatever approach you think will work best for you.

Once we have the scenario definitions for the country and product list, we should proceed with elaborating the questionnaire and testing it on people who will not be in our final expert panel.

The questionnaire form

"We are part of a project called "Impact of Agricultural Trade Liberalization Between the EU and Mediterranean Countries." Our project activities take place in several EU countries plus Egypt, Israel, Morocco, Tunisia, and Turkey. In each of these countries we are using a research method called the Delphi technique to obtain expert opinion on critical questions related to possible trade liberalization in the future. We undertake this activity with the philosophy that better information produces better decisions and with a philosophy that all information will be shared with all partners.

Thus, we request your participation in this activity as one of the key experts in this sector. We sincerely thank you for your participation. In addition, we pledge to share with you the results of the exercise not only for your country but also for the other countries involved in the study. It is a small token of our appreciation for your contribution of time and effort for this work.

The Delphi method of obtaining expert opinion will be explained to you as we launch the activity. The key is that you provide us in the first round with your honest and best estimates for the questions posed. Then, in subsequent rounds, you may modify your answers based on the feedback received (anonymously) from the rest of your panel of experts. The questionnaire covers a wide range of products. If you feel that you do not have enough knowledge about a particular product, just skip the questions related to the product and go on to the next.

Thanks again for your help.

Most of the questions that follow concern your best estimates of the potential increase in exports that might be possible under different EU liberalization scenarios. In each case, there is a partial liberalization and a full liberalization question. For the partial liberalization scenario, we will give you the parameters to use in your reflection. For the full liberalization scenario, you should assume that there are no EU import restrictions (quotas, tariffs, windows, minimum import prices, etc.) other than standard phyto-sanitary standards.

1. The current exports of potatoes to the EU is 206,000 tons (2004) The current annual EU quota for potatoes according to the EU-Egypt partnership Agreement is 150,000 tons and should be increased to 250,000 tons in 2006. Suppose this quota increases to 500,000 tons with no change in the windows or minimum import price.

What level of potato exports to the EU could be achieved by Egypt by 2015?

- a. 250,000 tons ()
- b. 300,000 tons ()
- c. 350,000 tons ()
- d. 400,000 tons ()
- e. 450,000 tons ()
- f. 500,000 tons ()

2. Now suppose we have full liberalization.

What level of exports to the EU could be achieved by 2015?

..... tons off-season
..... tons season
..... tons total

3. Suppose you could design the parameters of a partial EU liberalization system.

What parameters are most important to change with 1 being most important and 5 least important)?

- () increase the quota
- () decrease the minimum import price
- () expand the import windows
- () decrease tariffs
- () change the monthly quota allocation

4. The current strawberry exports to the EU is 3887 tons.(2004).The current EU quota for strawberries is 1205 tons at present, and it expands to 1700 tons annually in 2006. Suppose that the quota increased to 6000 tons with no change in windows, what level of exports to the EU could be achieved by 2015?

- a. 4,000 tons ()
- b. 4,500 tons ()
- c. 5,000 tons ()
- d. 5,500 tons ()
- e. 6,000 tons ()

5. Current green bean exports to the EU are 28,000 tons. The current annual EU quota for green-beans according to the EU-Egypt partnership Agreement is 17,500 tons and should be increased to 20,000 tons in 2006. Suppose this quota increases to 40,000 tons with no change in the windows or minimum import price.

What level of green beans exports to the EU could be achieved by Egypt by 2015?

- a. 30,000 tons ()
- b. 35,000 tons ()
- c. 40,000 tons ()
- d. 45,000 tons ()
- e. 50,000 tons ()

6. Now assume full liberalization of EU green beans imports. What percentage increase could be achieved by 2015?

..... %

7. The current onion exports to the EU are 21,500 tons.(2004) The current EU quota for Onion is 15,000 tons with zero tariff and window from 1 February to 15 June (17,128 tons in 2006). Suppose that the quota would be increased to 34,000 tons with no change in windows or minimum entry price, what level of exports to the EU could be achieved by 2015?

- a. 25,000 tons ()
- b. 30,000 tons ()
- c. 35,000 tons ()
- d. 40,000 tons ()
- e. 45,000 tons ()

8. Now suppose full liberalization for onion imports. What level of exports to the EU could be achieved by 2015?

..... Tons

9. The current orange exports to the EU are 66,000 tons (2004).The current quota for oranges to EU is 54.000 tons with specific entry price and windows. This quota will be expended to 59,000 tons in 2006. Suppose that the EU increased the quota to 120.000 tons. What level of exports do you expect Egypt could achieve by 2015?

- a. 70,000 tons ()
- b. 80,000 tons ()
- c. 90,000 tons ()
- d. 100,000 tons ()
- e. 110,000 tons ()
- f. 120,000 tons ()

10. Now assume full liberalization for oranges. What level of exports to the EU could be achieved by 2015?

(.....) tons

11. The current table grapes exports to the EU are 17,157 tons. The current window for table grapes is from 1 February to 30 June. Suppose this window is extended to 31 August. What percentage increase in grape exports to the EU could be achieved by 2015?

- a. 20% ()
- b. 40% ()
- c. 60% ()
- d. 80% ()
- e. 100% ()

12. Now suppose full liberalization for grapes. What percentage increase in grapes exports to the EU could be achieved by 2015?

..... %

13. The current tomato exports to the EU are 1,000 tons. The current window for tomato is from 1 February to 31 March. Suppose that this window is extended to 30 April. What percentage increase in tomato exports to the EU could be achieved by 2015?

- a. 20% ()
- b. 40% ()
- c. 60% ()
- d. 80% ()
- e. 100% ()

14. Now assume full liberalization for tomato. What percentage increase in tomato exports to the EU could be achieved by 2015?

- a. 20% ()
- b. 40% ()
- c. 60% ()
- d. 80% ()
- e. 100% ()

15. The current melon exports to the EU are 1,192 tons (2004). The current EU quota for melons is 690 tons with zero tariff and window from 15 October to 31 May (1210 Tons in 2006). Supposed that the quota would be increased to 2400 tons with no changes in the windows what level of exports to the EU could be achieved in 2015?

(.....) tons.

16. What do you believe to be the major constraints in increasing Egyptian exports of fruits and vegetables to the EU? If you believe the constraints could be eliminated, please explain what needs to be done? Please provide responses both that apply generally to all products first and then constraints specific to products that interest you the most.

Constraint	What needs to be done to remove the constraint?

Specific product	Constraint	What needs to be done to remove the constraint?

2.2.4. Exact procedures used

As has been experienced by colleagues during obtaining expert opinion in Morocco, both Delphi and a meeting of experts were found to be useful. For Egypt, it was difficult to held a meeting of exporters because time limitation. It was only possible for few of them. Therefore Delphi method has been applied. Three qualified persons were chosen to be monitors for the questionnaire. Although some participants have preferred to conduct the questionnaire by e-mail, the majority of the selected panel members have been contacted personally.

The questionnaire forms were distributed for the members. Additional information and tabulated responses were provided to panel members in order to have consensus on estimates of Egypt's export potential of the studied commodities.

3. Delphi analysis results

3.1. Quantitative results

3.1.1. Potential increase in exports for each product

Liberalization scenarios which are supposed to include concessions to be made by the EU, have been developed through user workshops. Participants in the workshops included EC staff, political representation of different positions regarding EU-MED trade liberalization, Mediterranean country participants, and project staff. The project team has made the final decisions on the scenarios used in the study. Two scenarios were developed. The first is a partial liberalization which maintains certain level or types of protection by the EU. It is a mixture of changes in tariffs, quotas, minimum import prices, and seasonality rules. It is assumed that, for example, if quotas or windows are eliminated, there might be greater potential for Egypt's exports. For each product, the liberalization scenario as compared to the base situation can be viewed as an effective change in protection rule. The second scenario is a free trade one which assumes elimination of all protection.

Impact of EUEPA on market access for Egypt's products

To explore the extent to which quota, window and other protection measures are constraining Egypt's exports of studied crops to EU, coverage of actual exports have been compared in terms of quotas and windows under both the old protocol (1977-2003) and the EU-Egypt Partnership Agreement (enforced 2004) as presented in tables (4) and (5) respectively. For the old Protocol, the average of the period 2000-2003 while for the EUEPA the only year for which the data is available is 2004.

Table (4): Egypt's exports of selected F and V products to EU, quota and coverage, 2000-2003

Crops	Window	Actual exports						Quota (ton)	Coverage (1) %	Coverage (2) %
		Inside window (ton)	%	Outside window (ton)	%	Total (ton)				
Orange	1/1-31/3	9,817	46.1	11,465	53.9	21,282	7,840	125	271	
Strawberries	1/11-31/3	2,311	99.6	9	0.4	2,320	500	462	464	
Onions	-	-	-	-	-	19,966	5,880	-	340	
Table grapes	1/2-30/6	4,130	59.9	2,761	40.1	6,891	Unlimited	-	-	
Melons	1/1-31/5	142	52.6	128	47.4	270	120	118	225	
Tomatoes	1/2-31/3	187	29.6	446	70.4	634	Unlimited	-	-	
Potatoes	1/1-31/3	101,673	68.8	46,122	31.2	147,795	109,670	93	135	
Green beans	1/11-30/4	15,535	75.2	5,111	24.8	20,647	7,680	202	269	

Table (5): Egypt's exports of selected F and V products to EU, quota and coverage, 2004

Crops	Window	Actual exports						Quota (ton)	Coverage (1) %	Coverage (2) %
		Inside window (ton)	%	Outside window (ton)	%	Total (ton)				
Orange	1/1-31/5	63,359.6	95.9	2,695.6	4.1	66,055.2	54,000	117	122	
Strawberries	1/10-30/11	2,244.8	57.8	1,641.7	42.2	3,886.5	1,205	186	323	
Onions	1/1-31/3	14,576.9	68.2	6,808.8	31.8	21,385.7	15,314	95	140	
Table grapes	1/2-21/7	14,574.9	85.2	2,523.3	14.8	17,098.1	Unlimited	-	-	
Melons	15/10-31/5	1,074.8	90.3	115.3	9.7	1,190.0	690	155.8	172	
Tomatoes	1/1/31/3	510.5	56.2	398.1	43.8	908.6	Unlimited	-	-	
Potatoes	1/1-31/3	186,548.0	90.5	19,653.6	9.5	206,201.6	130,000	143.5	159	
Green beans	1/11-30/4	20,556.6	73.2	7,540.3	26.8	28,096.9	17,500	117	161	

Coverage (1) is the percentage of actual exports inside the window to quota.

Coverage (2) is the percentage of total exports to quota.

Coverage ratios show that Egypt's total actual exports are always greater than quotas for products that are subject to quota system including oranges, strawberries, onion, melons, potatoes, and green beans. This is true for both the protocol and the EUEPA, but coverage ratios are higher in former compared to the later. It should be noticed however that even though actual exports have increased in 2004, the quotas have also been raised.

Coverage ratios concerning the windows show that actual exports within the windows are greater than quotas except for three cases; potatoes under the Protocol (table 4) and orange and table grapes under the EUEPA (table 5).

Performance of Egypt's exports of the studied commodities in the EU market

- Growth rates of exports

Annual growth rates of EU imports of studied commodities from Egypt are estimated for the period 1992-2004 as presented in table (6). These are compared to similar estimates but for EU total imports of the same commodities as shown in the above-mentioned table. Egypt's exports of potatoes grew at 0.7 percent annually which is the lowest among the studied commodities, however it is higher than growth of EU total imports of potatoes. For orange, EU imports from Egypt grew at 7.4% which is higher than growth rate of EU total imports higher than growth rate of EU total imports of orange (4.2%). For the other commodities, it is noticed that growth rates concerning EU imports for Egypt are much higher, between 10-40 percent, even in comparison with EU total imports at of each commodity.

Table (6): Annual growth rates of EU imports of studied products from Egypt compared to total, 1992-2003 %

Crops	Egypt		EU	
	Value	Quantity	Value	Quantity
Orange	7.4	3.3	4.2	1.4
Strawberries	32.2	33.8	4.4	5.2
Onions	17.0	15.9	5.8	2.8
Table grapes	35.0	35.6	9.2	6.5
Melons	20.4	25.5	6.4	0.6
Tomatoes	46.1	42.6	6.8	4.0
Potatoes	0.0	-0.3	3.4	3.1
Green beans	13.4	10.3	8.4	8.4

Egypt's Exports to EU inside and outside window are presented in the period 2000-2003 i.e before EUEPA and the year 2004 the first year the EUEPA is effective, are presented in tables (7) and (8) respectively.

Table (7): EU imports of studied products originated in Egypt 2000-2003

Product	Inside window			Outside window			Total		
	Average Egypt	Average EU	%	Average Egypt	Average EU	%	Average Egypt	Average EU	%
Orange	9,817	799,242	1.2	11,465	1,626,972	0.7	21,282	2,426,214	0.9
Strawberries	2,311	85,034	2.7	9	268,951	0.0	2,320	353,985	0.7
Onions	0	0	0.0	0	0	0.0	19,966	1,126,441	1.8
Table grapes	466	358,726	0.1	11,880	734,237	1.6	12,346	1,092,963	1.1
Melons	142	208,950	0.1	128	43,515	0.3	270	252,465	0.1
Tomatoes	187	395,567	0.0	446	1,603,227	0.0	634	1,998,794	0.0
Potatoes	101,673	1,491,392	6.8	46,122	3,817,172	1.2	147,795	5,308,565	2.8
Green beans	15,535	103,395	15.0	5,111	131,531	3.9	20,647	234,926	8.8

Quantity in tons

Table (8): EU imports of studied products originated in Egypt 2004

Product	Inside window			Outside window			Total		
	Average Egypt	Average EU	%	Average Egypt	Average EU	%	Average Egypt	Average EU	%
Orange	63,360	1,488,798	4.3	2,696	1,329,069	0.2	66,055	2,817,867	2.3
Strawberries	2,245	107,131	2.1	1,642	307,344	0.5	3,887	414,476	0.9
Onions	14,577	687,774	2.1	6,809	537,374	1.3	21,386	1,225,147	1.7
Table grapes	14,575	486,933	3.0	2,523	611,153	0.4	17,098	1,098,086	1.6
Melons	1,075	364,560	0.3	115	43,670	0.3	1,190	408,229	0.3
Tomatoes	511	677,499	0.1	398	2,664,637	0.01	909	3,342,136	0.0
Potatoes	186,548	1,588,405	11.7	19,654	3,694,537	0.5	206,202	5,282,942	3.9
Green beans	20,557	143,755	14.3	7,540	190,134	4.0	28,097	333,889	8.4

Quantity in tons

3.1.1.1 Partial liberalization

Estimates of the panel members for Egypt's exports of studied products under partial liberalization scenario are presented in table (9) and arranged in ascending order in table (10). Estimates at median levels are compared to assumed quota and current level as presented in table (11) and (12). Discussion of the results for each product will follow.

Potatoes

According to Delphi results, Egypt's export potential of potato to EU is estimated at 400,000 ton in 2015 under partial liberalization scenario which assumes raising the zero tariff quota from 131000 ton in 2004 and 250,000 ton in 2006 to 500,000 ton. This means that doubling the quota as the only liberalization procedure i.e keeping the entry price and window without change, would result in increasing Egypt's exports by 205 percent compared to current quota (2004) and 60 percent to quota of 2006. However, export potential of potato is only 80 percent of the assumed quota.

Strawberries

Delphi results indicate that export potential of strawberries to EU in 2015 is estimated at 6000 ton, this amount is equal to the quota assumed to dominate under EU partial liberalization scenario, but up by 135 percent compared quota determined for 2006 and 398 percent compared to quota 2004.

The actual exports of strawberries in 2004 is more than three times the quota at the same year (1205 ton), and more than two times the quota of 2006 (1700 ton) which indicates high export potential for this product.

Green beans

Green beans is one of the most promising products with respect to exports to EU. Under partial liberalization, it was assumed that quota would be doubled compared to quota of 2006 (20,000 ton) and 2.3 times the quota of 2004 (17,500 ton). Delphi results indicate that Egypt's exports of green beans to EU would reach 50,000 ton by the 2015.

Table (9): Panel members responses for Egypt's potential exports of studied products to EU under partial liberalization, 2015

No.	Company name	Products										Quantity in tons
		Potato	Strawberries	Green beans	Onion	Orange	Table grapes	Melons	Tomato			
1	Dina Farms	500000	5000				34314	2500				
2	Orchard						34314	3000				
3	Techno Green		5000				34314				1200	
4	Export		5000	45000			34314				1400	
5	Talaat Mostafa						27451					
6	Al Watanya Export		4500				24020					
7	Trade Wave					80000	26851					
8	Medi Gardens		6000				26851				1800	
9	Daltex		6000	45000			34314	1500			1400	
10	IQT	300000	5500			100000	34314					
11	Al Dakahklya		4000	50000	45000		34314					
12	Egypt Green		6000				34314					
13	Star	600000	6000	45000	40000	90000	26851	2000			1400	
14	Fayed	450000	6000	50000	40000		34314	1500				
15	El Habeeba Farms	400000	5500	40000	30000	110000	30883	3000			1600	
16	Toshki		4500				26851	1500			1400	
17							24020	2000				
18	Grapes	450000	6000				26851	2000				
19	HEIBA						30883					
20		350000	5000	35000			26851	2000			1400	
21		600000	6000	40000	45000	100000	34314	3000			2000	
22		400000	6000	45000	45000	110000	34314	700			16000	
23		400000	5500	50000	35000	90000	34314	3000			2000	
24		500000	6000	50000	45000	110000	34314	3000			2000	

Source: Delphi questionnaire.

Table (10): Panel expert responses for partial liberalization scenario in ascending order

No.	Quantity in tons			
	Potato	Strawberries	Green beans	Onion
1	300000	4000	35000	30000
2	350000	4500	40000	35000
3	400000	5000	40000	90000
4	400000	5000	45000	40000
5	400000	5000	45000	45000
6	450000	5000	45000	45000
7	450000	5500	45000	45000
8	500000	5500	50000	45000
9	500000	5500	50000	
10	600000	6000	50000	
11	600000	6000	50000	
12		6000		
13		6000		
14		6000		
15		6000		
16		6000		
17		6000		
18		6000		
Median	450000	5500	45000	42500

Source: table (9).

Table (10): Continued

Quantity in tons

No.	Orange	Table grapes	Melons	Tomato
1	80000	24020	700	1200
2	90000	24020	1500	1400
3	90000	26851	1500	1400
4	100000	26851	1500	1400
5	100000	26851	2000	1400
6	110000	26851	2000	1400
7	110000	26851	2000	1600
8	110000	26851	2000	1600
9		27451	2500	1800
10		30883	3000	2000
11		30883	3000	2000
12		34314	3000	2000
13		34314	3000	
14		34314	3000	
15		34314		
16		34314		
17		34314		
18		34314		
19		34314		
20		34314		
21		34314		
22		34314		
23		34314		
Median	100000	32594	2000	1500

Table (11): Egypt's exports: actual, quotas, potentials under partial liberalization

Quantity in tons

Product	Current (2004)	Quota (2004)	Quota (2006)	Partial liberalization		Estimate partial 2015	Current window
				quota assumed	Extended window		
Potato	206000	131167	250000	500000		450000	1/1-31/3
Strawberries	3887	1205	1700	6000		5500	1/10-30/11 1/11-30/4
Green beans	28000	17500	20000	40000		45000	1/11-30/4
Orange	66000	54000	59000	120000		100000	-
Onion	20324	15000	17000	34000		42500	1/2-15/6
Table grapes	17157	-	-	-	1/2-31/8	32594	1/2-21/7
Tomato	1000	-	-	-	1/12-30/4	1500	1/1-31/3
Melons	1192	690	1210	2400		2000	15/10-31/5

Table (12): Export potential of studied products in 2015 under EU partial liberalization compared to assumed quota and current levels

Product	Percentage (%) of export potential to:			
	Current (2004)	Quota (2004)	Quota (2006)	Quota assumed (2015)
Potato	218	343	180	90
Strawberries	141	456	323	92
Green beans	161	257	225	112
Orange	152	185	168	83
Onion	209	283	250	125
Table grapes	190	-	-	-
Tomato	150	-	-	-
Melons	168	290	165	83

Orange

Under partial liberalization scenario, it is assumed that Egypt's quota of orange for EU would be raised from 59000 ton (2006) to 120000 ton in 2015. According to expert panel opinion, orange export potential is estimated at 100,000 ton i.e with 83 percent coverage of the assumed quota. It should be noticed that actual exports of orange in 2004 (66000 ton) exceeded the quota determined within EU-Egypt Partnership. Agreement (EUEPA) that is 54000 ton. It should also noted that the old

quota, before EUEPA, used to be only about 8000 ton. This shows that quota determined at these low levels has severely restricted Egypt's orange to EU.

Onion

Egypt's exports of onion to EU are constrained by two protection measures: quota and window. According to EUEPA, quota is 15000 ton (2004) to be increased to 17000 ton (2006), while the window for zero tariff exports is from February 1 to June 15. Under partial liberalization scenario, it is assumed that quota would be increased to 34000 ton which is double the quota of 2006. Consensus of export panel has been around 42500 ton as export potential of onion for 2015. this export potential is higher than assumed quota by 25 percent, it is also higher than actual export in 2004 by a percent.

Table grapes

The only protection measure imposed on Egypt's export of table grapes to EU in the context of EUEPA is a window determined from February 1 to July 21. Under partial liberalization scenario, it is assumed that this window is extended to August 31. According to the expert panel opinion, table grapes export potential in 2015, as an impact of this window extension, would be around 32594 ton which is 90 percent higher than the current actual exports (2004). Previous studies concerning export projections (USAID and ATUT) have estimated exports of table grapes at 45600 ton in 2012 and export potential to EU at 41000 ton (see Annex tables 8 and 9). Early mature varieties has been successful in increasing Egypt's table grapes exports in the recent years and still there is large potential in that respect.

Tomato

As has been mentioned earlier, tomato production in Egypt comes to about 2 million ton annually. However because of quality problems, tomato exports are very little. The current exports of tomato to EU amount to only 1000 ton (2004). Egypt's exports of tomato to EU is constrained by a protection measure represented by a window from January 1 to March 31. If such window is assumed to extended two months one month earlier and another later i.e from December 1 – April 30, under partial liberalization scenario, Egypt's export of tomato to EU would increase by 50 percent by the year 2015.

Melons

Egypt's exports of melons to EU are constrained through quota system as a protection measure. Quota within EUEPA is determined at 690 ton (2004) and 1210 ton (2006). The actual exports of melons in 2004 is 1192 ton which is about 70 percent higher than quota (690 ton) and almost equal to quota of 2006. It was assumed, under partial liberalization scenario, that quota is raised to 2400 ton i.e double the quota of 2006. Export potential estimated by the export panel for 2015 is 2000 ton. This estimate is 17 percent less than assumed quota and 152 percent above the current actual exports in 2004.

3.1.1.2. Total liberalization

Estimates made by expert panel for Egypt's export potential of studied products to EU in 2015 under total liberalization scenario (TLS) are presented in tables (13) and (14). Total liberalization estimates are compared to partial estimates in tables (15) and (16). These estimates implies significant increases whether compared to current export levels (2004) or to EUEPA quotas.

Under full liberalization, Egypt is expected to export to EU 540000 and 120000 ton of potato and orange respectively in 2015. these amounts represent 262 and 182 percent of the current actual exports (2004) of the two products respectively. Comparison between estimates of export potential under and partial liberalization scenarios show that elimination of remaining protection measures under total liberalization would contribute more in increasing Egypt's exports of both potato and orange.

With respect to other studied products, similar pattern of expectations is reported by the expert panel. Under total liberalization assumption, green beans exports are expected to reach 56000 ton by 2015 which is 100 percent above the current actual exports (2004) and 24 percent above partial liberalization estimate. Table grapes export potential for 2015 is estimated at 34314 ton i.e 200 percent of the current level.

Tomato export potential is also estimated at 200 percent of the current exports. Melons exports are expected to reach 3000 ton which represent 252 percent of the current exports (2004) and 150 percent of the estimate pertaining partial liberalization scenario.

Table (13): Panel members responses for Egypt's potential exports of studied products to EU under total liberalization scenario, 2015

No.	Company name	Products										Quantity in tons		
		Pot.	Ora.	Str.	Oni.	T.gr	Mel.	Gr.b	Tom.					
1	Dina Farms						68628							
2	Orchard						51571				3000			
3	Techno Green						68628							
4	Export						68628							
5	Talaat Mostafa						34314							
6	Al Watanya Export						34314							
7	Trade Wave						30883							
8	Medi Gardens						34314							
9	Daltex													
10	IQT			110000			51571							
11	Al Dakahliya					45000	34314					56000		
12	Egypt Green						51571							
13	Star	600000		90000			29167			3000				
14	Fayed	500000	450000	950000			102942	50000		1500		56000		
15	El Habeeba Farms			160000			68628	40000		4000		56000		
16	Toshki						51571			2000				
17							30883			3000				
18	Grapes						34314							
19	HEIA						42893							
20		200000	25000	450000			34314					42000		
21			900	120000			34314	2500				50000	2000	
22			540	190000			34314	65000				56000	1800	
23			400	120000			41177	40000				84000	4000	
24			600	150000			34314	90000				56000	5000	

Source: Delphi questionnaire.

Table (14): Estimates of the individual expert panel in ascending order
Quantity in tons

No.	Potato	Orange	Table grapes	Melons	Green beans	Tomato
1	400000	90000	29167	1500	420000	1800
2	450000	110000	30883	2000	50000	2000
3	540000	120000	30883	3000	56000	4000
4	600000	120000	34314	3000	56000	5000
5	900000	150000	34314	3000	56000	
6		160000	34314	4000	56000	
7		190000	34314		56000	
8			34314		84000	
9			34314			
10			34314			
11			34314			
12			34314			
13			41177			
14			42893			
15			51571			
16			51571			
17			51571			
18			51571			
19			68628			
20			68628			
21			68628			
22			68628			
23			102942			
Med.			34314	3000	56000	3000

Table (15): Estimates of expert panel for Egypt's export potential of studied products to EU in 2015 under total liberalization scenario compared to current exports and PLS

Product	Current export (2004)	Estimate export potential PL	Estimate export potential TL
Potato	206000	450000	540000
Green beans	28000	45000	56000
Orange	66000	100000	120000
Table grapes	17157	32594	34314
Tomato	2000	1500	3000
Melons	1192	2000	3000
onion	20324	42594	42594
straberries	3887	5500	5500
Total	344560	679188	804408

Table (16): Export potential of studied products in 2015 under EU total liberalization scenario compared to current levels and PLS

Product	Percentages (%) of export potential to:	
	Current (2004)	PLS estimate
Potato	262	120
Green beans	200	124
Orange	182	120
Table grapes	200	105
Tomato	300	200
Melons	252	150

Source: Computed from table (15).

3.1.2. Other quantitative results obtained

3.1.2.1. Production and marketing constraints

The principal constraints to continued development of Egypt's emerging non-traditional export sector relate to delivered product cost and quality. With total supply from Egypt and other countries increasing and Egypt increasing its market shares, delivered (CIF) costs are becoming a significant issue. Increased supply and importer quality requirements also increase the need to produce and deliver product that meets buyer specifications. Many of the quality and cost issues are impacted by GOE policies, regulations, and actions.

Quality constraints include the lack of adequate post harvest facilities, including cooling/packing sheds, refrigerated transport, and cold storage. Large growers/exporters are establishing their own facilities and acquiring refrigerated trucks. The availability of refrigerated containers has increased significantly in recent years and regulations have been changed to facilitate their use and movement at Alexandria port. A new cold store facility is being constructed at Cairo International Airport. However, increasing production and export volumes will require more investment in support facilities. Particular challenges will be faced in extending these facilities to medium and smallholder growing areas.

The transportation issue goes beyond the relatively simple acquisition of additional refrigerated trucks. Egyptian law does not permit efficient use of non-Egyptian trucks, thereby increasing the cost and availability of refrigerated transportation. Roads are often rough, slowing down the speed and/or reducing the quality of shipments.

Other quality factors include product variety and pesticide issues. Most horticulture crop seeds and planting materials are imported. GOE time requirements for the registration of new varieties, while recently improved, still prevent rapid adoption of improved varieties by growers. This is especially crucial with regard to export

products where Egyptian producers have to other quality factors include product variety and pesticide issues. Most horticulture crop seeds compete with other suppliers with less time-consuming registration requirements, GOE requirements can be further changed to benefit growers and exporters without harm to Egyptian agriculture.

The pesticide issue is of very immediate concern given the EU's decisions (in 2002) specifying by name the chemicals that are acceptable for use on fresh fruits and vegetables consumed in the EU. The GOE's recent adoption of a "fast-track" system, allowing approval of chemicals without proper documentation has moved it away from earlier protocols that brought its regulation of pesticides more in line with international standards. It is especially worrisome that the "fast track" approval system, may result in use of products that do not meet EU standards. Should imports from Egypt be found in violation of EU regulations, further imports will be endangered until producers come into compliance.

One of the largest problem facing exporters is the lack of good agricultural, practices and post-harvest handling. In this regard, F and V exports to EU should comply with the EUREPGAP standards which in turn demand skilled labor. However, as expert panel indicated, the F&V sector suffers lack of skilled labor needed to apply good agricultural practices for larger production scales.

In addition to the low quality produce resulting from poor cultural practices, these practices also impose a significant cost to the exporter. The major cost areas are lack of mechanization, poor growing practices, poor harvesting and poor-harvest techniques. Soil preparation is done very poorly and therefore the crops suffer in quality and yield. Poor seeding or transplanting practices without marketing the field result in poorer yields – as much as 20% poorer.

Lack of transportation facilities

Shortage of adequate transportation and cooling facilities is an obstacle to the development of horticulture in general and horticultural exports in particular the existing transportation facilities are poor and expensive. Egyptian trucking rates are very high and truck servicing facilities along important roads are in adequate.

Air Cargo space for perishable products is not regularly available during peak exporting periods, and is more expensive compared to Egypt's competitors. Locations other than Cairo International Airport, such as Aswan and Luxor are lacking cold storage facilities for horticultural product shipments. Excessive cargo handling costs at Cairo Airport are another major deterresnt to export expansion. With respect to sea transport, port facilities for refrigerated are poor.

To sum up, Egyptian exporters of fruits and vegetables in general and the studied products in particular, still face serious constraints on increasing sales in EU markets. Domestically, the countries include: low-quality domestic inputs, backwards cultural practices, cumbersome duty-drawback and admission regimes, excessive paperwork, fees and delays for customs and various inspections during export and import, workers that are poorly prepared for the jobs available; insufficient incentives to export and a lack of access to information on foreign markets and product standards.

3.1.2.2. Protection constraints

Protection measures play a significant role in constraining Egypt's exports of fruits and vegetables to EU particularly the studied products. As has been shown in section 3.1.1.2., relaxing the quota or window measures for the studied products would result in increasing exports of these products to EU. Evidence on that could be seen either from the expert panel opinion or from data of exports for 2004 as the first year of EUEPA enforcement under which some protection measures (quota, entry price, window and tariffs) have partially been liberalized.

Technical barriers-related measures applied by the EU would add further to the protection. From the experience of the past years, it is clear that SPS/TBT measures are important for Egypt's exports. Following the establishment of the EU, single market EU-wide standards were raised in 1998 to protect the Union's southern members, which essentially meant that exporters for fruits and vegetables faced higher standards overall. Two particular cases have been experienced. Egypt's orange export have been prevented in Italy because of infection of white fly. The second case is the restriction of the export of "baby" potatoes because of brown rot disease. Egypt has taken certain technical regulations and specifications prepared in consultation with the EU to avoid export penalties.

On market access how EU makes its minimum and current access commitments is a matter of interest. In the UR, its minimum access commitments were set by aggregating all vegetables into one category and all fruit into another, which made it easier to meet its minimum access commitments (5 percent of the base – period consumption level).

According to some analysts, market access would have been larger if the commitments had been based on disaggregated product lines.

Another issue is the EU option to subsidize exports of fruit and vegetables. The subsidies undermine world prices of these products.

4- Conclusions

4.1. Summary of the export increase potential for Egypt in a more liberal trading regime with the EU

The main objective of this study is to forecast Egypt's export potential of major fruit and vegetable export commodities under two liberalization scenarios. The first is a partial liberalization scenario where the underlying assumption is that some of current EU import restrictions, namely quota and window, would be relaxed to a certain extent with no change in other restrictions for the products subject to quota system, quotas are assumed to be double the quota in 2006 determined in the EU-Egypt Partnership Agreement (EUEPA) with no change in window or other protection measures.

This has been applicable for potato, orange, green beans, strawberries, onion, and melons. Windows are assumed to be extended one month for table grapes and two months for tomato. The second scenario is the total liberalization scenario where the underlying assumption is that all restrictions on EU imports of studied products such as quotas, entry price, window, and tariffs would be removed.

Delphi method is used to construct the above – mentioned scenarios using the expert panel. Twenty five participants combined of private large exporters, officials and academics have been selected as expert panel. Delphi questionnaire has been

designed with the core problem identified as the forecasting of Egypt's export potential of selected commodities for the year 2015.

Partial liberalization increase in exports for each production 2015

Potato: Export potential of potato to EU is estimated at 450 000 ton which represents 90% of assumed enlarged quota, 180% of quota of 2006 and 218% of the current exports (2004).

Orange: Export potential is estimated at 100 000 ton covering 83% of the assumed quota (120 000 ton) and representing 169% of quota of 2006, and 152% of the current exports (2004).

Green beans: Export potential is estimated at 45000 ton covering 112% of the assumed quota under partial liberalization, representing 225% of the quota of 2006, and 161% of the current exports (2004).

Table grapes: Export potential is estimated at 32594 ton as a result of assumed extension of the window one month ahead. This amount represents 190% of the current exports (2004).

Strawberries: Export potential is estimated at 5500 ton covering 92% of the assumed enlarged quota, representing 323% of the quota of 2006 and 141% of the current exports.

Onion: Export potential is estimated at 42500 ton covering 125% of the assumed enlarged quota. This amount represents 250% of quota of 2006 and 209% of the current exports (2004).

Tomato: Export potential is estimated at 1500 ton under the assumption that the window is extended two months. This estimate represent 150% of the current exports.

Melons: Export potential is estimated at 2000 ton, covering 83% of the assumed quota (2400 ton) and representing 165% of the quota of 2006 according to EUEPA and 168% of the actual exports in 2004.

Total liberalization scenario

If EU imports are liberalized from all protection measures, export potential of studied commodities would increase significantly. Export potentials for 2015 are estimated for potato, orange , green beans, table group, tomato, and melons at 540 000, 120 000, 56000, 34314, 3000 and 3000 ton respectively. These estimates exceed those made for partial liberalization scenario with 20 percent in the case of potato and orange, 24 percent in the case of green beans.

4.2. Other important conclusions

Egyptian exporters of fruits and vegetables in general and studied products in particular, still face serious constraints on increasing sales in EU markets. These constraints could be classified to three sets; production, marketing and protection constraints.

The principal constraints continued development of Egypt's emerging non-traditional export sector relate to delivered product cost and quality. Quality constraints include the lack of adequate post harvest facilities including cooling / packing sheds, refrigerated transport, and cold storage. Other quality factors include product variety and pesticide issues.

EU – Egypt Partnership Agreement (EU EPA) came into effect in 2004 with partial liberalization of agricultural trade between the two parties. Shifting from the old preferences to the EUEPA has made significant improvement in market access for Egypt's exports of the studied products to EU markets, either through enlargement of zero-tariff quotas or extending the windows or reducing tariffs and entry prices.

Data available for actual exports in 2004 shows that Egypt's exports of most of fruit and vegetable products have responded positively to improvement of EU market access within the context of EUEPA. Delphi results prove that Egypt's export potential of the studied products would respond positively to higher levels of liberalization.

Annex

Table (1): Applied Protection for Table grapes, 2004^(a)

Month	Nature of Preference	Tariff advalorem (%)	Trigger Price	Maximum Specific Duty (%)	Volume imports (ton)
January	GSP	8			
February	Med Pref	0			
March	Med Pref	0			
April	Med Pref	0			
May	Med Pref	0			209.1
June	Med Pref	0			83.55.1
1-21 June	Med Pref	0			8014.2
22-30 July	MFN	14.1b	54.6	9.6	
August	MFN	14.1b	54.6	9.6	464.1
September	MFN	14.1b	54.6	9.6	58.5
October	MFN	14.1b	54.6	9.6	20.9
1-20 Nov.	MFN	11.5c	47.6	9.6	34.7
21-30 on.	GSP	8			
Dec.	GSP	8			
Total					17157
Quota					unlimited

(a) HS: CN 8: 0806101099

(b) 17.6 if $P < 54.6$

(c) 14.4 if $P < 47.6$

Table (2): Applied protection for Tomatoes ^(a), 2004

Month	Nature of Preference	Tariff advalorem (%)	Trigger Price	Maximum Specific Duty (%)	Volume imports (ton)
Jan	Pref med	84.6	0	29.8	205
Feb	Pref med	84.6	0	29.8	202
March	Pref med	84.6	0	29.8	42
Ap.	MFN	112.6	8.8	29.8	9
May	MFN	72.6	14.4	29.8	0
June	MFN	52.6	14.4	29.8	
July	MFN	52.6	14.4	29.8	
Aug.	MFN	52.6	14.4	29.8	
Sep.	MFN	52.6	14.4	29.8	
Oct.	MFN	62.6	14.4	29.8	2
Nov.	Pref med	62.6	0	29.8	74
Dec.	Pref med	62.6	0	29.8	271
Total					909

(a) HS: CN 8: 0806101099

Table (3): Applied Protection for Green Beans ^(a) 2004

Month	Nature of Preference	Tariff ad-valorem (%)	Trigger Price	Volume imports (ton)
Jan	med Pref	10.4	0	2981
Feb	med Pref	10.4	0	1847
March	med Pref	10.4	0	2707
Ap.	med Pref	10.4	0	4031
May	GSP	6.9		4132
June	GSP	6.9		1334
July	GSP	10.1		271
Aug.	GSP	10.1		22
Sep.	GSP	10.1		94
Oct.	GSP	6.9		1688
Nov.	med Pref		0	4422
Dec.	med Pref		0	4659
Total				28098
Quota				17500 ^(b)
Above-quota				10558

(a) HS: CN 8: 07082000

(b) Quota for the year (2005-2006) is 20 000 tons.

Notes:

Window: 01 November to 30 April.

Table (4): Applied Protection for Melon ^(a), 2004

Month	Nature of Preference	Tariff ad-valorem (%)		Volume imports (tons)
		Out of quota	In quota	
Jan	med Pref (Q)	5.3	0	32
Feb	med Pref (Q)	5.3	0	4
March	med Pref (Q)	5.3	0	0
Ap.	med Pref (Q)	5.3		164
May	med Pref (Q)	5.3		202
June	GSP	5.3		100
July	GSP	5.3		1
Aug.	GSP	5.3		0
Sep.	GSP	5.3		2
Oct.	med Pref (Q)	5.	0	28
Nov.	med Pref (Q)	5.3	0	54
Dec.	med Pref (Q)	5.3	0	605
Total				1192
Quota				1210
Above-quota				18

(a) HS: CN 8: 08071900

Window: 15 October to 31 March.

Table (5): Applied Protection for Oranges^(a), 2004

Month	Nature of preference	Agreed trigger price	No Tigger Price	Tariff ad-valorem (%)		Maximum specific duty (%)		Volume imports (ton)
				Out of quota	In quota	Out of	In quota	
Jan	Pref Med (Q)	26.4		6.4	0	7.1	7.1	9732
Feb	Pref Med (Q)	26.4		6.4	0	7.1	7.1	10819
March	Pref Med (Q)	26.4		6.4	0	7.1	7.1	16438
Ap.	Pref Med (Q)	26.4		4.1	0	7.1	7.1	17700
May	Pref Med (Q)	26.4		1.9	0	7.1	7.1	8671
June	Pref Med (Q)	NTP ^(b)		1.2	0	0	0	347
July	Pref Med (Q)	NTP ^(b)		1.2	0	0	0	
Aug.	Pref Med (Q)	NTP ^(b)		1.2	0	0	0	
Sep.	Pref Med (Q)	NTP ^(b)		1.2	0	0	0	
Oct.	Pref Med (Q)	NTP ^(b)		3.8	0	0	0	
Nov.	Pref Med (Q)	NTP ^(b)		6.4	0	0	0	117
Dec.	Pref Med (Q)	26.4		6.4	0	7.1	7.1	2232
Total (1)								66055
Quota (2)								54000
(1) – (2)								+2065

(a) HS : CN 8 : 08101000

(b) NTP = No Trigger Price

Table (6): Applied protection for Strawberry ^(a), 2004

Month	Nature of Preference	Tariff ad-valorem (%)		Volume imports (ton)
		Out of quota	In quota	
Jan	Pref med (Q)	10.4	0	1172
Feb	Pref med (Q)	10.4	0	538
March	Pref med (Q)	10.4	0	225
Ap.	GSP	10.4	0	44
May	MFN	6.9		3
June	MFN	6.9		
July	MFN	10.1		
Aug.	GSP	10.1		
Sep.	GSP	10.1		
Oct.	Pref med (Q)	6.9	0	0
Nov.	Pref med (Q)		0	310
Dec.	Pref med (Q)		0	1595
Total				3887
Quota				1205 ^{b)}
Above quota				2682

(a) HS: CN 8: 08101000

(b) Quota for the year (2005-2006) is 1700 tons.

Window: 01 October to 30 November and 01 January to 31

05/12/05

Table (7): LIBERALIZATION SCENARIOS EGYPT – year 2015

Product	Current situation	EU-med partial liberalization scenario
Tomatoes CN8 : 07020000	MFN trigger price Tariff ad valorem : 0% Period : 01 January to 31 March	Increase the import windows from 01 December to 30 April Import UE(2004) : 909 tons
Potatoes CN8 : 07019050	Quota (2004) 131 167 tons Quota (2006) : 250 000 tons Reduced Tariff ad valorem (0,6%) inside the quota Period : 01 January to 31 March	Increase the quota to 500 000 tons with no change in the windows or minimum trigger price Import UE(2004) : 206 202 tons
Green beans CN8: 07082000	Quota (2004-2005) : 17 500 tons Quota (2005-2006) : 20 000 tons Reduced Tariff ad valorem (1,37%) Period : 01 November to 30 April	Increase the quota to 40 000 tons with no change in the windows or trigger price Import UE : 28 098 tons
Onions : CN10: 0703101900	Quota (2004) : 15 314 tons Quota (2006) : 17 128 tons Tariff : 0% inside the quota Period : 1er February to 15 June	Increase the quota to 34 000 tons with no change in the windows Import UE : 20 324 tons

Product	Current situation	EU-med partial liberalization scenario
Oranges CN6:080510	Agreed trigger price Quota (2004) : 54 000 tons Quota (2006) : 59 000 tons Tariff : 0% inside the quota <i>Import UE</i> : 66 055 tons	Increase the quota to 120 000 tons with no change in the trigger price
Strawberry CN8 : 08101000	Quota (2004-2005): 1 205 tons Quota (2005-2006) : 1 700 tons Period : 01 October to 30 November and 01 January to 31 March Tariff ad valorem : 0% inside the quota	Increase the quota to 6 000 tons with no change in the windows
Table Grapes CN10 :0806101099	MFN trigger price tariff ad valorem = 0% Period : 1er February to 21 July	Increase the import windows from 1er February to 31 August
Melons CN8 : 08071900	Quota (2004-2005): 690 tons Quota (2005-2006) : 1 210 tons Tariff ad valorem : 0% inside the quota Period : 15 October to 31 May	Increase the quota to 2 400 tons with no change in the windows

**Import UE
(2004): 3 887
tons**

**Import UE
(2004) : 17
157 tons**

**Import
UE(2004) : 1
192 tons**

Table (8): Horticultural crop export projections, 2005-2007, 2012

	2005	2006	2007	2012
Traditional crops:				
Potato	159.2	163.4	165.6	182.8
Orange	100.0	102.0	104.0	114.9
All other	503.3	514.4	523.4	578.1
Growth		202%	1.8%	2.0%
Non-Traditional Crops:				
Table grapes	17.9	21.1	24.3	45.6
Strawberry	12.6	14.7	16.9	21.1
Fine green beans	4.4	5.5	6.8	13.2
Total	34.8	41.6	48.0	79.9
Growth		19.5%	15.4%	10.7%

Source: USAID, 2002. Assessment of Egypt's Agricultural Sector Competitiveness.

Volume II: Analysis, Principal Findings, and Recommendations. Development Alternatives, Inc.

Table (9): Projections for ATUT client production capability and export potential

Product	Actual	Estimate	
	2000	2007	2012
Strawberry:			
Producing area (fed.)	655	2500	5000
Gross yield (mt)	9200	45000	90000
Export potential (mt)			
- Europe	800	12600	33800
- Gulf	2100	18900	33700
- Total	2900	31500	67500
Table grape:			
Producing area (fed.)	1152	5066	2600
Gross yield (mt)	6300	30400	57000
Export potential (mt)			
- Europe	4600	19400	41000
- Gulf	1200	4900	4600
- Total	5800	24300	45600
Fine green bean			
Producing area (fed.)	1100	7000	11000
Gross yield (mt)	12500	148800	297000
Export potential (mt)			
- Europe	4300	93800	200500
- Gulf	-	10400	22300
- Total	4300	104200	222800

References:

Fletcher, L. et al. 2004. Agricultural – Led Export Business (ALEB) Final Evaluation. USAID, Cairo. December.

Siam, Gamal. 2003. WTO UR Negotiations Agreement on Agriculture (AoA): Impact on Developing Countries: The Case of Egypt in FAO, Rome.

Siam, Gamal. 2005. Characterization of Agricultural and Agro-industrial Sector in Egypt. EU-MED Ag Pol, Report No. 1, January.

USAID/Cairo. 2002. Assessment of Egypt's Agricultural Sector Competitiveness: Vol. 11: Analysis, Principal Findings, and Recommendations. June.

Young, J. H. et al. 2005. Horticultural Competitiveness in Upper Egypt: A Benchmarking Study. USAID, Cairo. July.