ECOPONICS

UPGRADING QUALITY IN FRESH TOMATOES SECTOR : CHARACTERISATION OF THE POST-HARVEST MARKETING CHANNELS IN TURKEY

Selma TOZANLI
Jean-Marie CODRON
Sylvaine LEMEILLEUR
Zeynep AKTAS CIMEN
Emilie COUDEL

November 2005, Montpellier

CONTENTS

I. FRESH TOMATOES SECTOR IN TURKEY

I.1. Production

I.1.1. Evolution of tomato production in Turkey

I.1.2. Turkey's position amid the tomato producing countries in the world

I.1.3. Development of undercover production of vegetables in Turkey

I.1.4. Organic tomato growing in Turkey

I.2. Markets

I.2.1. Domestic market

I.2.2. Industrial processing

I.2.3. Export markets

II. INSTITUTIONAL FRAMEWORK : RULES AND REGULATIONS

II.1. Customs Union with the EU and market opening strategy

II.1.1. Evolution of the economic framework

II.1.2. Export regime of Turkey

II.1.3. Export procedures in Customs Legislation

II.1.4. Implementation of Eurep GAP Standards

II.2. Domestic food legislation

II.2.1. Evolution of the implementation of food safety regulations and agencies in Turkey

II.2.2. Still loose food safety controls in the domestic market

III. LINKAGES BETWEEN EXPORT MARKETS AND QUALITY UPGRADING IN FRESH TOMATO SECTOR

III.1. Description of the survey on Turkish exporting companies

III.1.1. Main objectives of the survey on Turkish exporting companies (2004 survey)

III.1.2. Sampling methodology

III.2. Main characteristics of the exporting firms

III.2.1. Main structural features

III.2.2. Procurement patterns

III.2.3. Certification practices

III.3. The role of the country of destination and main clients in the application of international quality standards

III.3.1. Regional distribution of fresh tomato exports

III.3.2. Main clients

III.3.3. Temporal continuity of relationships

III.3.4. Market concentration

III.3.5. Specific requirements of clients

III.4. International Standards and Exporting Firms' Behaviour with regard to the Food Quality

III.4.1. Frequency of the practice of traceability by the suppliers of the exporting firms

III.4.2. Traceability practiced by exporting firms

III.4.3. Conformity to international quality standards : ISO and EUREP GAP certifications

III.4.4. Control of Intrinsic Attributes and Sanitary Quality of Export Produce

IV. WHAT ROLE DO SUPERMARKETS HAVE IN THE DEFINITION OF NEW STANDARDS FOR FRESH TOMATOES IN TURKEY

IV.1. Overview of the retail sector in Turkey

IV.1.1. Evolution of the retail sector in favour of large retailers

IV.1.2. Consolidation of the large supermarket chains in large cities

IV.2. Fresh Fruits and Vegetables Procurement Patterns of Large Retailers

IV.2.1. Factors structuring large retailers' procurement patterns

IV.2.2. A typology of large retailers' procurement patterns in Turkey

V. DETERMINING THE ROLE OF BROKERS (COMMISSIONERS), MIDDLEMEN AND AGRICULTURAL COOPERATIVES UNION IN THE STRUCTURING AND FUNCTIONING OF THE FRESH TOMATO CHANNELS IN TURKEY

V.1. Commissioners as key agents of the fresh tomato channels in Turkey

V.1.1. The predominant role of commissioners in the marketing of fresh tomatoes

V.1.2. Producers' Unions as an alternative form in marketing of fresh tomatoes

V.3. Can Producers' Union challenge the Commissioners as a possible alternative form of intermediation ?

CONCLUSION

I. FRESH TOMATOES SECTOR IN TURKEY

I.2. Production

I.1.1. Evolution of tomato production in Turkey

Turkey's natural endowments permit the production of a great variety of horticultural and arboreal produce. Tomatoes, comprising an important part of the total volume of fresh vegetables produced (cf. table 1), are grown throughout the country, and especially in the Western (Marmara and Aegean coasts) and Southern Anatolia (Mediterranean coasts). In South Eastern region with the opening of new dams, fruits and vegetables production showed a drastic increase since the last decade while in Central Anatolia, Tokat-Amasya region is also distinguished by an important horticultural potential.

On national base, there is a two-fold increase in the production of fresh vegetables while the production of fresh fruits is stagnant for the studied period (1984-2003) (cf Table 1). Tomato production increased for nearly 2,5 times between 1984 and 2003. Western Anatolia comprising the Marmara and Thrace regions as well as Aegean coasts of Turkey started to get specialised in fruits with a small increase in the production of total vegetables. Southern Anatolia increased its production of fresh vegetables (an increase of 7,9 points between 1984 and 2003) while its share in national production of fresh fruits fell from 36% to 26%. Central Anatolia saw its share fall in a drastic manner both for fresh fruits and fresh vegetables production, while its position in tomato production stayed stagnant. The share of Northern Anatolia in the total production of fruits increased while it lost nearly 7 points concerning its share in the total production of fresh vegetables.

The most important change is observed in East and South-East Anatolia with the construction and functioning of a wide range of dams in this region with a desertic climate. In fact, we see an enormous increase in the production of fresh vegetables as the share of this region in national production increased from 7,3 % in 1984 to 18,0 % in 2003. Meantime, its share in national tomato production also increased from 4,1 % to 14,5 %.

Table 1 : Regional distribution of production in volume of fresh fruits and vegetables in 1984 and in 2003

	Total fruits		Total vegetables		Tomatoes	
	1984	**2003**	**1984**	**2003**	**1984**	**2003**
Western Anatolia	25,6	30,5	32,4	33,6	49,1	37,6
Southern Anatolia	36,1	26,1	21,6	28,5	26,8	31,1
East and South-East Anatolia	11,7	16,7	7,3	18,0	4,1	14,5
Central Anatolia	22,3	15,1	24,8	12,8	11,9	11,9
Northern Anatolia	4,3	11,6	13,9	7,0	8,1	4,9
Turkey (000 tons)	13 141	13 319	11 785	23 030	4 000	9 820

Source : Authors work based on statistical data from de Agricultural Structure, DIE, Ankara, 1985, 2005
www.die.gov.tr

Tomato is a highly demanded fresh produce in domestic market. It composed 33,9 % of the total fresh vegetables production in 1984 and 42 % in 2003. It is produced all over the country. However the axes of Bursa-Balikesir in Marmara coasts; Izmir –Manisa-Aydin- Finike in Western Anatolia; Antalya, Mersin-Hatay in Southern Anatolia; Sanliurfa in South Eastern Anatolia, and Tokat in Central Anatolia are important production pools (Map 1).

Undercover fruits and vegetables production gained a particular importance since the beginning of the 1980s mostly encouraged by specific governmental measures. Some production zones like Antalya region and the hinterland of Izmir, already practicing greenhouse growing of fruits and vegetables, became real counter-season production pools. Consequently, while Bursa-Balikesir, Tokat and Manisa stepped out as specialising in open field tomato growing, Antalya, Izmir, and Hatay-Mersin specialised in greenhouse growing. In Sanliurfa region, open field growing is much more important than greenhouse growing. Soilless greenhouse tomato production is practiced in Izmir and Antalya (Kumluca and Fethiye) regions. Finike which is attached to Mugla province has also important investments in greenhouse construction.

Map 1 : Main regions of Turkey with high volumes of tomato production in 2003-2004



Source : Authors' work based on the document …….

I.1.2. Turkey's position amid the tomato producing countries in the world

There has been a tremendous increase in the world's tomato production during the second half of the 20th century. The world's total tomato production was multiplied by 3,6 times since the 1960s (Table 2). There is a medium concentration, as the first 5 producers represented 55 % of the world's total tomato production in the 2000s.

Table 2 : Tomato production of the top 10 tomato growing countries as well as South and East Mediterranean countries and the Netherlands for the last 44 years *(000 metric tons)*

Country	1960s		1970s		1980s		1990s		2000-2004	
	Volume	Rank	Volume	Rank	Volume	Rank	Volume	Rank	Volume	Rank
China	4 213	2	4 355	3	6 269	3	12 798	1	26 516	1
USA	5 414	1	6 894	1	7 979	1	11 218	2	11 446	2
USSR	3 584	3	5 774	2	7 311	2	7 058	3	-	-
Turkey	1 284	6	2 466	5	4 445	5	7 004	4	8 917	3
India	528	14	847	13	2 382	9	5 634	6	7 466	4
Italy	3 137	4	3 525	4	5 257	4	5 799	5	6 793	5
Egypt	1 221	7	1 893	7	3 460	6	5 143	7	6 690	6
Spain	1 306	5	2 140	6	2 424	7	3 135	9	3 987	7
Iran	134	31	241	28	1 010	14	2 472	10	3 742	8
Brazil	609	9	1 326	9	1 848	10	2 595	9	3 371	9
Bulgaria	732	8	783	14	821	15	479	29	390	37
Mexico	566	12	1 194	9	1 798	11	2 143	11	2 111	10
Morocco	250	24	373	22	500	23	898	19	1 017	18
Netherlands	292	22	370	24	505	22	573	27	573	30
Tunisia	111	35	234	29	388	28	593	24	914	19
World total	**30 957**		**41 322**		**62 162**		**85 660**		**112 107**	

Note : simple averages are calculated for the decades
Source : Authors' work based on FAO statistics, www.fao.org

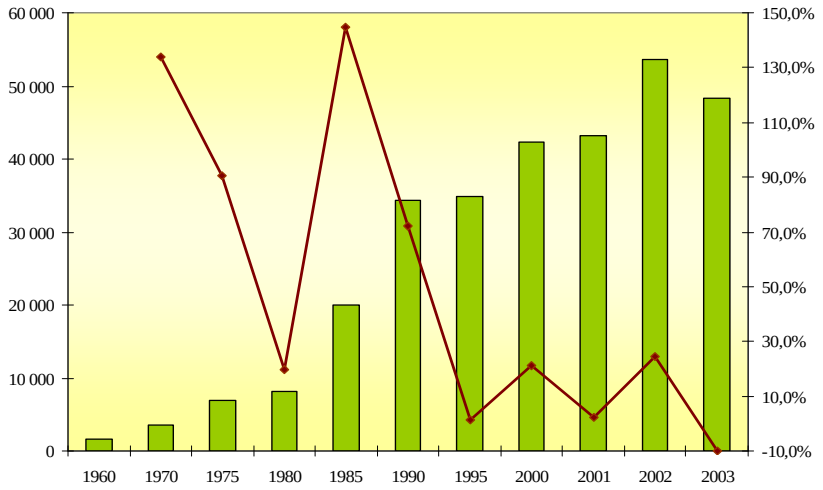
Between the 1960s and 2000s, the annual average rate of tomato production was 4,5 % in Turkey, a rate that placed the country in the 2nd rang in world ranking just behind Iran (7,9 % annual increase) and before China (4,2 % per year).

It is evidence that this increase in tomato production is realised in part, thanks to improvements in the used technology and in production methods, but most of all to physical expansion of the area spared for tomato production. While the overall increase rate for the tomato production yield has been 184 % for the period from 1960 to 2004, the overall increase rate for area sown for the same period has been 378 %. High productivity ratios and increased yields can be expected with the increase in the quantity of greenhouse production as well as other forms of protected cover production of fresh vegetables.

I.1.3. Development of undercover production of vegetables in Turkey

Greenhouse production started in Antalya region in the 1940s, but the real takeoff of this sector was in the mid-1970s, with the introduction of plastic covers in greenhouse construction (Aktas Cimen, Z., 2001) (cf. Table 3). During the 1980s, governments heavily encouraged undercover production of fresh fruits and vegetables.

Figure 1 : Evolution of the area endowed to the greenhouse production (1960-2003)



Source : Authors' work based on Aktas Cimen, Z. 200; DIE, Turkey's Statistical Yearbook 2004

In 2003, vegetables comprised 97 % of the greenhouse production, the other 3 % being shared by the production of fruits and ornamental plants (DIE, 2005). Tomatoes, cucumbers, green peppers, eggplants, cantaloupes, watermelons and squash are the most produced varieties, with tomatoes covering 38 % of the undercover vegetables production (Keskin, Cakaryildirim, 2003).

There is an evident regional specialisation concerning undercover vegetables growing (cf. Table 3). According to the results of General Agricultural Census of 2001 carried out by the State Institute of Statistics, there were about 47 thousand agricultural holdings practicing vegetables production under protected cover, of which 59 % are situated in Mediterranean region, 17 % in Aegean region and 10 % in Marmara-Central North regions. In parallel, 50 % of the land under protected cover is in Mediterranean region, 24 % in Marmara-Central North region and 9 % in Aegean region. In consequence, we can say that Mediterranean region is the most important production pool followed by Marmara-Central North regions which are highly capitalistic (24 % of the land under protected cover against only 10 % of agricultural holdings) while Aegean region, like the rest of the country, seems to shelter small and very small agricultural holdings as it has 17 % of the agricultural holdings while its share in total land under protected cover is not more than 9 %.

Table 3 : Regional distribution of agricultural holdings that practice vegetables production under protected cover and the total land sown

Agricultural regions	Holdings practising protected cover FFV production	%	Total land under protected cover (ha)	%
Turkey	***47 085***	***100, 0%***	***32 277***	***100,0%***
Mediterranean region	27 612	58,6%	16 145	50,0%
Marmara	2 423	5,1%	4 177	12,9%
Central North	2 302	4,9%	3 791	11,7%
Aegean region	8 057	17,1%	2 924	9,1%
Central South	719	1,5%	2 651	8,2%
South-East	787	1,7%	1 022	3,2%
Black Sea region	3 817	8,1%	768	2,4%
Central East	1 128	2,4%	584	1,8%
North-East	240	0,5%	215	0,7%

Source : Authors' work based on DIE, General Agricultural Census, Village Information 2001, Ankara, 2004

In conclusion, we can say that fresh tomatoes compose about half of the total production of fresh vegetables and around 2/5th of the undercover production. On the other hand, greenhouse tomatoes are about 15 % of the total fresh tomatoes grown in Turkey (Sevgican and al., 2001).

I.1.4. Organic tomato growing in Turkey

Organic agriculture gained importance during the 1990s, and showed a tremendous increase both in the number of varieties, the area sown and the quantity produced. While at the beginning of the 1990s only 8 agricultural products were grown under organic agriculture conditions, this number reached 162 in 2003 (TZOB, 2004). First practiced in the Aegean region in the mid-1980s by contractual farming, the area sown under organic agriculture expanded from 1 037 hectares in 1990 to 103 190 hectares in 2003. In our days, organic agricultural covers the counties of Izmir, Aydin, Bursa, Kütahya, Afyon in Western Anatolia (Marmara, Aegean, Central North); Rize in Black Sea region; Hatay and Isparta in Mediterranean region and Malatya and Sanliurfa in East and South East Anatolia.

There is a great potential in this sector as actually, only 0,4 % of the area sown are allotted to organic agriculture. Organically grown tomatoes will surely increase in quantity in the years to come, as they are positioned among the products with very high annual increase rates (Table 5). According to IGEME sources, they are in majority are processed as export oriented tomato paste (IGEME, 2004). Similarly, about 80-90% of the production of organic agricultural products is being exported. Domestic consumers show only little interest in these products due to the high price margin between organic and conventional products. These price margins are estimated to be between 50-300%, depending on the product (IGEME, 2004).

Table 4: Organic Agricultural Production in Turkey between 1999 and 2003 *(metric tons)*

Product Name	**1999**	**2000**	**2001**	**2002**	**2003**	**Average annual increase rate (%)**
Prunes	1	1	1 003	2 329	7 933	
Sour Cherries	744	2 143	3 769	6 580	5 994	68,5
Pepper	553	1 592	3 202	3 355	3 909	63,0
Cherries	366	496	1 375	1 335	1 830	49,5
Tomatoes	7 095	15'532	90'472	82'809	26'493	39,0
Lentils	3 211	7 163	5 862	17'012	11'781	38,4
Apples	24'038	50'136	45'040	69'187	71'928	31,5
Olives	3 310	12'875	7 343	10'744	6 456	18,2
Grapes	7 182	7 582	12'894	10'469	9'505	7,3
Apricots	10'822	40'799	13'634	5 941	13'278	5,2
Hazelnuts	5 411	4 114	6 995	7 667	5 662	1,1
Figs	7 840	7 635	8 293	9 473	8 113	0,9
Honey	1 128	2 582	557	923	1 100	-0,6
Olive Oil	1 174	1 620	1 602	413	68	-50,9
Total organic products	168'306	237'210	280'328	310'124	291'876	14,8

Source: Ministry of Agriculture and Rural Affairs (MARA)

I.2. Markets

I.2.1. Domestic market

There are three main outlets for fresh tomatoes grown in Turkey : domestic demand, industrial use and exports. Turkish people are big consumers of fresh fruits and vegetables (cf. Table 5). However, Turkish consumer is highly price sensitive and most of his preferences, even for the high income classes, are mainly guided by the consumer prices of food produce as well as of processed products.

Table 5 : Consumption per capita of fresh fruits and vegetables and their share in total food expenditures in Turkey (1994 and 2002)

		Average per capita consumption (kg/year/capita)		Share in total food expenditures (%)	
Food product	**Unit**	**1994**	**2002**	**1994**	**2002**
Oranges	kg	8,7	10,6	0,8	1,1
Apples	kg	10,7	9,9	1,3	1,4
Watermelons	kg	18,5	20,8	1,0	0,7
Total fruits		***37,9***	***41,3***	***3,1***	***3,2***
Tomatoes	kg	26,6	31,0	2,7	2,3
Spinachs	kg	2,9	2,6	0,3	0,3
Eggplant	kg	7,7	7,0	0,8	0,7
Potatoes	kg	23,5	24,2	1,6	1,5
Dry beans	kg	2,5	2,0	0,9	0,7
Total vegetables		***63,2***	***66,8***	***6,3***	***5,5***

Source : State Institute of Statistics, Income and Consumption Expenditures Survey 1994 and 2002

Despite three financial crisis that Turkey endured from 1994 to 2002 (1994, 1998 and 2000), there is a slight increase that can be observed in the consumption per capita of fresh fruits and fresh vegetables. Parallel to this evolution, purchasing patterns of Turkish consumer is also changing. Hyper and supermarkets are increasing drastically their market shares, not only in Western urban centres but also in other large cities of the country. Cumulating only 11% of the total food retailing amounting to an estimated 19 billion US dollars in 1996, these large supermarkets climbed up to 37% of the total food retailing market summing up 25 billion US dollars in 2002. At the same time, the share of traditional grocers fell from 68% to 40% and that of markets (self-service stores) from 16% to 9% (cf. Table 6).

On the other hand, open street markets are powerful challengers to supermarket chains in fresh fruits & vegetables retailing. Consumers prefer, in large cities as well as in small towns, open street markets, driven by the belief that the produce sold at street bazaars is coming directly from farms, so it is fresher and cheaper. The open markets' share is estimated to be around 20-22% of the national food retail market. 80 % of fresh fruits and vegetables are marketed through open street markets according to interviewed authorities[1]. Green grocers (manavs) also have an important share resulting from the privileged trust-based relation that they have with consumers, even if they practice high retail prices. However large retailers seem to challenge the open market sellers and green grocers on two main factors : a strategy based on price-competition and focusing their advertising policy on the freshness and the high quality of their products, whilst they enrich the range of their supply by imported fruits and vegetables or by supplying early produce *(*Coudel, E., 2003*)*.

Table 6 : Market shares according to different outlets in Turkey (1996-2002)(%)

	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Large supermarkets*	11,1%	15,0%	17,1%	23,5%	28,0%	34,5%	37,1%
Markets	15,8%	16,0%	17,1%	12,5%	10,0%	9,5%	9,4%
Bakkals (grocers)	67,9%	63,0%	58,8%	49,5%	48,0%	42,0%	40,5%
Others**	5,3%	6,0%	7,1%	14,5%	14,0%	14,0%	13,0%
Total (in billion euros)***	***15,1***	***17,7***	***18,7***	***20,6***	***24,9***	***26,8***	***26,4***

* *All supermarkets over 100 m² of surface* ** *Convenience stores, kiosks, open markets*

*** *Estimations for total food retail market (market price)*

Source : Turkey's Retail Food Sector Report, 1999, 2001 and 2004, www.fas.usda.org

[1] Interviews of Mr. Nadir Aykut, Agricultural engineer working at the Agricultural Government Office of Menderes district of Izmir; Mr. Ahmet Ekiz, Director of the City Hall of Izmir; Mr. Okay Sentoglu, Coordinator of the Open Market of Karsiyaka Municipality, Izmir and Mr. Sinan Ataman, Regional Office of Food Safety Control Ministry of Agriculture, realised in October 2003 within the framework of Ecoponics project, financed by EU and leaded by Munich University

I.1.2. Industrial processing

Tomato processing industry is one of the main customers of fresh tomatoes, even if its demand is nearly entirely focused on open field tomatoes. Around 20 % of the fresh tomatoes are processed by 40 industrial firms that have their processing plants near to tomato fields in the Bursa/Balikesir axis.

Even though sun-dried tomatoes are becoming an interesting financial resource for a number of companies and attire new investments into this activity, tomato paste is far the most important industrial activity. Turkey has a stable and durable position among the top ten tomato paste producing and exporting countries of the world : third producer behind Italy and Spain as the third producer in world ranking in 2001 (www.usda.org). In regard with export data for the same year, Turkey had the forth place behind Italy, Greece and Portugal but before Spain. It must be reminded that the export figures for EU member States include intra-EU trade. Turkey has a 36% share in total exports of the world's top 10. Turkish tomato paste production is an export-oriented industrial activity, near to 2/3rd of the national production is exported, mainly towards Japan, Russia, S. Arabia, Italy and Germany.

I.2.3. Export markets

Until the mid-1980s, exports were rather a function of production surpluses. The main part of the production was oriented towards the domestic market for the satisfaction of national demand and only surpluses were oriented toward export markets. Encouragement measures applied by successive governments since mid-1980s literally boosted the export produce, even if the recent data show that for 2000-2003 period, only 2,2 % of the total tomatoes are exported (Table 1, Table 7). Turkey appears to have the most important increase among the top ten exporting countries when we take into consideration the evolution from the 1960s to our days.

Table 7 : Evolution of exported volumes of tomatoes by top ten exporting countries and some of the South and East Mediterranean countries between 1961 and 2003 (*000 metric tons)*

Country	1960s volume	Rank	1970s volume	Rank	1980s volume	Rank	1990s volume	Rank	2000-2003 volume	Rank	Average rate of annual increase (%)
Spain	210	2	220	3	369	3	659	1	931	1	3,6
Mexico	182	1	370	1	465	2	567	3	803	2	3,6
Netherlands	238	3	317	2	473	1	649	2	606	3	2,2
Turkey	0,1	43	3	22	119	5	96	8	245	4	19,5
Jordan	53	7	63	8	130	4	151	7	197	5	3,2
USA	45	8	77	7	79	9	164	6	194	6	3,6
Morocco	121	5	129	5	91	7	169	5	188	7	1,1
Belgium	n.s.	84	25	9	73	10	189	4	183	8	6,3
Syria	11	12	2	26	4	23	77	10	143	9	6,4
Italy	45	9	18	10	18	12	82	9	120	10	2,4
Iran	0,9	22	4	18	0,3	49	4	35	23	17	8,2
Israel	0,01	50	2	27	3	24	10	23	19	21	15,1
Lebanon	6	14	5	17	6	20	12	19	6	29	-0,1
Egypt	3	17	4	20	12	16	19	13	3	38	0,6
Tunisia	0,1	40	n.s.	66	0,4	47	0,9	60	2	52	6,6
Algeria	18	11	1	33	0,01	67	n.s.	108	n.s.	112	-16,8
World	1 261		1 582		2 160		2 851		4 167		2,9

Source : Authors' work based on FAO statistics, www.fao.org

A negative point shades this remarkable development : with regard to exports in value, Turkey loses two places in world ranking to go back to tenth place, while some Western countries like Canada, Belgium or Italy that are behind Turkey in the world ranking of exports in quantity gain important points thanks to the high value of their export-tomatoes.

This situation is directly linked to an overall export strategy that most of the exporting firms have adopted since the mid-1980s : they target emerging economies of Eastern and Central Europe, Balkans and Arabic countries. Thus they counter most of the investments necessary for the establishment of international standards demanded by the European Union (Germany, U.K., France). On the other

hand, they can diversify their markets where they have lead positions in most of the cases. Nevertheless, this trend is changing since the beginning of the 2000s, as the share of the exports toward Western European countries is gaining important points in Turkey's total tomato exports. High valued exports forwarded to Western European countries as well as the extension of the application of sanitary and phytosanitary measures (SPS) are good arguments to change the attitude of a number of exporting firms *vis-à-vis* the necessary investments to improve the quality of their export tomatoes.

Table 8 : Evolution of Turkish exports by main regions of destination (1998-2003)

Regions of destination	1998	1999	2000	2001	2002	2003
Balkans	38,0%	37,3%	32,7%	31,9%	37,3%	39,4%
Eastern and Central Europe	44,0%	12,8%	23,1%	33,8%	32,0%	28,5%
Middle East, Arab Peninsula	16,2%	45,1%	34,4%	29,4%	22,6%	21,0%
Western Europe	0,5%	3,8%	9,1%	4,7%	6,7%	10,2%
Black Sea and Central Asia	1,2%	1,0%	0,1%	0,1%	1,4%	0,9%
Rest of the world, unspecified	0,2%	-	0,5%	0,1%	-	-
Total exports (metric tons)	219 411	100 281	140 233	232 237	321 853	285 229

Source : Authors' work based on FAO statistics(Trade Matrix), www.fao.org

Geographical closeness prevails concerning the shares of the top 5 importing countries (cf. Table 9). In fact, Slovenia, Russian Federation, Romania, Serbia and Montenegro, together with Saudi Arabia accounted for 81,5 % of the Turkish tomato exports realized in 2003. These countries better award the physical attributes of export produce (colour, size, firmness) than its sanitary quality, a fact that still gives an edge to Turkish exporters not to trace their product along the supply chains.

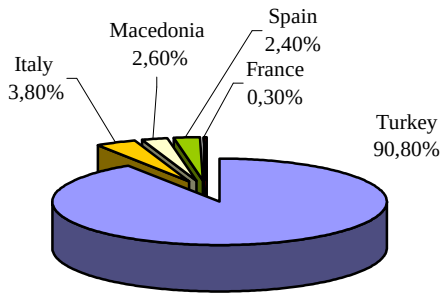
Table 9 : Share of the 1st 5 importing countries in Turkish exports of tomatoes in 2003

Importing country	Turkish exports of tomatoes	Share of the importing country in total Turkish exports of tomatoes	Share of the 1st 5 importing countries
Slovenia	88 221	30,9%	
Saudi Arabia	56 044	19,6%	
Russian Federation	55 444	19,4%	
Romania	18 780	6,6%	
Serbia and Montenegro	13 872	4,9%	81,5%
Germany	6 978	2,4%	
Greece	6 568	2,3%	
France	6 429	2,3%	
Austria	4 638	1,6%	
Moldova, Republic of	3 430	1,2%	
Netherlands	3 263	1,1%	
Bosnia and Herzegovina	2 890	1,0%	
Bulgaria	2 684	0,9%	
Macedonia	2 467	0,9%	
Kuwait	2 042	0,7%	
Total	**285 229**	**100,0%**	

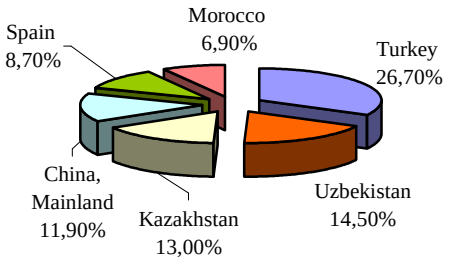
Source : Authors' work based on FAO statistics www.fao.org

Another feature of the strategy of Turkish exporting firms is to be the lead firms in their export markets, as it can be observed in the Figure 2.

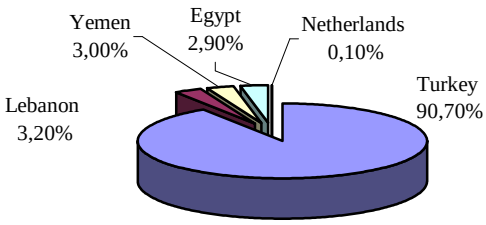
Figure 2 : Turkey's share in total imports of the top five importing countries of Turkish tomatoes in 2003



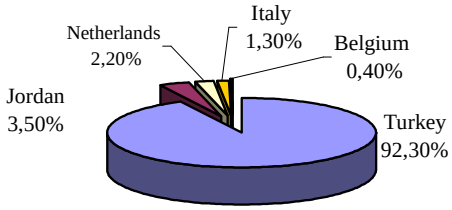
Slovenia imported 97 136 tons of tomatoes in 2003



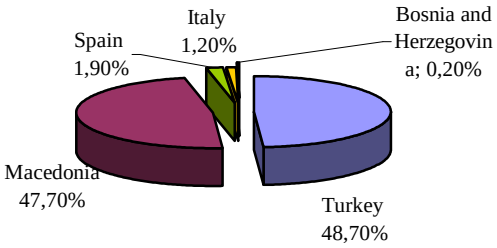
Russian Federation imported 207 752 tons of tomatoes in 2003



S. Arabia imported 61 760 tons of tomatoes in 2003



Romania imported 20 743 tons of tomatoes in 2003



Serbia-Montenegro imported 28 491 t. of tomatoes in 2003

Source : Authors' work based on FAO statistics www.fao.org

Turkey has more than 90 % of the imports of Slovenia, Saudi Arabia and Romania, near to 49 % of the imports of Serbia Montenegro and 27 % of the imports of Russian Federation. It has the first place as exporter to Germany and the Netherlands if EU-intra trade is excluded. Tomato exports to most of these countries have steady trends with the exception of Saudi Arabia, where some fluctuations can be observed from one year to another. In these cases, Turkey is highly challenged by Syrian Republic. A fact that pushes some exporting firms situated in Mersin region (near to Middle East countries) to export their produce to Syria from where they are directed toward the countries of Arab peninsula.

There is no specific data concerning the exports of ***greenhouse tomatoes***. Some information about these figures can be obtained from regional Unions of Exporters that have their own databases. In general, it can be said that 80 % of the greenhouse produce is export-oriented.

Two trends can be pointed out in conclusion to this section that outlines the fresh tomato production and markets in Turkey :

- ✓ Under cover as well as organic production of fresh tomatoes has high development potential in Turkey and probably their positive trends will continue in the near future
- ✓ Exports start to be a strategic target for Turkish tomato growers and exporting firms while exports towards Western European countries are gaining shares in total Turkish exports. This direction brings along important pressures on Turkish agricultural holdings as well as exporting firms to be in line with international sanitary and phytosanitary norms and thus improve the quality of their export produce.

These trends conduct us towards a broad description and analysis of rules and regulations at national and international levels that organise and supervise the production and marketing activities.

II. INSTITUTIONAL FRAMEWORK : RULES AND REGULATIONS

We present, in this section, the actual Turkish rules and regulations without giving any detail on the EU legislation, which in fact, is well covered within the framework of 6.2 task of the present research programme. It must be kept in mind that there is a considerable effort to implement international food safety standards concerning the export-oriented fresh produce while their application in domestic market is particularly lacking.

II.1. Customs Union with the EU and market opening strategy

II.1.1. Evolution of the economic framework

Turkey attends to become a full Member of the European Union since the beginning of the 1960s. After the signature of the Ankara Agreement in 1963 between Turkey and the EEC, Turkey became an associated member of the European Community with a 22 years check-list preparing the Turkish economy and society to a full membership. Turkey then applied for full membership in 1987; in 1996 the Turkey-EU Customs Union took effect. Along with these politico-juridical developments, Turkey liberalised its market for industrial goods and took the necessary steps to be in line with EU rules and regulations. Concerning the agricultural sector which was not included in the Customs Union, a number of preferential agreements regulate agricultural trade between Turkey and the EU.

In parallel to these institutional changes, Turkey started to apply the structural adjustment policies as early as in 1980 and market opening strategy became the most outstanding feature of the development planning of successive governments.

Turkish agriculture, one of the most supported agriculture of the developing world, underwent a tremendous change according to this recent liberalisation strategy. Most of the support prices applied to field crops and traditional agricultural products disappeared during the 1990s. In this respect, the Agriculture Reform Implementation Project (ARIP), that came into effect at the beginning of 1999, aims to reform the price support system, abolish the input subsidy policies and introduce direct aids to landholders as the major Agricultural Support Mechanism (OSKAM and all., 2004).

In parallel, encouragement measures are applied to exportable agricultural produce. In this wise, fresh fruits and vegetables benefited considerably from these policy changes. These encouragement measures comprised, at the mid-1980s, tax refund for export produce, exemption of customs duties, credits to exports, pre-financing programs (TOZANLI-ÖNCÜOĞLU, 1989). They brought in a number of “short-term profit” seeking persons that established very small scaled exporting firms in order to benefit from these pre-financing programs. This situation created a real bottleneck in the sector until recently.

Turkey attempts to be in line with the EU legislation and the WTO Agreements regarding the customs, anti-dumping and countervailing measures, standards and other technical regulations (OSKAM and all., 2004). In this wise food safety and quality standards as well as sanitary and phytosanitary measures gain a particular importance, essentially for exporting firms.

II.1.2. Export regime of Turkey

Two protection tools are applied to tomatoes exported from Third countries toward the Single Market : *ad valorem* duty and a minimum entry price (trigger price). All imported products with a price lower than the minimum entry price are taxed by a specific duty. This specific duty is calculated as the difference between the import price and the trigger price.

The trading preference that the EU applies to tomatoes imported from Turkey is much less favourable than the rates that benefits Morocco. Resulting from a good negotiation that Morocco concluded with the EU, a general framework of tariff contingency is applied to tomatoes imported from Morocco for the period from October to April with a preferential entry price of 46,1 euros/kg and an *ad valorem* duty of 0 %. Above this contingency, the regime for MFN is applied.

The import regime applied to Turkish export tomatoes are based on the entry price of the most favoured nation (MFN), with *ad valorem* duties being abolished, composing the preference for Turkish tomatoes (Eumed-Agpol Project, 2005). This regime can be stated as follows (Table 10) :

Table 10 : MFN regime applied by the EU to tomatoes imports from Turkey

(unit : euro/100 kg)	January-March	April	May	June-September	October	November-December
Trigger price	84,6	112,6	72,6	52,6	62,6	62,6
Ad valorem duty	8,8	8,8	14,4	14,4	14,4	8,8
Maximum specific duty	29,8	29,8	29,8	29,8	29,8	29,8

Source : Eumed-Agpol Project, CIHEAM-IAMM, UMR MOISA, Montpellier, 2005

Turkish exporting firms must keep in mind these trading preferences and tangle with seasonal differences in order to obtain a good value for their fresh export tomatoes. However, richness of natural endowments and relatively less expensive labour are determining factors for the price competitiveness of Turkish tomatoes in Western European markets. Remains the problem of being in conformity with quality standards and international food safety measures.

II.1.3. Export procedures in Customs Legislation

The export procedures in Turkey are arranged by Articles 150 and 151 of Section IV, titled “Export Procedures” of Customs Law N°4458. Together with other decrees, regulations, notifications and circulars, it defines the functions of public authorities concerned and the principles of the exportation for public interest (IGEME, 2003).

According to the information obtained by Mr. A. Suat EKICI, Director of the Regional Directorate of the Western Anatolia Region of the General Directorate of Standardisation for Foreign Trade of the Undersecretariat of the Prime Ministry for Foreign Trade *(interview realised at 20th of October, 2003)*, the export procedure is based on the declaration of the exporting firm. These are post-harvest produce, conditioned and packed for exportation. The quality control concerning the conformity of the produce to national and international standards will be realised within the 24 hours starting from the declaration of the exporting firm because of the perishability of fresh produce. The control is generally realised at the Customs stage by the expert-engineers of the General Directorate of Standardisation for Foreign Trade and only afterwards that a conformity document will be delivered to the exporter.

On this document, there must be : the signature of the declaring exporter; the number of batches shipped; the sample taken (from each batch); the signature of the controlling expert-engineer; the customs agreement for the expedition.

Besides these elements, for any exported good, the following details are required for the customs declaration : Consignee; person responsible for financial settlement; declarant/his or her representative; country of dispatch/export; country of origin; destination country; identity and nationality of means of transport at departure; terms of delivery; identity and nationality of active means of transport crossing border; currency and total amount invoiced; mode of transport at the border; place of loading; office to exit; packages and description of goods; gross mass (kg); net mass (kg) and principal responsible person.

Some other documents also must be presented at the border's Customs Services : invoice of goods, certificate of company/agency; conformity certificate for some agricultural products to be inspected for standardization that will be obtained from the local Chamber of Commerce; international certificate of origin and health for plants; phytosanitary certificate for plants and plant products as well as certificates for organic produce that will be delivered by the Phytosanitary Inspection from Provincial Agricultural Directorate of the Ministry of Agriculture and Rural Affairs (IGEME, 2003).

II.1.4. Implementation of Eurep GAP Standards

Besides the conformity with SPS standards, there is also another constraint linked to the private standards imposed by large European food retailers : EUREP GAP for a number of European countries and British supermarkets' own standards. Lead exporters are trying to be in line with these constraints dressed up by large European players of the fresh fruits and vegetables sector.

A new regulation on *Application of Good Practices in Agriculture*[2], prepared by the MARA and became effective in September 2004, imposes the application of Eurep GAP Standards obligatory since the 1st January 2005. Creation of a new Committee for the Application of Good Practices in Agriculture (ITUK), will be in charge of the coordination and application of the control of sanitary quality of food produce and of the certification activities. In this respect, this committee will work in close relation with Regional Directions of Agriculture depending on the Ministry of Agriculture and of Rural Affairs(www.haberim.com/ic.php?id=29587). Control and coordination of the agricultural holdings that are covered by Good Practices in Agriculture are among the tasks of ITUK.

Accordingly, those horticultural holdings that apply good practices have the obligation to keep a check-list and report on the fertilizers, pesticides and insecticides that they use and in return will be continuously informed on the new methods and techniques in this domain.

Besides agricultural production, companies and shops that supply modern agricultural inputs to farmers (seed, plants, parent animals, bulbs, pesticides, insecticides, hormones, fertilizers, veterinary products) will be under control. They is the obligation to keep notes on the quantity of the modern inputs sold as well as the name and address of the buyer. Producers associations, farmers, and merchants are all responsible for the application of these food safety rules prevailing within the framework of this application.

II.2. Domestic food legislation

II.2.1. Evolution of the implementation of food safety regulations and agencies in Turkey

Since the 1950s, food quality control is organised and carried out by the MARA under the responsibility of "General Direction of Food Control and Protection". This *bureau* coordinates a number of testing laboratories; carries out administrative procedures, applies food standards and controls the prices of food products both at national and regional levels (YALCIN & al., 2004).

The Turkish Standards Organisation (TSE), established in 1960, adopted ISO guidelines for its certifications since 1994. Within the framework of harmonisation procedures, TSE adopted about 90 % of EU standards as Turkish standards. Export produce must be in conformity with TSE standards as well as EU standards. TSE, via its own laboratories, certifies the sanitary quality of food produce.

Turkey had an old legislation dating from 1957, continuously updated since the mid-1980s.. Customs Union with the EU, together with WTO obligations and guidelines, and the necessity to respond to new expectations of European consumers for safe and healthy food brought along new juridical constraints before Turkish authorities. In order to be in line with international food legislations and food safety standards, a number of rules and regulations were adopted(YALCIN & al., 2004):

- ✓ the decree KHK/560 on "*Production, Consumption and Inspection of Foodstuffs*" in 1995
- ✓ *Turkish Food Codex Regulation* in 1997

[2] *In accordance with Eurep GAP*

- ✓ *Food Regulation* in 1998
- ✓ *Directive on Private Food Control Laboratories Establishment and Functioning* in 2000
- ✓ *Food Law n° 5179* in 2004

The new Food Law, became effective in June 5, 2004, includes and broadens the contents of the precedent decrees, regulations and directives. It regulates food safety, quality and traceability of food stuffs; controls and coordinates food processing and marketing units, accredits private laboratories to carry out tests and controls concerning the sanitary quality of food. It has equally specific clauses concerning the regulation and control of organic agriculture (www.tarim.gov.tr).

The particular part of the Food Law on Turkish Food Codex lists the maximum level of pesticides residues and growth hormones. The MARA is responsible for the control of the use of pesticides and registers all pesticides existing in the market. Along with the MARA, Ministry of Health is responsible of the control of the hygienic conditions prevailing in the processing plants and, together with local municipalities, of the monitoring of the food products at retailing stage (IGEME, 2003).

Significant increase in the number of exclusively export-oriented testing laboratories

In Turkey, there are 40 State owned and managed laboratories where samples are analysed (Table 11). There is a rather even distribution of these laboratories by main socio-economic regions of the country with the exception of Western Anatolia which accounts for 38 % of the total number of testing laboratories. In Aegean region, there are 5 laboratories established in Aydin, Denizli, Afyon, Mugla and Izmir with a total staff of 20 agricultural engineers covering the whole Aegean region (*Interview with M. Muharrem OZDESTAN, Director of the Food Safety Investigation and Control Office of Izmir Prefecture of Ministry of Agriculture, October 2003*). This task necessitates agricultural engineering diploma and laboratory assistants nor agricultural technicians are not admitted as food safety inspectors to work in these laboratories. In Mediterranean region of the country, all of the six provinces have, each of them, their own laboratories. It is evidence that, Turkish Ministry of Agriculture, advantage the regions which are, not only important production pools of fresh vegetables but which are also important export centres.

Table 11 : Number of testing laboratories in charge of the analysis of pesticides residues and other aspects of sanitary quality of foodstuffs

Socio-economic regions of Turkey	Provincial Direction of Agriculture	Provincial Direction of Control and Protection Laboratory
Black Sea region	13	7
Central Anatolia	13	6
East and South East Anatolia	27	8
Mediterranean region	6	6
Western Anatolia (Marmara+Aegean regions)	22	13
Turkey	81	40

Source : Authors' work based on information diffused by Ministry of Agriculture, www.tarim.gov.tr

Recently 6 out of these 40 provincial laboratories of the MARA were accredited by Turkish Accreditation Organisation (Türkak). These accredited laboratories are situated in Ankara, Istanbul, Izmir, Bursa, Mersin and Samsun. Otherwise, since the promulgation of the Directive on *Private Food Control Laboratories Establishment and Functioning* in 2000, 23 private laboratories operate in the sector (www.perakende.org). 7 of the recently accredited laboratories are private initiatives, located in Marmara region and Ankara; 1 laboratory is founded in the Aegean by the investments Aydin Commerce Stock Exchange; 1 is a laboratory attached to the State Water Affairs and located in Ankara. Another laboratory is recently opened its doors in Antalya region (Kumluca), thanks to common investments of Antalya Chambre of Commerce and private capital (*Interview of Mr. A. Suat EKICI, Director of Regional Directorate of Western Anatolia region attached to the Undersecretariat of the Prime Ministry for Foreign Trade, October 2003).* Another example concerns an input dealer from Fethiye who offered to some of his clients to help them carry out an IPM Programme. He is associated to a former technician from the Regional Directorate of Agriculture, and plans to extend this method nearby . Approximately 20 farmers participate to this experiment (Coudel, 2003).

The increase in the number of accredited testing laboratories and improvement of analytical capability will undeniably eliminate delays before marketing, and reduce the risk of divergences between analyses undertaken by different laboratories, the rejection of samples and the destruction of products (EU Flash, 20 October 2005). However, all these control systems are directed to export produce and no control is realised concerning the produce marketed in domestic market.

There is no extended control service in Turkey. As explained here-above, small State laboratories and recently accredited private laboratories carry out these controls with the help of a limited number of expert engineers. But the most important bottleneck of the food chain seems to be formed at the level of infrastructure. Besides the fact that the existing technical capacity is not sufficient to carry out efficiently and rapidly the necessary controls the expert – engineers specialising in these sanitary quality controls are not sufficient in number. Microbiologic analyses (humidity, mildew, proteins, sugar, aphlatoxine, and PH) highly necessary within the food safety concern but are not sufficiently carried out. Regarding specific analyses concerning the dioxins, pesticide residues, acrilamine, GMO traceability, toxins and heavy metal, they are quite hardly carried out in Turkey's laboratories. Turkey benefited from the EU's financial aid of a total of 14 million euros at the beginning of the 2000s, in order to improve its testing materials, accreditation systems and instruct more expert-engineers and also construct a National Food Reference Laboratory in Ankara (www.perakende.org).

The most important obstacle to Turkish export tomatoes (and peppers) during these recent years is stemmed from the non conformity of Turkish export produce to international SPS standards. The private sector is highly conscious about this constraint that exerts a great pressure on exporting firms. Initiatives coming from private capital to construct large control laboratories are important steps taken in the direction to eliminate this constraint as much as possible.

II.2.2. Still loose food safety controls in the domestic market

Despite the new food legislation since the mid-1990s and the legislative infrastructure to control the food quality, the general feeling in Turkey is that there is no official and serious control concerning the food safety of fresh produce sold in domestic market. The Turkish consumers are not yet sensitive to food safety concerns and a great majority do not demand for high sanitary quality of the food that they purchase. Facing this overall reluctance from the consumer, administrative staff exhibit no serious initiative to establish a regular watch system. Seldom controls are realised further to scarce consumer complaints. These controls are mostly directed to post-harvest produce and concern the different stages of the marketing chain. Samples are taken on the trucks during the transportation of the fresh produce, or at their arrival to the Wholesale City Hall, or to retail shops (*Interview with M. Muharrem OZDESTAN, October 2003*).

Vegetal Protection Office of the Regional Food Safety Investigation and Control Office of the Ministry of Agriculture specialises on the farm controls and realises samples taking on the agricultural products not yet harvested. However, at the pre-harvest stage, farmers can cheat by adding some nutrient substances, growth hormones, pesticides or insecticides after the visit of controlling engineer, or by hiding the containers of forbidden pesticides or further by filling the check-lists according to the prevailing rules but not at all corresponding to real facts. So, control should be applied to the post-harvest produce for detecting the pesticides or insecticides residues and growth hormones. Some analysis looking for heavy metals are realised only if there is a specific demand from the buyer.

III. LINKAGES BETWEEN EXPORT MARKETS AND QUALITY UPGRADING IN FRESH TOMATO SECTOR

III.1. Description of the survey on Turkish exporting companies

III.1.1. Main objectives of the survey on Turkish exporting companies (2004 survey)

Research and analysis of the literature (Yalçın & all., 2002; IGEME, 2004; Oskam & all. 2004) and quantitative data concerning the Turkish fresh tomato sector highlight a direct relationship between the trade constraints that European sanitary quality standards dress up and the significant changes that are activated by Turkish State regarding the legislation and institutional framework regulating the control and coordination of the production and exportation of fresh produce. However, a simple literature

analysis could not give the expected hints to assess the real importance of this relationship. In order to verify if the so-called relationship exists or not between constraints of export market and quality upgrading prevailing in the sector, a field study based on a survey became a necessary condition.

Another objective of the survey was of course, to identify the drivers behind the individual choices of exporting companies concerning the destination markets. The survey was divided in seven parts in order to collect detailed information concerning the behaviour and conduct of the exporters of fresh produce in Turkey : (1) Identity and organisational structure of exporting firms; (2) Linkages between exporting firm and tomato suppliers; (3) Information about export produce; (4) Relationships with competitors; (5) Post-harvest handling activities; (6) Client profile; (7) International standards and exporting firms' behaviour with regard to the food quality and food safety.

III.1.2. Sampling methodology

The survey was carried out by Mme Zeynep Aktas Cimen in different regions of Turkey standing out as significant production pools and export centres during the June-September period of 2004. The survey covers commercial firms specialising in exporting fresh fruits and vegetables (FFV), especially those that practice greenhouse production.

There are six Unions of FFV Exporters in Turkey. Lists of these exporting firms were asked at those Unions in order to determine the total population of our survey. Simultaneously, we asked for the names and addresses of those firms that produce and export FFV according to EUREP GAP standards. Distribution of the exporting firms of fresh and chilled tomatoes composing our sample is as follows :

Table 12 : Informations on the firms covered by the 2004 survey

Unions of FFV Exporters	Number of registered firms	Number of interviewed firms	Number of firms certified Eurep Gap
Antalya	105	12	3
Akdeniz (Mersin)	144	7	-
Izmir (Ege)	35	3	1
Istanbul	48	1	1
Karadeniz (Trabzon)	30	-	-
Uludag (Bursa)	8	2	2

Even though, it was planned at the beginning of the survey that 40 firms should be covered by the survey, because of numerous constraints only a total of 25 firms were visited. First of all, great difficulties were encountered to get in touch with the directors. Many of the names and addresses figuring in the lists of the Unions of Exporters turned out to be false, mainly because there is a high mobility within the entire population of exporting firms as regarding to the newcomers and leavers. Due to high perishability of the export produce, there exists no written contract between Turkish exporting firms and importers, a situation that increases the vulnerability because of important delays in payments. In fact, lacking payments push some of the operating firms towards bankruptcy or simply to exit. Lastly, the timing of our survey fell within the period of high export season, which was another difficulty to get in touch with the firms' managers.

III.2. Main characteristics of the exporting firms

III.2.1. Main structural features

19 out of the 25 FFV and tomato exporting firms were created between the 1990s and the beginning of the 2000s. Many reasons to explain this temporal concentration : an export-oriented growth strategy adopted by Turkey; the fall of the Soviet Union creating a new and huge market and the impact of important changes that EU has undergone, influencing the quality of the export produce.

As it was assessed in the first part of this work (cf. figure 2), the share of exports oriented towards Western European markets in the total exports of fresh tomatoes is gaining significant points since these last years. The general trends concerning the market orientation of the 25 firms covered by the 2004 survey are conforming to these national trends of overall fresh tomato exports.

- *Firm status :* 8 out of the 25 firms that were covered by the survey are publicly limited companies (*Plc*) while 17 are limited liability companies (*Llc*).
- *Firm size :* The average number of persons employed in publicly limited companies (Plc) is 67 with a median of 70 while the average number of persons employed in limited liability companies (Llc) is 32 with a median of 8. 10 out of 17 Llc companies employ less than 10 persons. The largest company with 250 persons employed is also a limited liability company.

  If the total sales of tomatoes are taken into consideration for the size ranking of these 25 firms covered by the 2004 survey, it can be pointed out that firms with highest sales of export-oriented tomatoes are employing more than 20 regular salaried workers and mostly integrate agricultural activities; *i.e.* they are either grower/exporter firms or firms that practice contractual farming or direct sourcing from horticultural landholders.

There is no direct relationship between the date of creation of the company and the number of persons employed. It can, in no way, be assessed that the newcomers are large, vertically integrated modern enterprises. Meanwhile, it is evidence that the vertically integrated tomato growing export companies are essentially medium sized companies which export solely their own produce, with a permanent staff of 75 to 150 persons and employ an important number of seasonal workers during the harvest season. They also have significant storing and cooling capacities (cf. Table 13).

III.2.2. Procurement patterns

One of the main objectives of the survey was to investigate if there were any relationship between fresh tomato procurement patterns of exporting companies and the inclusion of food safety issues within the sourcing strategies of these latter. In fact, Western Europe oriented export strategies are closely linked to the necessity felt (or not) by the exporting firm to integrate upstream activities like greenhouse construction, seed and plant growing and tomato production.

After crossing a number of variables that appeared to be determinant with regard to the behaviour of exporting firms, a taxonomy was established with procurement patterns as the outstanding feature. .At the one end of this taxonomy can be find exporting firms that have their own plantations (greenhouses) and at the opposite end exporting firms that work only with FFV brokers (commissioners) that act as simple middlemen. These commissioners externalise most of their upstream and downstream activities. It is also interesting to mention one case where the exporting firm sub-contracts all the post-harvest marketing functions to large-scaled exporting firms and endorse only the broker's function , *i.e.* finding foreign clients for Turkish fresh tomatoes.

Thus, the 25 firms of the sample can be classified within 5 distinct categories :

- ✓ 7 firms belong to the 1st category where the exporting firm has its own plantations and greenhouses. It can be argued that these firms do not yet have a sufficient scale to deal with important volumes demanded as 3 of them appeal to other tomato growers or commissioners for their total procurements. All of them have significant storing and cooling capacities. The largest company of this category seems to have sufficient scales as they do not appeal to other suppliers in case of extra demand (cf. Table 14). For the resting 6 grower/exporter firms, the scales do not seem to be the determining factor.
- ✓ 4 firms practice contractual farming while 3 of these firms appeal equally to commissioners for their procurement, 2 of them being large scaled enterprises with important export volumes.
- ✓ 4 firms buy directly from tomato growers on the basis of nominal prices without passing by any contract. 1 of these firms buys also from commissioners if necessary. 2 firms are commissioner/exporters that procure fresh produce on behalf of other exporting firms as well. The first company of this category is a quite large company while the other 3 have less important export volumes and appeal to other sources for their procurement as well.
- ✓ 1 firm sub-contracts to other large scaled exporting firms and acts as a broker that finds clients for other exporting firms, mostly in the EU.

III.2.3. Certification practices

There is a certain relationship between the procurement patterns and the Eurep GAP certification. Amid 7 firms of the sample that have Eurep GAP certification, 4 are tomato growers with their own plantations and 2 contract their farmers in a regular manner. 1 of the firms of the sample, has both Eurep GAP and ISO 9000 version 2001 certifications. It contracts farmers for its procurements and buys from commissioners if there is any extra demand. 2 other firms have ISO 9000-version 2001 certification. They buy their fresh produce directly from tomato growers and also appeal to commissioners if needed. Among the companies of the 4th category that procure their fresh tomatoes from commissioners, one has Eurep GAP certification, one has ISO 9000 and another has ISO 9001 version 2000, attesting their conformity to international standards. However, the procurement pattern is not the only condition for having Eurep GAP or ISO standards. In fact, the export destination is one of the major factors that influences directly to have Eurep GAP, ISO or other international standard.

III.3. The role of the country of destination and the main clients of the fresh export tomatoes in the application of international quality standards

III.3.1. Regional distribution of fresh tomato exports

Turkish exporting companies seem to opt for a strategy of geographical diversification, with clients scattered essentially through Western, Central and Eastern Europe and Balkan countries. They export also towards the countries of Arab Peninsula (cf. Table 13). According to the results of the 2004 survey, there is a direct and reciprocal relationship between the procurement patterns and the geographical orientation of fresh export produce: those companies that export towards Western European countries are also integrating most of the upstream activities. Firms that have an internalising procurement pattern like contractual farming are also inclined to do so.

The EU rules concerning the traceability and the sanitary quality of export products seem to be the main reason that guides the exporting firms toward such practices. Some of the repliers to our survey told that the Central and Eastern countries pay particular attention to the sanitary quality of the fresh produce and that is quite difficult to export uncontrolled, untraced produce essentially to Baltic countries. Integration of upstream activities or a better coordination by contract farming seem to be a positive response to the necessity to trace the export produce.

Among the European countries importing Turkish tomatoes, Germany, the Netherlands, France, Greece, Hungary and Czech Republic are placed as top importers. Among Balkan countries, Bosnia-Herzegovina, Croatia, Macedonia, Romania are the most important importers while Saudi Arabia is the lead importer amid Middle East countries (cf. Table 13).

Firms that forward their exportation to Germany are numerous. The number of firms that export towards France, the Netherlands and Greece is important as well. The number of firms that export towards UK, Austria, Belgium, Switzerland, Sweden, Norway or Italy is less important. Among the ECE countries importing Turkish tomatoes, Hungary, Czech Republic and Romania are placed as best clients while, Bosnia-Herzegovina, Croatia and Macedonia are the most important importers in the Balkans and Saudi Arabia is the lead importer amid Middle East countries (cf. Table 13).

It is evident that the companies covered by our survey export to more than one country. A ranking of the main clients/countries by order of importance helps to better draw out the relationship between the procurement patterns of exporting firms and the country of destination of the export produce.

Table 13 : Exporting firms covered by the 2004 survey presented according to their procurement patterns, average number of regular and seasonal workers, country of destination, value and volume of exports, storing and cooling capacities

Firm	City of registration	Year of creation	Number of salaried workers	Seasonal workers	Main countries of destination	Total exports of fresh produce in 2003 (tons)	Volume exports of fresh tomatoes in 2003 (t)	Value exports of fresh tomatoes in 2003 (€)	Storing capacity (m^2)	Cooling capacity (m^3)	Other suppliers in case of extra volume needed
Category 1 : Grower/exporter (7 firm)											
7	İstanbul	1988	9	300	France, Germany, Holland	3 500	3 500	2 557 375 €	1 200	900	
22	Antalya	2001	27	50	Russia, Romania	3 200	1 000	700 000 €	4 500	300	Commissioners
17	Antalya	1995	45		UK, Netherlands, Dubai	500	500	557 683 €	1 200	200	Other growers
4	İzmir	1972	23		France, Holland, Germany	8 000	800	500 000 €	7 000	300	
18	Antalya	2000	10		Serbie, Slovenia, Kosovo	500	500	140 000 €	3 000	1 000	
6	Bursa	1983	60	500	Holland, Germany	18 500	518	80 000 €	25 000	16 500	Other growers
24	Antalya	1997	8		Serbia and Montenegro	300	100	79 669 €	2 000	110	
Category 2 : Contractual farming (4 firms)											
20	Antalya	2001	250	60	Macedonia, Kosovo, Bosnia	10 000	9 000	3 983 450 €	300		Commissioners
23	Antalya	1998	150	200	Russia, Germany, Macedonia	9 450	1 400	1 550 000 €	480		
19	Antalya	1995	12	30	Bulgaria, Bosnia	10 000	6 000	1 500 000 €	8 972	8 972	Commissioners
1	Mersin	2001	5		Holland, France, Russia	1 800	225	358 511 €	4 000	3 000	Commissioners
Category 3 : Other forms of direct sourcing from farmers (4 firms)											
11	Mersin	1987	16	150	Russia, Hungary, Germany	7 000	3 500	1 700 000 €	2 500	200	
10	Mersin	1995	11	40	France, Greece, Russia,	1 860	774	264 501 €	2 000	400	Other exporting firms
12	Mersin	1993	12		S. Arabia, Kuwait, Dubai,	6 564	1 224	224 000 €	3 000	250	Contractual farming
13	Mersin	2000	13		Czech Rep., Slovakia, Croatia	500	500	140 000 €	500		Commissioners
Category 4 : Buying from commissioners (9 firms)											
2	İzmir	1960	65	350	Germany	15 000	1 500	1 200 000 €	3 500	170	Producers
8	Hatay	1994	4		Austria, Germany, France	14 000	5 165	1 300 000 €			Producers
16	Antalya	2000	4	55	Germany, Hungary	8 000	3 000	1 000 000 €			Producers
21	Antalya	1995	70	200	Greece, Russia, Albania, UK	6 150	1 000	517 849 €	33 000	2 000	
25	Antalya	2001	60		Croatia, Hungary, Poland	1 500	1 500	400 000 €	6 200	1 700	
9	Mersin	1994	100	40	Greece, Balkan countries	16 000	976	270 000 €	500	250	Producers
14	Antalya	2001	20	65	Germany, Holland, Bosnia	1 000	830	230 000 €		500	
3	İzmir	1993	7		Germany	4 000	500	11 950 €	1 500	200	Producers
5	Bursa	1984	70	70	Germany	?	?	?	1 000	100	Commissioners
Category 5 : Subcontraction to other exporting firms (1 firm)											
15	Antalya	2001	4	50	Romania, Germany	2 560	500	300 000 €	5 000	150	

Source : Authors' worked based on the results of the 2004 survey

Map 2 : Country of origin of the main clients of exporting firms



Source : Authors' work based on the results of 2004 survey

III.3.2. Main Clients

Following the results of the 2004 survey, foreign importing firms come out as the main clients of Turkish exporters. Large Western European food retailers are ranked in 2nd position and are followed by large Turkish retailers. Other cases concern wholesale distributors in Germany, French restaurants, or USA Army Forces situated in Kuwait. One of the exporting firms (which is a grower/exporter firm) has opted for self-marketing.

At the light of the data presented in Table 14, it can be advanced that there is a certain relationship between the inclusion of the exporting company to the supply chain of large retailers and the fact that it integrates upstream activities : among those exporting companies that have large retailers as their 1st main client, 3 are grower/exporters, 1 practices contractual farming for its procurements of fresh produce and another one buys directly from producers. One of the seven grower/exporter companies organises its own marketing getting directly in touch with European wholesalers. The sales manager of this company visits main foreign importing firms to check-up their degree of satisfaction, and to gather their further requests. The place of large Turkish retailers also must be mentioned : two of the grower/exporter companies work directly with large Turkish retailers.

However, the interaction between the procurement patterns of exporting firms and the professional category of their main clients seem to be rather loose. This analysis should be completed by an insight on the impact of the country of origin of the main clients on the organisation of export activities.

Table 14 : Distribution of exporting firms by the professional category of their main clients

Procurement patterns	Number of firms	Foreign importers		Large retailers		Other cases
		1st place	2nd place	1st place	2nd place	
Grower/exporter	7	2	1	3	2	
Contractual farming	4	3	1	1	1	
Other forms of direct sourcing from growers	4	3	-	1	-	2
Buying from commissioners	9	7	2	2	2	
Subcontracting	1	1	-	-	-	
Total	25	16	4	7	5	

Source : Authors' worked based on the results of the 2004 survey

As it can be observed in map 2, Germany hosts an important number of client companies for Turkish fresh produce, followed by Russia and by Greece. Cultural proximity animated by the existence of an important immigrant Turkish community in Germany and geographical proximity concerning Russia and Greece can be the explanatory arguments for such a ranking.

III.3.3. Temporal continuity of relationships

Temporal continuity is an important factor showing the continuity of established relations with foreign clients. Turkish exporting firms seem to have longer relationships with countries that are culturally and/or geographically closer. But, it is also related to the fact that these countries pay less importance to the sanitary quality of the produce. Conversely, relations with Western European importing firms are rather short-term transactions. The most important reason of this short temporality is the high importance of sanitary quality of food that the European consumer demands. In this sense, if Turkish firms do not pay more attention to the sanitary and intrinsic quality of their export produce, they can never achieve to establish a sustainable positioning in these markets.

There seems to be a continuity in the relationships established with Western European firms since the end of the 1990s.Foundation and successful functioning of recent Turkish exporting firms that base SPS quality controls at the heart of their growth strategies start to change the geographical orientation of the Turkish export produce. Beside traditional European markets for Turkish food exports like Germany and Austria that shelter large number of Turkish migrants, markets like France, the Netherlands, U.K. are also targeted by recently established Turkish exporting companies. On the other hand Russia also appears as a main market with a great buying potential. However, it is a Kuwaiti company that has the longest relationship with its Turkish partner : 22 years of loyal partnership. Some companies have a relationship established since 13-17 years with former Yugoslavian importers (Serbia, Croatia, Macedonia since the separation), 10-14 years relationship with Czech importers, and 10 years relationship with German importers.

III.3.4. Market concentration

Turkish exporting firms like to diversify their markets whilst targeting lead positions in these markets. More over, the exporting firms tend to deal with a small number of clients in each market, in order to realise scale economies. The results of the 2004 survey seem to prove these assumptions as nearly half of the firms of the sample realise 100 % of their sales with a very limited number of clients concentrated in three regions : Balkans, Central and Eastern Europe and Western Europe.

The first five clients of Turkish exporting firms have important market shares, as 80-100% of the tomato exports are delivered to those firms (cf. Figure 2).

The share of the first client of exporting firms in their total exports is a better indicator to show the degree of this concentration. In table 16, it can be observed that nearly three quarter of the companies covered by the 2004 survey forward more than 50 % of their exports to their first client. A majority of these firms integrate upstream activities or have close relationships with tomato growers.

III.3.5. Specific requirement of clients

Four fifth of the exporting firms receive specific requirements from their main clients that cover, in general more than 70 % of the total demand. These specific requirements concern, in great party, control of pesticide residues, food safety conditions and Eurep GAP norms (Table 15).

There is a direct dependency between the sanitary quality control required by main clients of exporting firms and the host region of these importers. Clients situated in Russia and in Balkan countries are more regarding *vis-à-vis* the intrinsic quality of the fresh produce (colour, size, firmness) and its packaging rather than its sanitary quality. Nevertheless, a significant number of Turkish exporting firms think that this is a condition which will change in near future and that the necessity to be in conformity with international SPS measures will be in installed in CEE and Balkan countries as well.

Table 15 : Details of the specific requirements of the main clients of Turkish exporting firms presented according to their procurement patterns of fresh produce

Procurement patterns (number of firms that replied)	Region of destination	Main clients	Clients' specific requirements quoted by exporting firms			
			Sanitary quality	Intrinsic attributes	Packaging	Other requests
Grower/exporter (7)	EU,CEE	Large retailers, importing firms	▪ Eurep GAP norms ▪ Traceability check-list ▪ Pesticide residues	▪ Colour ▪ Size ▪ Firmness ▪ Appearance	Yes	▪ Short delivery periods
Contractual farming (4)	CEE, Arab Peninsula, Balkans, EU	Importing firms, large retailers	▪ Pesticide residues ▪ Agricultural guarantee certificate	▪ Size ▪ Colour ▪ Maturity ▪ Appearance	Yes	▪ Harvest schedule must be respected ▪ No child labour
Other forms of direct sourcing from growers (4)	CEE, EU	Importing firms	▪ Pesticide residues	▪ Size ▪ Other intrinsic attributes	Yes	
Buying from commissioners (9)	EU, CEE, Balkans	Importing firms, large retailers	▪ Pesticide residues	▪ Colour ▪ Size ▪ Firmness	Yes	▪ Price
: Subcontracting to other export firms (1)	CEE, Balkans	Importing firms		▪ Size		▪ Depends on the demand

Source : Authors' worked based on the results of the 2004 survey

About one quarter of the exporting firms indicated that these specific requirements concerning *pesticide residues* and other food safety measures became regular and insisting during these last years, essentially after the introduction of new food regulations in Europe in 2001. A small number of the firms of the sample told that these requirements gained a certain regularity since these last 6 years and some others assessed that their firm has always been very attentive *vis-à-vis* the sanitary quality of their fresh produce.

III.4. International Standards and Exporting Firms' Behaviour with regard to the Food Quality

It was assessed in earlier sections of this report that there is a direct relationship between traceability and the market of destination of the fresh produce. Turkish consumer being rather reluctant *vis-à-vis* the sanitary quality of fresh produce, traceability practices concern first of all the European market oriented exporting firms. So, it seems of paramount importance to point out this relationship between the market of destination of the fresh produce and the traceability practices.

III.4.1. Frequency of the practice of traceability by the suppliers of the exporting firms

It is evidence that traceability of upstream activities and check-lists that certify good agricultural practices are becoming utmost conditions for increasing the value of fresh produce. However, nearly half of the exporting firms covered by our survey failed to respond positively to these demands expressed by Western customers. 10 firms of the sample claimed that their suppliers had no check-list concerning the use of pesticides, insecticides or other inputs. However 10 other firms assessed their conformity to these requirements and 2 firms told that some of their growers did so. These check-lists comprise information on the former use of the land devoted to today's tomato production; soil analysis; information on inputs used for the soil preparation before the sewing period; varieties of fertilizers used as well as those of pesticides and insecticides.

A keener analysis indicates that the exporting firms that check the use of modern inputs are vertically integrated businesses or exert direct control on their producers. 5 of the 7 grower/exporter firms have

Table 16 : Share of the first 5 clients and the 1st client of Turkish exporting firms in their total exports of fresh tomatoes in 2004

Procurement patterns Exporting firm	Region of origin of main clients (# of clients)	Share of top clients in total exports	Average continuity of its relationships with its clients (Years)	Most important client	Share of the 1st client in total tomato exports (%)				
					Arab P.eninsula	Balkans	CEE	EU	Others
Category 1 : Grower/exporter firm (7 firms)									
2. firm	EU	?	?	Organizes its own marketing					
3. firm	EU (3)	100	2	Eating places				70%	
4. firm	2 EU	90	?	Importing firm				80%	
5. firm	?	20	?	Importing firm				20%	
6. firm	EU (5)	100	1	Wholesaler				50%	
7. firm	EU (2)	100	10	Large retailer				50%	
8. firm	EU (2), Russia (1)	100	1	Large retailer					
Category 2 : Contractual farming (4 firms)									
13. firm	?	80		Undetermined					80%
14. firm	EU (4), Balkans (1)	100	3	Importing firm				33%	
15. firm	EU (6)	100	5	Importing firm				77%	
16. firm	Balkans (3), CEE (2)	100	5	Importing firm		30%			
Category 3 : Other forms of direct sourcing from growers (+ commissioners) (4 firms)									
9. firm	CEE (1), EU (1)	100	6	Importing firm			70%		
10. firm	CEE (1), Balkans(2)	95	7	Importing firm			70		
11. firm	Arab Peninsula (5)	90	10	Large retailer	25%				
12. firm	Balkans (1), CEE (2)	100	3	Importing firm		50%			
Category 4 : Buying from commissioners (9 firms)									
17. firm		40	?	Undetermined					
18. firm	EU (2) , CEE (2), Balkans (1)	95	10	Large retailer				50%	
19. firm	EU (2), CEE (1)	85	2	Importing firm				45%	
20. firm	Russia (1)	?	?	Large retailer					
21. firm	EU (4)	60	8	Importing firm				50%	
22. firm	Balkans (5), CEE (1)	100	15	Importing firm		?			
23. firm	Balkans (3), EU (1)	80	3	Importing firm		?			
24. firm	Arab P. (1), CEE (2)	?	?	Importing firm	?				
25. firm	Balkans (4), CEE (1)	100	9	Importing firm		70%			
Category 5 : Sub-contracting to other exporting firms (1 firm)									
1. firm	CEE (4), Balkans (1)	95	?	Importing firm		20%			

Source : Authors' worked based on the results of the 2004 survey

check-lists for their own production and claimed that they respected the harvest schedule. Amid 7 exporting firms that practice contractual farming or procure their fresh produce directly from growers, 4 have traceability check-lists and all of them respects the harvest schedule. 1 out of the 5 firms that appeal both to commissioners and directly to growers has its check-list while 2 out of 5 of those firms respect the harvest schedule. Consequently, it can be argued that there is an apparent dependency between the vertical integration of downstream activities and the use of traceability check-lists.

A great majority of exporting firms have particular requirements in regard to the trademark and the sanitary quality of the tomato that they purchase as they demand for high quality tomatoes for their export. Only 1 exporting firm that appeals to commissioners and another one that realizes its purchases nearby both commissioners and growers declared that they had no particular requirement concerning the quality of the tomatoes that they purchased.

A majority of exporting firms have particular requirements for the product that they purchase, because they need to stabilise their positioning and to protect their reputation in the markets. 10 of them ask to their suppliers tomatoes in conformity with international standards; 8 ask for a controlled use of pesticides and fertilisers, a right practice of irrigation and a on time harvest; 5 have particular requirements concerning the colour of the tomatoes and 5 demand a high sanitary quality over time.

10 of the repliers claim that the requirements concerning the high quality of the tomatoes are coming directly from foreign importers. About 64 % of the exporting firms convey these specific requirements directly to their suppliers. Only 4 % of the firms of our sample declare that the requirements must be in conformity with international standards. The requirements of importing firms, *i.e*. the final consumer demand, is the most important factor that influence the purchase of exporting firms.

As we can observe on Table 17, the factors of primary importance for exporting firms are sanitary quality, intrinsic attributes (commercial quality) and packaging of the fresh produce. More than half of the firms of the sample placed sanitary quality of the fresh produce at 1st rank; 4 firms attributed to this requirement to the 2nd place, and 2 other firms to the 3rd place in their importance ranking. Intrinsic attributes of the fresh produce occupy the 1st place in importance ranking of 7 exporting firms whilst 13 other firms think that the "commercial quality" is of secondary importance. Yet 13 exporting firms place packaging in 3rd place in their importance ranking.

Table 17 : Importance ranking of the quality attributes of exported tomatoes in regard to the requirements of importing firms

Number of exporting firms	1st place in ranking	2nd place in ranking	3rd place in ranking
10	Sanitary quality	Intrinsic attributes	Packaging
3	Sanitary quality	Intrinsic attributes	
1	Sanitary quality	Packaging	Intrinsic attributes
2	Intrinsic attributes	Sanitary quality	Packaging
1	Intrinsic attributes	Sanitary< quality	-
1	Intrinsic attributes	-	-
1	Intrinsic attributes	Packaging	-
2	Intrinsic attributes	Packaging	Sanitary quality
1	Packaging	-	-
1	Price	Sanitary quality	Intrinsic attributes

Source : Authors' work based on the results of 2004 Survey

No relevant dependency between different variables could be verified, even if some interviewed managers told that Russian and Balkan clients asked for particular intrinsic attributes like a special colour, size, firmness while European importers are highly demanding with regard to the sanitary quality of the fresh produce and ask for a perfect traceability in the supply chain.

Only 48 % of the exporting firms of our sample claim that all of their suppliers can correctly satisfy the requirements of importing firms. This percentage is quite low and means the requirements of the importing firm concerning the sanitary quality and intrinsic attributes of the produce can still can not be satisfied as it should be.

Those exporting firms that can fully satisfy the requirements of the importers are either grower/exporters, or practice contractual farming or are advising tomato growers with whom they work directly. On the other hand, 5exporting firms that appeal both to commissioners and to tomato growers are aware of the importers' requirements and hire the services of agricultural engineers for a regular advising nearby their steady producers.

III.4.2. Traceability practiced by the exporting firms

About half of the exporting firms seem to be more or less attentive to the sanitary quality of their produce all through the supply chain. Less than one third of the firms of the survey's sample declare to trace completely their fresh produce while another one third seem to trace partly their produce. It is observable that quasi-totality of the young companies founded after 1995 trace their produce and continue to do so. Amid older firms created before 1995, only one fifth trace their export produce.

Procurement patterns of the exporting firms have a direct impact on the practice of traceability (Table 18). The quasi totality of the firms belonging to the 1st category trace entirely their produce. Exporting firms that practice contractual farming also trace their fresh produce. Conversely, those enterprises that procure their produce from commissioners or other growers assessed that they trust their partners but have no actual control on the production methods.

Table 18 : Linkages between the practice of traceability of the fresh produce and the procurement patterns of the exporting firms

Procurement patterns	Traceability		None	Total firms of the sample
	Partly	Entirely		
Grower/exporter	1	6		7
Contractual farming	2	2		4
Other forms of direct sourcing from growers	1			4
Buying from commissioners	1		8	9
Subcontracting to other exporting firms	1			1
Total	6	8		25

Source : Authors' worked based on the results of the 2004 survey

Amid those firms that trace their produce, none of them forward public regulations as the main reason for the application of traceability. A little less than one third think that traceability is a spontaneous outcome of the application of international standards, some of them think that it is a radical manner to achieve the high level of competitivity in international markets, around one third of them declare that it is included within the principles of their corporate culture or that it is important for their international reputation. Some trace their produce on the specific request of their foreign clients.

Consequently, it can be argued that there is a market-oriented strategy adopted by the firms practicing traceability. If the Turkish fresh tomato exports improve their positioning in European markets in the years to come, this success will be rather driven by the desire of trading enterprises to achieve in these markets than pushed by public regulations and upgrading policies.

Table 19 : Reasons that push exporting firms to trace their fresh produce

Sourcing patterns	Reasons that push the firm to trace its produce					
	Clients request	Internat. standards	Firm's principals	Firm's notoriarity	Internat. competitivity	Public regulations
Grower/exporter	-	3	3	1	-	-
Contractual farming	1	1	1	-	-	-
Other forms of direct sourcing	1	-	-	-	-	-
Buying from commissioners	1	-	-	-	-	-
Subcontracting	1	-	-	-	1	-
Total	4	4	4	1	1	-

Source : Authors' worked based on the results of the 2004 survey

III.4.3. Conformity to international quality standards

In our days, conformity to international quality standards becomes an utmost condition for achieving competitivity in international markets. However, Turkish exporting firms of fresh produce seem to be

somewhat reluctant in this domain as only 5 of the firms of the sample have an ISO certification, 1 certification is in progress and 7 firms have Eurep GAP certification (Table 20). It is important to say that those firms which are certified conform to Eurep GAP standards are also those that are certified conform to ISO standards. Furthermore they apply HACCP quality system in their company. Dependency between procurement patterns of exporting firms and being conformity to international standards(ISO or Eurep GAP) is very high. Firms that can control their upstream supply chain : growers/exporters, firms practicing contractual farming or/and direct sourcing from growers are also those that diminish the upstream risks by conforming to the standards required by foreign clients.

Table 20 : Relationship between procurement patterns of exporting firms and their conformity with international standards

Procurement patterns of exporting firms	ISO certification			Eurep GAP	Total firms
	ISO 9000	ISO 9000-2000	ISO 9001		
Growers/exporters			1	4	7
Contractual farming	1		1	2	4
Other forms of direct sourcing					4
Buying from commissioners	1	1		1	9
Subcontracting					1
Total	**2**	**1**	**2**	**7**	**25**

Source : Authors' worked based on the results of the 2004 survey

If exporting firms target international markets and attend a durability in EU Single Market, they must apply Eurep GAP standards in a more dynamic way. However, some environmental obstacles cut the way to enterprises towards the application of these international standards : atomised structure and small size of agricultural holdings do not permit the application of these standards by growers. Neither commissioners nor exporting firms do not invest as to improve the production techniques and the use of modern tools by small landholders with whom they do business.

According to new regulation, by the end of 2005, those firms that are not in conformity with Eurep GAP standards can no longer export their produce towards EU; a regulation that will have a high impact on the market concentration in the FFV sector.

III.4.4. Control of Intrinsic Attributes and Sanitary Quality of Export Produce

The control of sanitary quality is not, of course, the only concern of exporting companies. Intrinsic attributes of the fresh produce as its size, colour, firmness as well as its packaging and labelling are also determining factors for achieving high level of international competitiveness. In this sense, nearly all of the exporting companies realize commercial quality controls on their export produce even if the function of the person that realises this control varies considerably from one enterprise to another.

A great majority of the exporting firms internalise the control function by assigning a particular person to control the intrinsic attributes of the fresh produce. It is not astonishing to find out that vertically integrated firms are more inclined to have their own controling managers for this task. Near to one third of the grower/exporter firms have their own agricultural engineers accomplishing the quality control at every stage of the production and post-harvest marketing. In 2 of these firms, sales managers and in 3 others, executive managers control the "commercial" quality of the fresh tomatoes.

Regarding the exporting firms that practice contractual farming or other firms of direct sourcing as procurement pattern, majority of the firms of the sample have assigned a quality manager. In those exporting firms that buy their produce from commissioners, this task is mostly accomplished by the owner, the partner of the company, the commissionner who works with the company or anybody working in the company and is available to do so. One fifth of these exporting firms have also quality managers who accomplish this particular task.

More than half of the exporting firms do not control the sanitary quality of their export produce if they are not obliged to do so. 28 % of the firms control systematically the sanitary quality of their export produce. The quasi-totality of the vertically integrated exporting firms do so. In other categories, seldom are those firms who control the sanitary quality of their export produce. It is important to remind that the control of the sanitary quality necessitates the presence of an agricultural engineer, a

quality manager and/or an agri-food technician that small sized exporting firms can not always afford. On the other side, if the exporting firm deals essentially with small horticultural holdings or with commissioners, it will have a quite loose control over its fresh export produce. These constraints should be kept in mind for a final analysis of the FFV export opportunities of Turkey.

Table 21 : When there is any control of the sanitary quality, where does it realised ?

Who controls the sanitary quality of the fresh export produce ?	Procurement patterns				Total exporting firms
	Growers/ exporters	Contractual farming	Other forms of direct sourcing	Commissioners	
Own laboratory (agricultural eng.)	1	-	-	-	1
Private laboratories	2	-	1	-	3
Local State laboratories	2	2	-	1	6
Total	5	2	1	1	10

Source : Authors' worked based on the results of the 2004 survey

Most of the exporting firms that control the sanitary quality of their export produce appeal to State control laboratories or other accredited organisms (Table 21). Controls do not comprise solely the sanitary quality of the export produce but cover also the intrinsic attributes of the produce.

III.5. A Dual Development In Fresh Tomato Exports Of Turkey

Even if Turkey has a great agricultural potential, the scattered structure and small scale of landholdings have a direct influence on the structuring of the marketing channels. The loose quality control of fresh produce in domestic market and presence of commissioners as the coordinating agents amid different buyers and sellers of the sector have negative effects on the value upgrading. However, the field survey realized in 2004 amid the Turkish exporters proved that there is a dual development in Turkey's fresh tomato marketing channels. Another outcome is of course the positive effect of EU regulations and restrictions concerning the sanitary quality as well as physical attributes of export produce.

There is an evident vertical integration realised by modern exporting companies, recently founded by Turkish capital or as foreign-Turkish joint ventures. These companies invest in greenhouse production by buying in agricultural land and trace entirely their production as well as marketing channels. They have certificates conform to international standards and forward their produce directly to Western European markets. Some of them have their own control laboratories.

Other export companies that forward their fresh produce to E.U. or to C.E.E., practice contractual farming or other direct sourcing patterns and trace greatly their produce from farm to European outlets. They target scale economies and deal with commissioners if there is extra demands. Some of them have Eurep GAP certificates or ISO standards, but are not as keen as exporter/grower category concerning the traceability of their fresh produce.

Exporting companies that deal directly with commissioners target mostly markets like Balkan countries, Russia or Arab countries, that are less keen about the sanitary quality of the fresh export produce and look for scale economies. Their strategy is based on mass production, mostly based on the collect that the commissioners realise by contacting a large number of small landholders. They have smaller trade margins and form the category that is most vulnerable to SPS controls at international borders.

The general broadening of GAP applications ordered by Turkish government since the summer 2005 will have negative effects on this large number of exporting companies that deal directly with commissioners and that base their growth strategy on mass production. Agricultural sector is becoming an attractive sector of industrial capital as exporting to EU countries generate high margins. Those vertically integrated modern exporting companies that have important gains from fresh produce exports will probably have positive spill-over effects in the greenhouse production in Turkey pulling the quality standards in upwards. However, it is impossible to tell if this upgrading can create a concentration and consolidation in the atomised landholding structure of the country.

IV. WHAT ROLE DO SUPERMARKETS HAVE IN THE DEFINITION OF NEW STANDARDS FOR FRESH TOMATOES IN TURKEY

IV.1. Overview of the retail sector in Turkey

IV.1.1. Evolution of the retail sector in favour of large retailers

The structure of the food retailing sector in Turkey largely by a micro grocers (*bakkal, manav*) established as family businesses, started to change during the 1950s, with State initiatives to create "self-service" retailer chains, first under the brand of Sümerbank, a State bank, then later by inviting the Swiss retailer cooperative *Migros, the Swiss retailing cooperative*, to invest in Turkey. The arrival of Migros created important spill-over effects in Turkey's retail sector, mosty in Istanbul, where the cooperative was installed. The largest conglomerate, Koç Holding bought-in the capital of the Turkish affiliate of Migros from the Swiss cooperative in 1975 and also obtained the right to use the name Migros but only in Turkey. In 1956, *Gima A.S.* established in Ankara, as a Turkish para-public initiative serving as a multistore and including food products and beverages. However, the true take-off of supermarkets in Turkey took place only in the 1980's with the arrival of Carrefour in 1983 and its joint-venture with the second largest Turkish conglomerate, Sabanci Holding in 1985.

Hypermarkets (more than 3500 m2) have recently emerged as key investments within the retailing sector in Turkey. Their number increased 1995 and 2000, from 41 units in 1995 to 151 in 2002 and is expected to reach 202 units at end 2004. The first discount stores appeared in the mid 1990's and have spread throughout Turkey (Table 22).

Table 22 : Evolution of the number of retail food outlets in Turkey (1996-2002)

	1996	1997	1998	1999	2000	2001	2002
Hypermarkets	37	51	100	105	130	149	151
Supermarkets over 100 m²	1 279	1 631	2 035	2 316	2 850	3 490	3 855
Markets (50-99 m²)	10 750	11 417	12 190	13 247	13 230	13 210	13 555
Bakkals (grocers) (<50 m²)	164 366	159 171	155 420	148 925	136 760	128 580	122 340
Others*	22 030		24 375		26 505	26 835	23 170
Total	198 462		194 120		179 475	172 264	163 071

** convenience stores, kiosks, open markets, etc*
Source : Turkey's Retail Food Sector Report, 1999, 2001 and 2004, www.fas.usda.org

Although the share of grocers called *bakkals* (less than 50 m2) or markets (less than 100 m2) decreased from 76 percent to 53 percent between 1996 and 2002, this segment still boasts more than $12 billion in sales. The growth in larger outlets has an impact on the *bakkals*, with increasing numbers closing. It is expected that the market share of *bakkals* will fall below 35 % by 2008.

The hard discount format has been for the last few years one of the most attractive investments in the retail sector, as showed by the rapid rise of BIM, a Turkish company founded in 1995, with US and Saudi banks as other main shareholders. BIM focuses on the hard discount format and has grown into one of the largest retailers of Turkey, all formats included. With more than 800 stores scattered throughout the country, BIM is sometimes called the "Turkish Aldi".

IV.1.2. Consolidation of the large supermarket chains in large cities

In Turkey, supermarkets first developed in the largest cities where the population exceeds three million (Istanbul, Izmir, and Ankara). Recent investments have targeted medium-sized cities like Adana, Gaziantep, Bursa, Kocaeli, Konya, Mersin, and Antalya, where the population is more than 600,000 or where tourism is intensive. Traditional grocery stores, because of their proximity and convenience, will continue to play a major role in most parts of the large cities, but especially in rural areas where 35 % of Turkish still live. In Turkey, income is very unevenly distributed among the regions and provinces. In South-East and Eastern Anatolia where some provinces receive less than 0,1% of the national gross income, supermarkets are still the exception (Codron & all., 2003).

There are about 50 chains operating in the Turkish retail business (USDA, 2004). An important concentration process during summer 2005 restructured deeply the Turkish retailing : while *Carrefour* that entered the Turkish market in 1993 and that formed a joint venture with Sabancı in 1995, bought-

in *Gima* supermarket chains *Migros* acquired *Tansaş* supermarkets. In parallel, the local players like *Kiler*, an Istanbul based supermarket chain bought-in 51 % of the capital of *Canerler*, the largest supermarket chain in Ankara region (http://www.kobifinans.com.tr/index.php/article/articleview/57814/1/17/). It must also be reminded that already in 2003, the British leader *Tesco* entered the Turkish retail sector with the acquisition of Izmir-based medium-size regional chain *Kipa.* So, by fall 2005, Migros remains the lead group of the Turkish retailing sector with an estimated turnover of more than $ 2 billion while Carrefour, with a cumulated turnover of $ 1,5 billion becomes the challenger.

Turkish supermarket chains are at present sufficiently developed to be interested in bordering countries and to be undertaking FDI abroad : for example, Migros started in 1997 under the name of Ramstore first in Azerbaijan, and then in Kazakhstan, Russia, and Bulgaria while Gima realised Greenfield investments in Romania and later in Russia.

Table 23 : Profile of the major large retailers in Turkey (2003)

Company Name	Type of Outlet	Ownership	Turn-over USD Million	Number of Outlets (2003)	Location (# of)	Purchasing Agent
Migros	Hyper, super & discount stores (ŞOK), e-trade	Turkish	1 420 (domestic sales 2004)[1]	484	Nationwide & Intl' (20)	Direct Importers
BIM	Hard discount stores	Turkish, US & Saudi Arabian	1 073 (2004)[2]	750	Nationwide	Importers
Metro	Cash & carry / club centres	German	1 064 (2004)[3]	8	Istanbul (2), Izmir, Bursa, Ankara, Adana, Bodrum	Direct
CarrefourSA	Hypermarkets	Turkish &French	960 (2004)[1]	12		Direct,
ChampionSA	Supermarkets			4	Nationwide	Importers
DiaSA	Discount stores			135		
Tansaş	Hyper & supermarkets	Turkish	801 (2004) [3]	192	Nationwide	Importers, Distributors
Makro						
Gima	Supermarket & discount stores (Endi)	Turkish	525 (2004) [1]	78 (Gima) 41 (Endi)	Nationwide & Intl' (2)	Importers, Distributors
Yimpaş	Hyper&supermarkets	Turkish	350 (2003)	63	Nationwide & Intl'	Importers
Tesco-Kipa	Hypermarkets	Turkish	303 (2004) [3]	5	Izmir	Importers, Agents
Pehlivanoğlu	Supermarkets	Turkish	120 (2001)	67	Aegean region	Importers
Maxi	Hypermarkets	Turkish	150	4	Istanbul, Tekirdag	Importers, Distributors
Afra	Hypermarkets	Turkish	150	22	Konya (3), Antalya(2)	Importers, Distributers
Beğendik	Hyper&supermarkets	Turkish	70 (2003)	9	Kayseri (5), Ankara (4)	Importers
Özdilek	Hyper&supermarkets	Turkish	62 (2003)	10	Istanbul, Bursa, Izmit, Afyon	Distributors
Kiler	Supermarkets	Turkish	n.a.	34	Istanbul, Ankara	Importers
Marketim	Small supermarkets	Turkish	60	78	Marmara Region	Importers, Agents
Contour	Hypermarkets	Turkish	40	4	Istanbul (3), Ankara	Importers, Distributors
Real	Hypermarkets	German	n.a.	7	Ankara, Gaziantep	Importers
Booker (JV)	cash & carry	Turkish & UK	n.a.	12	Istanbul, Izmir, Kocaeli	Direct

[1] Birsen Altayli, Reuters, 16 August 2005, http://yatirimci.akbank.com
2 Zaman Online, 9 May 2005, http://www.eurozaman.com
3 Annual reports
Source : Authors work, MAE, MINEFI-DREE/TRESOR/ 2003 and USDA-Gain Report, 2004

IV.2. Fresh Fruits and Vegetables Procurement Patterns of Large Retailers

IV.2.1. Factors structuring large retailers' procurement patterns

In Turkey, the FFV share is estimated to be between 3-5 % of total hypermarket sales, according to the interviews that the research team realised in Carrefour, Migros, and Özdilek (Coudel, 2003). On the other hand, the total volume of FFV that is marketed through supermarket chains is estimated about 10 % of the total FFV marketed volume (Coudel, 2003). So, there is still a large potential to increase

FFV sales in supermarkets since market share is low. Modern retailers place high priority on the FFV section. They pay attention to some factors in doing so. These main factors that structure the procurement patterns of supermarkets chains can be classified as follows :

1. The location of the urban population has a decisive impact in terms of logistics organization. In Turkey, where most large cities are scattered throughout the country and separated by great distances (Istanbul, Ankara, and Izmir are about 500 km apart), costs of coordination of procurement centralisation are high. However, large retailers are mostly concentrated in these metropolises sheltering millions of inhabitants and organise their procurement patterns in order to supply these large consumer groups (Codron & all., 2003).
2. Turkish production has grown into a national highly specialized FFV industry with Antalya, Izmir, Mersin and Bursa as the main producing areas. Concentration of most FFV growers in these specialized areas is a considerable constraint in the organisation of procurement patterns of large Turkish retailers (Codron & all., 2003). This constraint influence some of the large retailers to organize longer but less risk-taking supply chains with a number of middlemen that procure the fresh produce from production pools and ship it towards the urban consumption centers where are established large retailers.
3. Highly price sensitive, majority of the Turkish consumers cannot afford the high prices of imported produce. As a result, there is little import of fruit or vegetable into Turkey, other than tropical products such as bananas, kiwis, pineapples, mangos, and papayas. Imported bananas and kiwis are also available at traditional markets whereas mangos and papayas are still for luxury consumption, and are only available at large supermarkets and specialty retail outlets. So, with regard to large retailers, the quasi-totality of their FFV procurement is domestic.
4. Supermarkets in Turkey focus on physical attributes of fresh produce that they market, mostly the product diversity, appearance, and size-homogeneity. Of course, there may be some variation in marketing strategies, depending on the type of customer (income level, production or consumption area) that are targeted by supermarkets. For instance, our interviews report a variation of 300% in the number of FFV SKUs (shop keeping units, of different products) in a Carrefour hypermarket of Izmir (with 150 SKUs) and only 50 in a Migros hypermarket of Antalya, where many households have home gardens (Codron & all., 2003).
5. Most retailers have not yet emphasized consumer packaging and safety issues when they define quality standards because of the wide variation in size and freshness over produce items and the consequent consumer desire for inspection of individual units of FFV. On the other hand, safety standards are not clearly defined or efficiently enforced by the public authorities and there is insufficient consumer awareness to pay for a premium. The exception for the latter is Kipa-Tesco, a regional chain in the area of Izmir which recently started to sell organic food and plans to source produce from IPM or Eurep GAP certified growers (Coudel, 2003).

IV.2.2. A typology of large retailers' procurement patterns in Turkey

A certain typology can be used to specify the relation between retailer and supplier, taking into consideration the level of backward information(Emilie Coudel, 2003):

1. *Spot Market Transactor* **:** is the basic type. The transactions are based on short-term contracts. Exchanges are impersonal and there is no association between the transactors[3]. *Özdilek* fits in this category. The fresh produce manager buys all the FFV from the Izmir consumer wholesales' market, from any seller who has the fit produce. There are approximately 60 listed and contracted wholesalers who work regularly for Özdilek. However, no long term commitments exist, apart from Özdilek guarantying to pay once a month. There is no integration of any function and contracts with wholesaler pull towards market reciprocity.
2. *Market Reciprocity Contracts :* is a first step toward centralization, through the grouping of purchases of different stores. *Carrefour Istanbul* could be cited as an example. One buyer

[3] These five types are reflecting Jaffee's typology. Jaffee, 2000

purchases in the Istanbul central hall from different wholesalers, and produce is then conveyed to the different stores. This type is still characterized by spot market contracts with wholesalers, but goes toward integration of the wholesales' function.

Carrefour Istanbul has just started contracting 35 producers in 2003, for tomatoes, cucumbers, melons, carrots and potatoes. The FFV manager contacted producers and scheduled out their production all along the year. Totally, 45 000 tons have been bought over the season, of which 4 500 tons of tomatoes. Produce sorting and packaging types are specified. The FFV manager phones the producers to tell them the quantities needed, they then take care of packaging and transporation (through a contracted merchant).

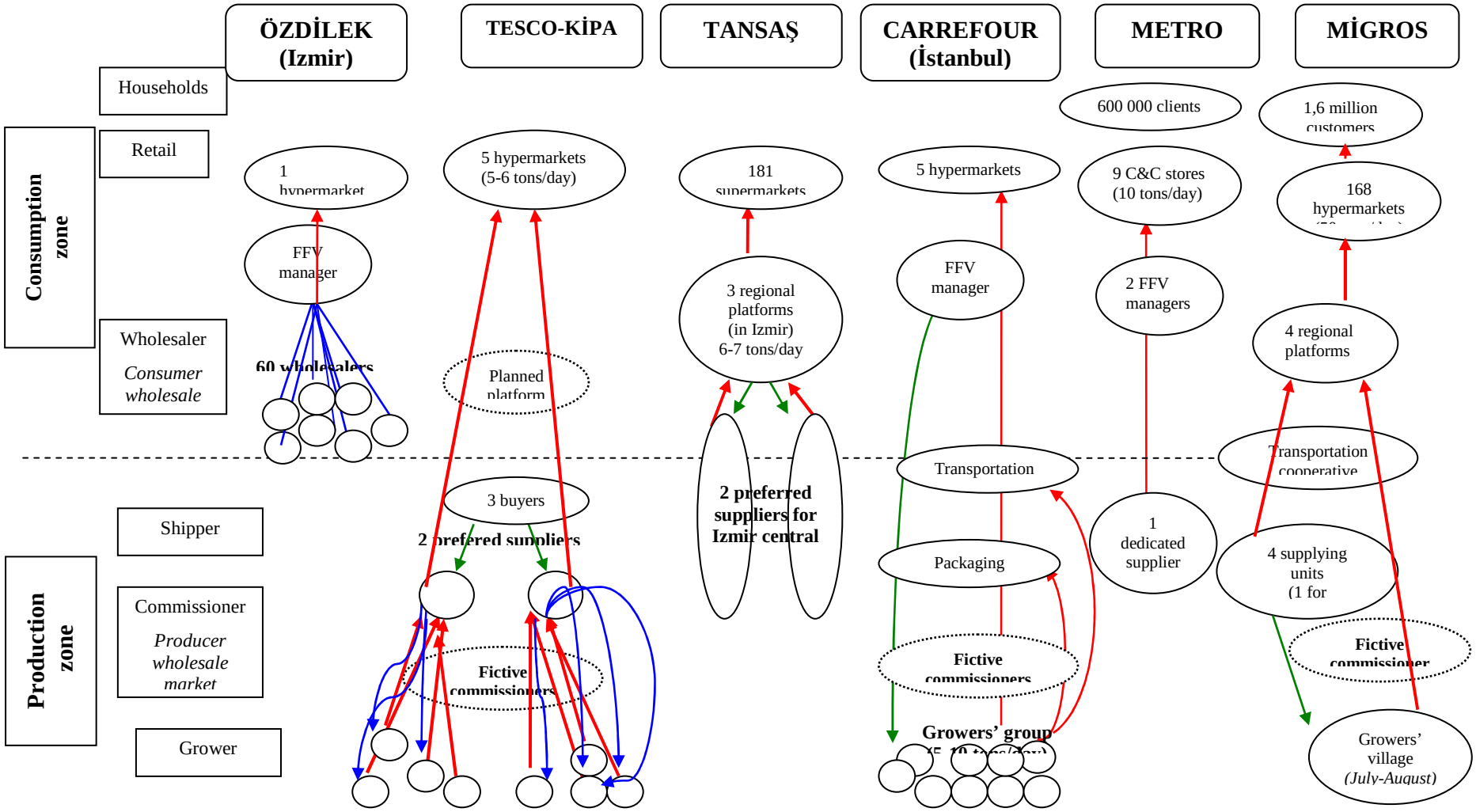
3. *Forward Market Contracts* **:** the wholesale function is integrated. This is the case of *Tansaş*. In Izmir, 3 buyers transact directly from mono-produce sellers and constitutes their own assortment of produce from the consumer auction. For tomatoes, Tansaş has contracts with 2 specialized wholesalers who package the produce in the production region, then ship it to the auction from where it is transported to the chain's centralized platform. Therefore, this type is characterized by wholesale integration, and forward market contracts with the shipper-sellers.

4. *Forward Management Contracts* : grouping is now done by "field buyers" who are situated in the production regions. For instance, *Tesco-Kipa* has three buyers in three different regions. For tomatoes, the buyer is situated in Antalya. He has established contracts with two shippers, and for the rest, he buys on the producer auction. All produce is then sent to each store, but a centralizing platform is planned. There is greater control of production by contracting suppliers who have production contracts with producers, and who furnish inputs and technical advice. These suppliers have high requirements because they export most of their produce. A forward management contract exists between these firms and their producers, and even though *Tesco-Kipa* isn't a direct contractor, he benefits from the control over the production and can specify some requirements through the company.

5. *Internal Organization :* concerns integration of the packaging-sorting function. *Migros* is the most advanced in this regard : it has specialised supplying units in four different regions, the one for tomatoes (and other greenhouse vegetables) is in Antalya. Produce is then dispatched to four regional centralization platforms, from where it is conveyed to each store. Each supplying unit is localized in the producer auctions. Produce is bought from producers through commissioners, who have a prospection role and who bring to the unit whatever farmer they think has appropriate produce. Then produce is sorted and packaged, and inappropriate produce (too small, too green) is not bought from the commissioner, who takes it back to sell elsewhere. In this case, there is integration all the way to the sorting-packaging function, with only spot market or market reciprocity contracts with commissioners. Another supermarket close to this type is Metro. Until 2001, Metro had an integrated packaging platform in a district near Antalya. However, this was too costly, and they decided to contract directly a supplier in Antalya. This supplier is now their dedicated supplier (he sells only to them). Integration is not complete, but it is a type of forward management contract

   Tesco-Kipa buys from several preferred suppliers, but it is trying to go towards a *Migros* has also started a similar system for several produce, in particular for apples and tomatoes, but only for the production gap period. For tomatoes, production in Antalya stops between June and August : Migros had to buy through another supplying unit, loosing specialization assets. Therefore, the FFV manager decided to contract a mountain village near to Antalya, Elmali, where tomatoes can be grown during the summer. Antalya supplying unit organized the sorting and packaging directly in the village, and supervised the process. In this case, we are between forward market contracts, with the specification of the production dates, and forward management contracts, with the sharing of the management of sorting and packaging between the transacting parties.

Figure 3 : Different procurement patterns of large retailers in tomato marketing channels (2003)



Source : Emilie Coudel, 2003

V. DETERMINING THE ROLE OF COMMISSIONERS, MIDDLEMEN AND AGRICULTURAL COOPERATIVES UNIONS IN THE STRUCTURING AND FUNCTIONING OF THE FRESH TOMATO CHANNELS IN TURKEY

The wholesale markets (*Toptancı hali*) have a considerable role in marketing channels of FFV. Even those retailers (like Migros) that have contracts with growers have "*fictive"* commissioners who represent them in wholesale markets. This particularity should be lightened by a short description of the law on wholesale markets that organises the FFV marketing in Turkish domestic market.

In Turkey, the wholesale market system which only dates from the 1960's, is considered by many of large Turkish retailers as too rigid and under excessive government control (Coudel, 2003). According to a law (N° 565) passed in 1995, all transactions with retailers, that exceed 500 kg. of produce, must be declared in the buyer auction system through registered wholesalers. Thus, the regulation of Municipal Wholesale Markets bring along this necessity for any fresh food produce to transit through city halls for quantity and quality control. So any farmer with a produce exceeding 500 kilos must go through a wholesale market. Only those farmers who have less than 500 kilos of produce can market their products in open markets of the consumption centers.

There is an important smuggling concerning the sending of FFV. The Hall director says that the Hall guardians can be paid important bribes to cheat concerning the quantity of the produce or the number of trucks permitting the middlemen not to pay the commission fees, nor hall taxes. Mr. Ahmet EKIZ is very keen about these controls. Since his transfer at the head of Izmir City Hall in2002, the overall turnover of this latter nearly doubled (48% increase between 2001 and 2002).

The City Hall Control Team is composed by an officer representing the Ministry of Health and Social Affairs, the controlling expert of the City Hall and a policeman. There are also Customs officers if the produce is for exportation.

V.1. Commissioners as key agents of the fresh tomato channels in Turkey

V.1.1. The predominant role of commissioners and middlemen in the marketing of fresh tomatoes

The role of commissioners appear as predominant in the organisation of fresh tomato channels in Turkey. The public policies implemented since 1995 in order to regulate the market functioning through the establishment of rules on wholesale markets (*Toptancı hali)* give them legitimity while we can not really assess that they are strategic intermediary agents.

The small size of landholdings push the buyers, even in export channels where there is no restriction to do so, to deal with commissioners via wholesale markets where the quantity demanded can be easily obtained at best values. On the other side, commissioners are well inserted in rural areas (via dedicated collectors) and are then able to respond to requirements in terms of volumes and quality.

In domestic market, as large producers turn to exports markets, the small landholders (those that have a property of around 0,05 ha for greenhouse, and around 0,5 ha for open field production) become the main suppliers of food retailers. However, most of the large retailers cotract commissioners for their fresh produce procurement to achieve scale economies, because of the highly scattered structure of horticultural holdings. Commissioners are established through public policies as agents that fulfil this necessary intermediation function.

However, the most crucial problem concern rather the collectors or middlemen than the commissioners. In fact, farmers can not get their money from the commissioners[4] (), and as they need cash money, they deal with middlemen who are good payers. They buy the product by paying cash and can also realise some conditioning tasks[5]. During their interview, Mr. Sentoglu as well as Mr.

[4] *teneşir vade* (mortal delay) designate the difficulty of landholders to get their money from commissioners

[5] Interviews with Mr. Okay SENTOGLU, Coordinator of the Open Market of Karsiyaka Municipality of Izmir and Mr. Sinan ATAMAN, Regional Office of Food Safety Control; Ministry of Agriculture; 17 October 2003

Ataman agreed on the fact that the farmers were really pushed to the edge in the supply chain and were squeezed by middlemen.

Producers' cooperatives seem as a good solution to resolve these problems. A cooperative can market the produce of a whole village in an open market according to the City Hall rule. Mr. Ataman was trying in 2003, to initiate the foundation of greater numbers of village cooperatives and to establish also a Cooperatives Union comprising 9 cooperatives from Izmir region with 1 100 members. He was targeting to establish a marketing cooperative for fresh fruits and vegetables, and trying to obtain a cooling house at the Izmir city centre which could help the producers to better conserve their produce and to supply collective eating places (army or school cafeterias, hospitals and administrative eating places) for which chilled conservation is an obligation. He asked to the authorities for two middle sized trucks in order to help growers to send their produce to Izmir. He also was aiming to create packaging houses near to the farming areas for a better conditioning of fresh produce.

If the system is well organised and becomes sustainable, and that the village cooperatives can be allotted with post-harvest handling facilities, the problem of middlemen can somewhat be resolved.

V.1.2. Producers' Unions as an alternative to middlemen in marketing of fresh tomatoes

The law n° 565 of 1995 on Wholesale Markets is a forward step as it foresees alternative forms of intermediation to commissioners and encourage the foundation of producers' cooperatives.

The imposition ratio of the Producers' Unions is around 7,5% of the selling price :	
3%	commission fee (stall rent paid to the Municipality)
2%	municipality tax
1%	VAT
1,5%	regulation fund
7,5%	**total expenses**
The composition of the City Hall expenses is the following :	
2%	municipality tax
2%	VAT
6%	freight and transportation expenses
8%	commissioner fee
18%	**total expenses**

According this law, there are three forms of taxing : (a) buyers can have direct procurement from individual producers if they accept to pay a 13 % municipality tax; (b) the total expenses will be around 18 % of the total payment if the buyers deal with the commissioners established at Wholesale City Halls; (c) if they get in touch directly with Producers' Union, their total expenses will be established around 7,5 % of the total value that they pay for their procurement.

Furthermore, the article 6 of this law stipulates that taxable retailers that contract directly with Producers' Unions will benefit from tax-free transactions, as they will pay neither municipality taxes nor the commissioners' fees.

Organising growers should bring through a larger technical extension, quality improvement, production planning and achievement of scale economies. According to this scheme, supermarkets win in direct dealing with Producers' Unions.

Unfortunately, we don't yet observe a significant change in the global behaviour of the downstream players. According to E. Coudel (2003) and recent works (Lemeilleur and Tozanli, 2006), the procurement of fresh produce from Producers' Unions is not an important issue for supermarkets.

V.2. Can Producers' Unions challenge the Commissioners and the Middlemen as a possible alternative form of intermediation ?

We infer from these observations several explanations to be confirmed by recent field studies. The first explanation relates to the central role of commissioners in rural areas. In fact, as key intermediaries in confronting demand and supply, they are at the roots of emerging areas for specialized fresh fruits and vegetables production.

With regard to the case studies led in Izmir region (De Romemont & Kessary, 2005), it is observed that the commissioners are the major funding sources for greenhouse construction and input purchases realised by the small landholders. In fact, commissioners contribute to the development of the specialised under cover cultivation of the Izmir region.

In Camönü, one of the three villages observed by the junior researchers integrated in the Ecoponics project, the largest producers (*i.e.*, those who first benefited from the credit facilities offered by the commissioners) endorsed the *collector* function at the village level. Thus, they became brokers, in their turn, working on behalf of the commissioners, and as such, lended money to small landholders in need of credit in the neighbouring areas and received, in turn, a commission for these loans.

Consequently, a great number of small landholders of the village got specialised in under cover production thanks to these broadened incentives and loyalty development *vis-à-vis* the village brokers. Since then, a great majority of small landholders can not bypass these informal financing systems. It must be reminded once more that the access to formal credits via banks or agricultural credit co-operatives needs high guarantees that these small landholders can not afford. In might even happen in some cases that these small landholders find themselves locked in debt traps because of high interest rates applied to these bank or cooperative loans. On the other hand, local intermediary agents that fear competition if such Producers' Union is successful, draw up important obstacles and restrict, by all means, any initiative that would or could advantage a collective action at village level.

In so far as the possibility to gain revenues from livestock rearing hampered the village people to specialise in greenhouse production, we think that this dynamic has given place to the emergence of Producers' Unions (Değirmendere Village Development Coop., and Ataköy Agricultural Sales Coop.).

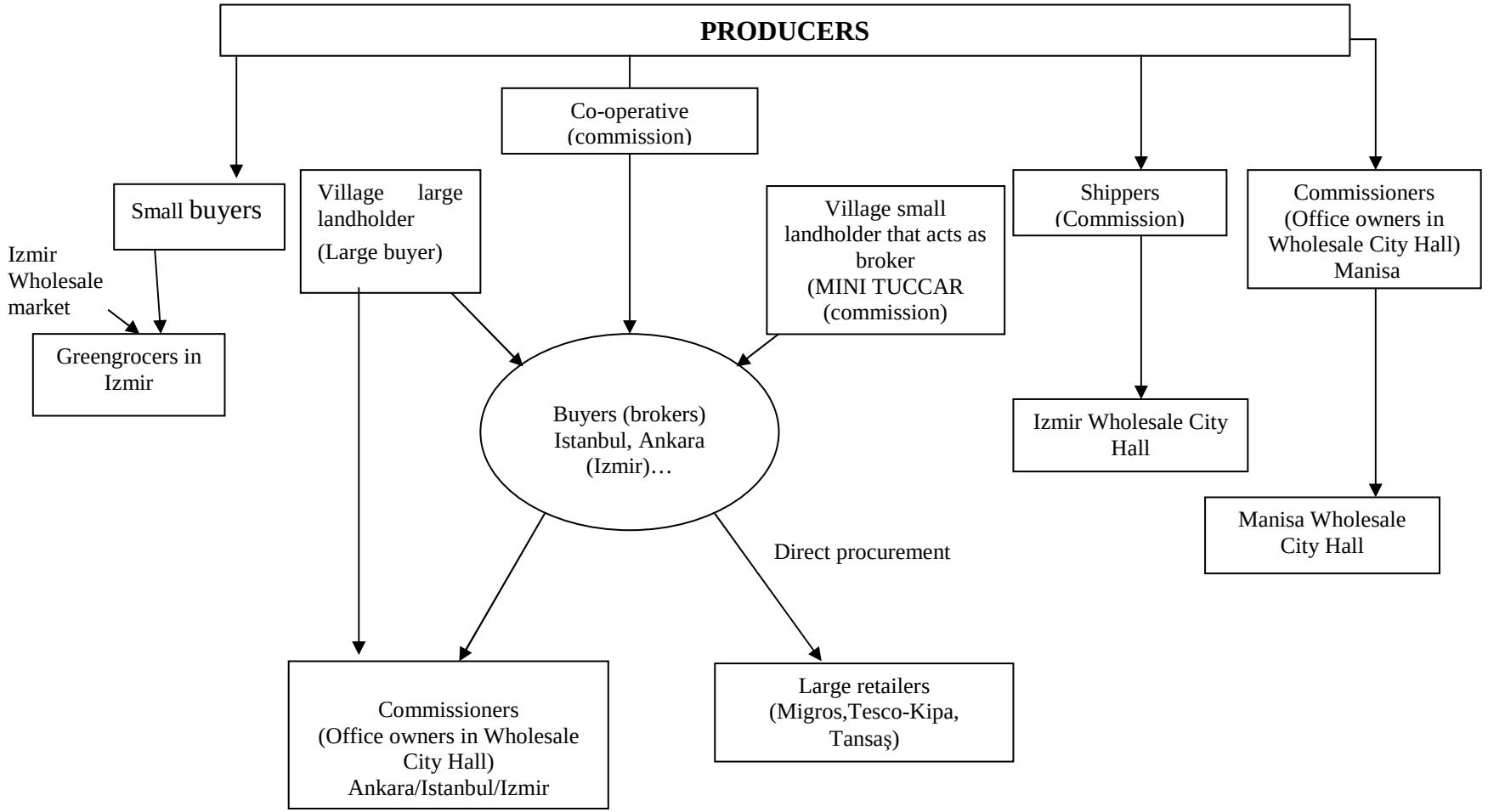
In these two villages that were covered by the survey, atomised structure of greenhouse production avoided one single producer to take in charge the whole collecting activity of the village. In fact, none of the landholders could afford this costly integration as the financial leader of the village. Producers had no choice but to integrate the "collecting" function in a collective manner via cooperatives in order to access to the urban markets. It was also necessary for benefiting from the commissioners' credit facilities. Nonetheless, the chosen form of agricultural co-operation leaves little incentive to farmers because of the equity principle for credit allocation among the members of the cooperative. Because of this equity principle, each farmer receives a very small amount of money and thus, many farmers stick to diversified production strategies, in order to increase their revenues.

Another reason for the persistent presence of commissioners is the high costs that generate the producers' collective action. Administrative and financial difficulties are greatest obstacles to the access to new markets. Lack of skills also induce low quality in the production organisation.

In spite of these difficulties that the producers have to organize themselves, some cases observed during the field surveys revealed direct linkages between supermarkets and Producers' Unions largely implemented and promoted by supermarkets. A notable case is the one that concerns the actions of *Migros* in this sense. In fact *Migros* invests in capacity building of its local staff and product managers that act inside these village cooperatives, thus going far beyond the mere incentives of formal contracts; they have a better control on the physical attributes of the fresh produce that they purchase and can trace the produce in a backward sense (Lemeilleur and Tozanli, 2006).

As these private initiatives try to fill up the gaps of public interventions which are costly, they surely will be implemented only by a small number of large retailers concerned by fresh fruits and vegetables sector in Turkey.

Figure 4 : Diagram of the marketing channels of fresh produce of the 3 villages that were covered by the 2005 survey



Source : Du Pont de Romemont, A., Kessari M.-E., 2005

CONCLUSION

It is evidence that by its production potential, Turkey is well positioned among the world's largest producers of fresh tomatoes. With only 5 % of its fresh tomatoes exported, the country enters equally among the ten largest fresh tomato exporters of the world. The export trend of the sector is rather positive with EU markets gaining considerable shares with regard to the total export volumes during these last years. However, Turkey has important problems concerning the low value of its exports because of the low quality of its fresh produce.

It is interesting to observe how the institutional framework, existing since the 1950s for the regulation and control of the price and quality of marketed food products, rests ineffective in domestic market. The lack of or the looseness of the quality control mostly concerning the food safety had important repercussions on the Turkish exports of fresh produce. New laws, regulations and circulars were promulgated mostly from the beginning of 1980s to our days, first with the opening of Turkish economy to international markets and afterwards by the foundation of its Customs' Union with the EU in 1996. Field surveys on large Turkish exporting companies and interviews with administrative State officers reinforced the results of statistical analysis on existing international and national data that Turkish exporters prefer to do business with East and Central European and Balkan countries as well as Arab States; countries that are less demanding concerning the sanitary quality of fresh produce, and particularly the pesticide residues in export produce. So, the attention paid by the exporters with regard to the physical attributes and packaging of export-oriented fresh tomatoes is somewhat lacking for which concerns the sanitary quality of the same produce if the shipments do not concern directly the Member States of the EU.

Nonetheless, these considerations seem to change quite quickly as the Turkish government implemented a new law on the Good Agricultural Practice since 2004 bringing along the necessary controls concerning the pesticide residues and obliging the horticultural growers to pay higher attention on food safety issues. These changes may and probably will modify greatly the global strategic trend that the majority of Turkish exporting companies exhibit as to choose markets less regarding to sanitary quality of export produce and where they seem to be the leaders.

Procurement patterns of exporting companies are designed as the main determinant factors of the control of sanitary quality and the traceability of the fresh produce. So, the 2004 survey carried out among 25 large exporting firms, included an important number of questions asked to exporting companies, focusing on the interactions between procurement patterns and the traceability and control of sanitary quality of fresh tomatoes.

28 % of the exporting companies covered by the survey are integrating their backward activities. Most of them are founded during the last 5 years and they pay attention to the traceability and food safety issues. They export towards EU markets, some of them profiting from the presence of Turkish migrant populations already well established in Germany, Austria and Holland. Turkish exports to Russia, Slovenia, Serbia and Greece also attract a certain number of vertically integrated exporting companies.

Beside these companies that own greenhouses, others (16 % of the sample) practice contract farming while another 16 % of the firms of the sample buy directly from producers without establishing any contract. They have their dedicated growers but prefer to apply Spot Market prices for their purchases.

36 % of the firms of the survey sample procure their fresh produce from commissioners registered in Wholesale City Halls of production regions. A majority of these exporting companies do not have any Eurep GAP certificate, are not regarding vis-à-vis the food safety issues but pay attention to the physical attributes of the fresh tomatoes. They have buying agents in more than one production region of the country and can appeal also directly to producers in case of extra demand. They export essentially to Balkan countries, Arab States and to Germany.

Those exporting companies that work directly with large European retailers are more inclined to pay attention to the control of sanitary quality of their export produce. Two of the grower/exporter firms do business essentially with large Turkish retailers and pay the same attention for the quality of their produce that those companies that export toward EU countries.

The lack of laboratories for the sanitary quality control has pushed some of the exporting firms, in close collaboration with local NGOs (Province Chambers of Commerce; Regional Exporters' Unions, Municipalities) to invest in the foundation of private control laboratories. In this sense, one laboratory in Antalya and another one in Mersin with important capacities are operating since these two last years.

These problems concerning the quality of the export fresh produce are coupled with organisational problems in the domestic market. In spite of the rapid rise of large retailers in the country, mostly since the 1990s with considerable spill-over effects that regulate and restructure the marketing channels, a certain anarchy prevails in domestic market because of the atomised structure of the horticultural holdings and the lack of organisation of small landholders.

The law on FFV Wholesale Markets, n° 565 and dating from 1995, legitimates the presence of commissioners in the marketing channels. But the problem is not only the commissioners; the most crucial problem, in some regions like Izmir county, stems from the presence of middlemen (collectors) that increase the post-harvest margins in the marketing channels and simultaneously diminishes the share of the horticultural landholder in the total value created within the marketing channels.

Small sizes of horticultural holdings and the loose organisation among the small landholders create important bottlenecks against the economies of scale. Fix costs as well as construction investments for greenhouses increases because of this atomised structure of the horticultural landscape of the country and reduces drastically the incomes of the small landholders. Facing these constraints, the same law encourages the foundation of Producers' Union (Village cooperatives or the gathering of 50 or more individual farmers) that can market directly their produce without passing by the commissioners nor by paying the commissioner's fees. They also pay less municipality taxes. On the other hand, the State promulgated a new law dating from June 2005 which defines and encourages the establishment of Producers' Union conducted under the control of the Ministry of Agriculture.

These Producers' Unions, as well as Village Cooperatives (Village Development Cooperatives, Agricultural Credit Cooperatives and Agricultural Marketing Cooperatives) seem to be a good solution to the regrouping of small landholders for the share of packing houses, sorting equipment, storage and transportation facilities; all necessary conditions for a better marketing of their fresh produce. In this sense, the Ministry of Agriculture and Rural Affairs increased the credits allotted to Village Development Cooperatives.

It must be mentioned also that the lack of these post-harvest handling facilities result by a post-harvest waste that can be estimated about 30 % of the quantity annually produced. Farmers from unorganised villages are pushed to the edge in the marketing channels. For example, it was assessed, during the field survey of 2003 in Izmir regions, that the farm price of fresh tomatoes was about 5050 000 TL, while the Izmir City Hall (average) price was around 150 000 TL and the consumer price at TANSAŞ supermarket was 900 000 TL.

Last but not least, another great constraint to the creation of value in the fresh tomato marketing channels is the lack of quality control. In domestic market, the quality standards are benched according to the demand/supply expectations. Prices are daily fixed according to the physical attributes of the produce on the one hand and to the bargaining power of the seller on the other hand. So small farmers with no financial power have no bargaining power neither in these economic mechanisms.

In this desperate landscape, it seems that the initiatives of some large retailers, like Metro, Tesco-Kipa but most of all that of Migros, to establish a direct link with Producers' Unions seem to have a great potential in near future. This link is somewhat loose in our days but more and more village cooperatives seem to be interested by these direct contacts with large supermarket chains. However, during these last two years, the number of cooperatives and the Producers' Unions that integrate directly the supply chain of large retailers increases. If the agricultural cooperatives overcome the constraints linked to the lack of post-harvest handling facilities on the one hand, and to the lack of willingness of landholders to organise themselves around these institutions, a great potential for the access of small landholders to domestic and international markets will be born.

REFERENCES

CODRON, Jean-Marie, BOUHSINA Zouhair, FORT Fatiha, COUDEL Emilie, PUECH Aurélie, 2004, "Supermarkets in Low-Income Mediterranean Countries: Impacts on Horticulture Systems" in Development Policy Review, Vol. 22, No. 5, pp. 587-602

COUDEL, Emilie, 2003, What role do Supermarkets have in the Definition of New Standards for Fresh Fruit and Vegetables in Turkey? : Study of Tomato Procurement Systems, D.E.A., Economie du Développement Agricole, Agroalimentaire et Rural, Université de Monpellier 1 and Ecole Nationale Supérieure Agronomique de Montpellier, September, 98 p.+Appendix

De ROMEMONT Aurelle, KESSARY Myriam-Emilie, 2005, Which kind of marketing organisations for horticultural producers of three villages of Izmir area, Turkey ?, field research report, I.S.A.B., I.S.A.R.A., I.N.R.A , CNEARC

DIE, 2005, Genel Tarım Sayımı 2001, DIE, Ankara

HIGGISTON, James, Turkey Retail Food Sector Report 2004, USDA, Global Agriculture Information Network (GAIN) Report TU4005, http://www.fas.usda.gov

IGEME, 2003, Ihracatta Pratik Bilgiler, Yaş Meyve ve Sebze Sektörü, Ankara, 102 p.

IGEME, 2004, Tomato products, Export Promotion Centre, 4 p., www.igeme.gov.tr

KESKIN, Gülşen, ÇAKARYILDIRIM, Nejla, 2003, "Örtüalti sebze yetiştirmeciliği", in T.E.A.E. Bakış, n°4, volume 8, September 200

LEMEILLEUR Sylvaine and TOZANLI Selma, 2006, "A Win-Win Relationship Between Producers' Unions and Supermarket Chains in Fresh Fruits and Vegetables Sector", USAID Regional Consultation on Linking Farmers to Markets, January 29-February 2 2006, Cairo, Egypt

OSKAM, A., A. BURRELLl, T. TEMEL, S. van BERKUM, N. LONWORTH, and I. M. VILCHEZ, 2004 : "Turkey in the European Union: Consequences for Agriculture, Food, Rural Areas and Structural Policy.", Wageningen University, Wageningen. TMO (Turkish Grain Board), http://www.tmo.gov.tr.

SEVGICAN, Ayten, TÜZEL, Yüksel, GÜL, Ayşe, ELTEZ, Raşit Z., 2001, "Türkiye'de örtüalti sebze yetiştiriciliği", pp. 679-707, Türkiye Ziraat Mühendisliği V. Kongresi, www.zmo.org.tr/etkinlikler/5tk02/27.pdf

TOZANLI- ÖNCÜOGLU Selma, 1989, "Pour une problèmatique de la commercialisation des fruits et légumes frais en Turquie" in THOBIE, J. and KANÇAL S., Turquie, Moyen-Orient, Communauté E

YALÇIN Ismet, KOÇ Ali, ÖZDEŞ AKBAY Aysel, 2002, Food Safety And Quality Regulations Present Situation For Fresh Produce In Turkey: An Exporter View, Aeri, Ankara, 75 p.