

PERFORMANCE IN THE AGRO-EXPORTS' SECTOR:

TOMATOES AND STRAWBERRIES IN MOROCCO

*Consultancy report prepared for UNCTAD*

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Year	Dirhams per 1 USD
1999	9.9
1998	9.6
1997	9.55

\*[Translator's note: not available at the time of translation. Their insertion will affect page numbering from page 13 onwards.]

Glossary:

SAEM :	Moroccan Agri-Exports' Sector
WTO:	World Trade Organization
DC:	Developing Countries
GATT:	General Agreement on Trade and Tariffs
EU:	European Union
CAP:	Common Agricultural Policy
TIR:	Transport International Routier
FOB:	Free On Board
<b>COMANAV:</b>	<b><i>Moroccan Navigation Company</i></b>
	<i>OCE: Marketing and Exports' Office</i>

## *General introduction*

The issue of the role in development of agricultural exports has been a recurrent one in debates held by those in the international community who are interested in development issues, from the time of the strategies of the '60s based on two gap models right up to recent strategies which focus on poverty reduction.

In fact agricultural trade has rarely been considered to be an engine for development. It has usually been regarded as an unprofitable sector. The reasons for this pessimism have been varied: (i) market "saturation" (the argument relating to the weak elasticity of income from foodstuffs), (ii) the "inward-oriented" nature of the sector which is developed without true local integration (imported inputs and logistics' systems), (iii) its "random" nature relating to the variability of rates and of harvests.

However, the experience of some countries (including Morocco) has shown that the potential for growth of agriculture for exports is far from negligible. Here too the arguments are varied: (i) market "saturation" is not widespread, on the contrary, for some segments of the fruit and vegetable markets there are strong prospects for growth linked to lifestyle changes, (ii) the inward-oriented aspect is no longer an option with globalization once the exports sector has achieved the critical size to attract multinationals for goods and services, (ii) there are economic possibilities for cover and for risk management which would allow risk effects to be reduced. Morocco has, over the last few years, become a regular breeding ground for such arguments and counter-arguments. In this type of situation it is useful to have recourse to case studies in order to properly illustrate the issues. That is the object of this report.

This report presents an evaluation of the performances of the Moroccan agricultural exports sector via the study of two export areas: tomatoes, which represents the more "mature" branch on relatively saturated markets and strawberries which is more representative of the "new" fields. This evaluation has been carried out using a methodology which seeks to highlight factors relating to success and failure, showing either private operators' strategies, governmental policies or access conditions on the external market.

The Moroccan Agro-Exports Sector (SAEM) lends itself well to this type of exercise. In fact it is made up of a diverse group of exports networks for either fresh or processed fruit and vegetables and is one of the best performing and best structured sectors of the Moroccan economy. Over the last few years it has generated an annual exports' turnover of over US\$500 million – which represents 15% of the country's total exports – and the sector participates strongly in the integration of the rural belt in international trade, in modernization of technologies and management methods. However, intensive use of agricultural land and low cost labour are constraints in terms of the sustainability of this model.

The first part of the report places agricultural trade in fruit and vegetables in context. The second part presents the Moroccan agricultural exports sector, its specificities, its evolution and its economic importance. The third is devoted to a brief methodological summary. The fourth and fifth parts present the case study itself. A short synthesis of the lessons to be learned from the Moroccan experience serves as conclusion.

### ***Current characteristics of global trade in fruit and vegetables***

Agricultural trade in fruit and vegetables is characterized by growth prospects, integration of the World Trade Organization (WTO) norms and the growing importance of considering the environment and providing information for consumers.

#### Growth prospects

Growth is based on an evolution in demand as well as technologies whose progress improve the “commercial quality” of products in terms of their adaptation to distribution demands (particularly with regard to perishability). A study in 1992 (cf. [6]) showed that global trade in high unit value agricultural products had shown annual average growth rates in the order of 4-11% during the 1980s, a much higher figure than the growth in trade of “big” agricultural products (cereals, sugar, coffee, cocoa, etc.). Changes in eating habits and progress in logistics relating to food have contributed to this massive expansion in the fruit and vegetables sector.

#### Integration in the WTO

The Marrakesh agreement of 1994 has succeeded in integrating trade in food and agricultural products in a multilateral way. It means that, in time, non-tariff barriers to trade are due to be abolished as are quotas and exports’ subsidies, which are instruments used by most signatory States. In order to moderate the impact of the proposed reforms a progressive scheme has been decided upon.

The agricultural agreement, beyond aspects relating to phytosanitary norms and the treatment of Developing Countries (DCs), includes three kinds of commitment:

- a. Improvement of conditions of access to food and agricultural markets to be achieved by the reduction of an average of 36% over 6 years of duties levied on food and agricultural products<sup>1</sup>. This commitment has only been possible after setting a common duty rate in the place of the non-tariff protection measures (quotas, variable taxes on imports, etc.) which exist at present.
- b. 20% reduction in domestic subsidies over 6 years<sup>2</sup>.
- c. 36% reduction in export subsidies over 6 years.

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<sup>1</sup> 24% reduction for DCs.

<sup>2</sup> 13% reduction for DCs.

The Marrakesh agreement also included the creation of the World Trade Organisation in place (literally) of GATT with greater powers relating to monitoring and arbitration than GATT. Because of the significance of non-tariff barriers which agricultural products are subject to, bound customs duties have remained high, which explains the importance of preferential trading agreements for the largest exporting countries.

Growing importance of the environment and of information

European and American markets have become very demanding regarding packaging and concerning information provided to consumers. Packaging must not harm the environment. Recycled and reusable packaging is preferred. Consumer information is expected to imply respect of the norms which are in effect.

### ***Presentation of the agro-exports sector in Morocco***

The SAEM is made up of three principal groups of products: fresh products, processed products and others. Each group includes a whole chain in which exporting companies enter into competition on two fronts, both on the primary products' market and on the finished products' market.

Over a long period of time, the evolution in the exports' market has been characterized by a stagnation in volume and a growth in value. The share of processed goods has multiplied two and a half times between the end of the 1960s and the middle of the 1990s (cf. for more details [7]).

Fresh products

Products which are exported are principally citrus fruits, tomatoes, potatoes and green beans. New high quality products (flowers, strawberries, melons) have replaced exports of low value on the French market (courgettes, artichokes, aubergines and seasonal onions).

Recent studies show that Morocco holds a competitive advantage with regard to European competition. This advantage increases where there is intensive harvesting. Earlier studies had also concluded that there was a comparative advantage in the citrus fruit sector<sup>3</sup>. In terms of its position on the world market, Morocco is the fourth world exporter of citrus fruits and the sixth in the world for tomatoes. For new fresh exported products such as strawberries, melons and asparagus, Morocco's shares in the European Union market have increased rapidly. Competition on those products which traditionally have been exported is essentially Spanish and African. There is global competition for new products, particularly with countries in Latin America and Asia which export flowers, strawberries and melons.

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<sup>3</sup> Cf. Estimated Domestic Resource Coefficients varied between 0.33 and 0.60 for the Souss Region, 0.7 to 0.85 for the Eastern Region and 0.55 to 1.1 for the Gharb Region.

Moroccan production relies on the most sophisticated technology, mostly imported. It is dominated by large exports' consortia which are integrated from the production stage to the marketing stage. Alongside these large consortia there is a periphery of small and medium operators which are efficient to a greater or lesser degree. The "newcomers" in the export branches of fresh products are some foreign investors and "young promoters" supported by credit facilities. The fact that harvests are early and labour force intensity for harvesting, which have traditionally been key factors in the competitiveness of Moroccan products with regard to the EU, will be less important in terms of global competition in the future. It is the organizational and logistical advantage which will be one of the most important assets with respect to newcomers on the world market for fresh products.

French and European destinations continue to provide the most significant outlet for vegetables in particular. The markets for citrus fruits and fruit in general are more diverse. Despite the implementation of the Common Agricultural Policy (CAP) with its arsenal of protectionist measures, Morocco has continued to export to Europe because of preferences granted bilaterally with France (the protocol known as 1/7), through association agreements with the EU of 1969 and 1976 and because of the massive purchase by producers of production technology which is adapted to the European market in terms of variety, packaging and timing.

The problem of management of citrus fruit, tomato and potato quotas has been well handled by setting up a selection strategy based on quality which has enabled the optimization of commercial value of quotas for the sector. It is clear that the integrated and focused structure in this sector has very greatly assisted putting this policy in place.

To sum up, fresh exported products can be broken down into three different sections. The indicators (cf. Table 1) show the great differences which characterise the markets of traditional and new products, citrus fruits holding a separate position.

Table 1: Main Orders of Magnitude in the Agricultural Exports' Sector

<b>Indicators</b>	<b>Citrus Fruit</b>	<b>Traditional Vegetables: Tomatoes, Potatoes</b>	<b>New products: Strawberries, Melons, Flowers</b>
Exports to the EU (%)	72	95	90
Exports to France (%)	32	74	50
Means of Transport	Boat	Boat	Lorry and plane
Wage Cost DH/ton	500	400 to 650	>1500
Wage Share (%)	15 to 20	11 to 20	10 to 30
Competition	Spain	EU and the Canaries	Worldwide
Market	Worldwide	Mediterranean	Worldwide
Operators	Experienced	Experienced and some new operators	Experienced and many new operators

Source: [7]

## Processed goods

Those processed goods which are most exported are canned olives, apricots, green beans, gherkins and capers, frozen goods (green beans and strawberries) and orange juice. Many items have almost disappeared from the export range, particularly tomato concentrate, wine and olive oil, due to subsidies within the European Community introduced through the CAP.

Morocco holds fourth place in the world for exports of orange juice (after Brazil, the US and the EU), second place worldwide for tinned olives (after Spain), first place for capers (followed by Turkey and the EU), and second or third place for gherkins (after Hungary and possibly Turkey). It is also the first European supplier of tinned apricots and the second (after China) for processed green beans. A recent study carried out by the Ministry for Foreign Trade estimates Domestic Resource Cost Coefficients<sup>4</sup> at 0.33 for canned apricots, 0.49 for tinned olives, 0.58 for citrus fruit concentrate, 0.75 for citrus fruit juice and 0.95 for tomato concentrate (cf. [8] for more details).

In the main export fields there is a dualism between traditional economic agents and large businesses which are integrated lower down and managed in partnership with foreign investors. The first category of operators provides semi-finished products which are meant to be handled by European industries or to be sold to large groups. Their products rarely get to the shelves of shops. These operators in general are not sufficiently large to be competitive on the global market and base their business on an informal collection network of primary products, which does not guarantee them the global quality required of them by the end of chain distributors. In areas where Morocco benefits from a significant advantage based on high entry cost for competition (arboricultural plantations), this traditional model has survived and can continue to do so. In branches where entry costs are lower (tinned beans, tomatoes, gherkins, etc.), this set-up cannot remain competitive<sup>5</sup>.

The second category of operators is made up of large size companies integrated lower down mostly with European or American distributors which provide the final product for consumption, at a higher added value and which seek to make their method of collecting primary products formal (integration at the higher level, exclusivity contracts with producers of the raw agricultural materials, combining of quality and price guarantee). These companies dominate the main production networks of processed fruit and

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<sup>4</sup>The idea of a comparative advantage relates to the fact that “cost in production factors” used to earn a currency unit varies across sectors and units. For some activities only a few production factors will earn a currency unit. For other activities many more are needed. The Real Currency Cost (RCC) is the indicator used to measure these differences. It is calculated as a ratio between: (i) the value of production factors necessary for a particular production process, and (ii) the value added generated by this production process calculated at world prices. It is said that an economy holds comparative advantages in a particular area of production if the corresponding RCC is lower than 1 and that it does not if the RCC is higher than 1.

<sup>5</sup> As is shown by the case of the relocation of French companies from Morocco to China for the production of tinned green beans and peas.

vegetables to a large degree<sup>6</sup>. In general the technology used is not very sophisticated across most of the sector. There are notable differences between the use of technology by large companies integrated at the bottom which exert strict quality control, according to procedures established by importing countries and traditional companies which, for the most part, manufacture intermediate products<sup>7</sup>. Labour intensity in transformation remains low, the cost of salaries in the cost price of canned apricot preserves and apricots alone does not exceed 12%. Therefore the salary cost per ton exported of tinned apricots or olives is less than that of fresh products such as green beans or strawberries which are cost intensive at the time of harvesting. New investment in the sector is directed towards freezing and drying technologies and very little towards traditional preservation techniques. Such new technology provides many advantages which explains the investment in them. They are less sensitive to economies of scale and can handle a larger range of products. There are less technical restrictions on them in international trade, this is particularly the case for frozen goods. They correspond to current consumer preferences. The Moroccan experience shows quite clearly that such investment requires a minimum guarantee of funds.

92% of processed goods are intended for the European market (74% for France). This trend is a result of preferences granted to products traditionally exported by Morocco to the French market during different rounds of trade negotiations between Morocco and the EU in 1969 and 1976.

To summarize, it appears that the export chains for processed goods face two major internal problems. The first is that of restructuring the small and medium canning industry, which is not integrated at the lowest level. This restructuring would allow value added produced locally to increase significantly from its present low rate and would increase competitive pressure on those few companies which dominate each of the networks at present. The second relates to supply circuits, where the current informal nature discourages newcomers and therefore there is no competitive pressure on the enterprises which are already in operation.

#### Other exported products

Other products exported by Morocco are spices, essential oils and aromatic and medicinal plants. There has been a steep increase in demand for spices right up to 1993/1994, in particular for paprika and coriander on the American market. Essential oils have gone down in exports due to a drop in the competitiveness/price ratio. Aromatic and medicinal plants remain stable.

The organization of export chains for spices, particularly paprika and coriander, is very similar to that of other processed goods. The main difference relates to the export

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<sup>6</sup> Amongst these companies LUKUS (with Mac Cormick-USA and others) features as leader in the tomato and dehydrated products sector, SOMIA (with Koipe-Spain and Italy) which leads in the table olives sector, VCR (with Amora-France) which controls the gherkin sector and also participates in the caper sector, FRAMACO (with Tramier-France) leader in apricot production.

<sup>7</sup> A typical example: apricot pulp to make jam, apricot halves for fine pastries, olives in barrels, etc.

destination which is less likely to be the EU. In fact two thirds of Moroccan paprika has been sold over the last few years to the American market, and half the tonnage of coriander exported has been to the Japanese market. Morocco is therefore among the top worldwide exporters of powdered paprika behind Hungary and Spain and is in competition with the new producing countries such as Egypt or Sudan. It is also one of the top suppliers in the market of paprika oil resin in competition with South Africa, China, India and Egypt. Morocco is also the top worldwide exporter of coriander, even if performance has dropped greatly over the last few years. Spices are in general sold at an intermediate stage of preparation to an industrial user.

Export networks for essential oils (oil of rosemary, mint, myrtle, rose, orange, geranium, principally) are also characterized by a duality, between a small group of companies which are integrated at the bottom which dominate the market and a periphery of small and medium distillers who work essentially on the spot market as providers of primary products to European industrial manufacturing units. The salary cost in the cost prices of these products is amongst the highest, in the order of 40 %, with a value added which remains low. France accounts for 99% of sales of Moroccan essential oils. Moroccan products are often re-exported to other final users in the United Kingdom and in the USA, particularly. Morocco has only a small position on this market, compared to the large suppliers – which in general are large developing countries.

The networks for aromatic and medicinal plants (rosemary, thyme, sage, bay leaves, principally) are based on very simple technology (picking, sorting, storing), with cultivated plants – mainly vervain – being the exception. The salary cost is very high in terms of costs overall but the value of the goods is not high. Morocco exports principally to Europe – not only France. In general, on this market, Morocco is in competition with Turkey and Spain. A trend to diversify towards the American market has begun, particularly amongst Moroccan exporters of thyme.

For this group of products, trade preferences granted to Morocco within European trading agreements were in general similar to those of other exporting countries<sup>8</sup>.

To summarize, spices, oils and aromatic and medicinal plants as a group of products seems to have a potential for growth in produced value added and exported value through a better integration at the bottom. The major internal problem is probably its relatively weak profit margin, which reduces its attraction for investors. This poor profit margin is due in part to competition by other suppliers, but also to high financial costs, in a sector where storage costs and initial outlays are high.

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<sup>8</sup> Either through bilateral agreements – Turkey, Egypt -, or through the Lomé Convention provisions, or simply through cancellation of customs' duties on entry of these products which are considered to be primary products which are not in competition with local production for the large buying countries.

## ***Methodology***

The methodology decided upon to present these case studies is that of analysing the networks. This methodology is based on splitting the network up into main functions, from production to the market and on the identification of players and the relationships which link them in order to examine performances and the competitive capacity of the network.

### **Production**

At this level we are examining production zones, techniques and costs for different technical itineraries, as well as comparing performances between regions and type of producer.

### **Packaging**

This is the most crucial sector in agricultural exports. In fact it is at this stage that the product value is assigned. Price discrepancies of almost 25% with regard to a tomato which has been properly measured, which is uniform in colour, variety, and carries a well known brand name are easy to find according to operators in this sector.

### **Refrigeration**

This function has taken on enormous importance with the development of transport by road of exports in refrigerated lorries. In fact, prior refrigeration is an essential condition for proper conservation of the product transported by lorry.

### **Transport**

The principle modes of export are described, as well as their adaptation to different types of markets. In Morocco this function which was for many years the poorest logistical stage for Morocco's export of early fruit and vegetables, has been developing over recent years thanks to ratification of the International Road Traffic Transport Convention by Morocco and Spain, which has meant that it is now possible to travel through Spain without being stopped.

### **Trade**

Marketing of fruit and vegetables is done through commissioners, who work on the quay or at markets or through direct sales to buying houses and to supermarket chains.

### *Commissioners*

This is the main route for the sale of Moroccan goods. These dealers take consignments of merchandise and sell them for the consignees. They are paid on commission for their sales. The commission varies according to the place and conditions of sale. The figure is 8% of the amount paid in the case of sales to Rungis, to retailers and to large stores. On the quay the figure decreases to 5%<sup>9</sup>.

Consignment sales present a problem regarding guarantee of payment of receipts. The technique used by large operators is to obtain a bank deposit signed by a top bank which will guarantee that receipts will return to the home country and protects the exporter from going bankrupt or from being a victim of fraud. In fact, documentary credit procedures or guaranteed letters of credit would be impossible to implement during a consignment operation. The smaller exporters use the guarantee offered by the SWIFT network. They only send the merchandise once they have received a communication by SWIFT to their bank on a mutually agreed minimal amount. In fact the very small ones rely on banked cheques and trust. They are therefore in a less favourable position and are open to the most risk.

### *Buying houses*

This is the most dynamic distribution sector in those developed countries which are Morocco's customers for fresh goods. They are organised in accordance with modern distribution rules: zero level stock, tight flow, supply management carried out directly by the sales unit. They have developed two types of contracts for suppliers: (i) firm contracts, with a publicity campaign where costs are shared by both sides; (ii) supply to the wholesale fruit and vegetable market. These contracts are often mixed in order to reduce the price risk (share in the wholesale market) and the profit risk (share in the firm contract). This risk reduction strategy corroborates what operators in the sector claim when they say that selling by firm contract or by consignment is exactly the same. In fact it means that when a client on a firm contract is caught unawares by an unfavourable shift in prices, the seller must grant concessions in order to keep the client. Even where such price concessions are part of the rules, the real difference lies in European regulations. Using wholesale markets increases the risk of being blocked by the system of reference prices and the risk of setting off a countervailing tax procedure, whereas direct deliveries to buying houses and/or to large distribution centres reduces such a risk quite considerably. The other important aspect of direct liaison with a large distribution centre relates to possibilities of controlling production programmes.

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9 As the name would indicate, here it is a question of sales which arrive by boat: citrus fruit and early produce. Commissioners carry out auctions of the cargoes. To be more precise they decide with the principal on the quantity to be stored in refrigerators outside customs and the quantity to be placed on the market on a daily basis according to how the market is holding up and a possible countervailing tax applied to produce from Morocco.

### *Case study of tomatoes: growth by adaptation and investment*

The analysis of the tomato chain which follows below begins by examining its performance, before describing its current organisation and concluding what lessons are to be learned. To analyse its performance we will break it down into distinct periods according to different features relating to a structural transformation of the market situation. Examination of the current organisation of the network is made by reference to the methodology presented below. It is in terms of the network's capacity for adaptation to changes in its environment that lessons can be drawn.

#### Performance by different time-frames

The time-frames proposed show four phases in relation to conditions of access to the European market which remains the principal outlet volume-wise and the most remunerative one for Moroccan exporters. Regarded in this way there are four time-frames:

- The period before non-tariff European protection mechanisms were put in place in 1975 (reference prices)
- The period from 1975 to 1986 when Spain's integration into the European market transformed market conditions for tomatoes and transport conditions.
- The period from 1986 to 1995, the date when the Marrakesh agreements were signed with, as a consequence, a renegotiation of access conditions for tomatoes on the European market and
- The current period.

#### *Period from 1965-1975: deterioration in export prices*

At Independence (1956) Morocco "inherited" a market garden exports' sector which was completely integrated with the French market, with preferential market access which was restricted by quotas<sup>10</sup>. A public exports' office was created in 1965 with the aim of "Moroccanising" the agricultural exports' sector. During this period, production of tomatoes was essentially an open field production aimed at the French market and sent by boat, with minimal packaging and mediocre conservation conditions. The quality of the products and the price level reflected this to a great degree. Preferential access conditions were regulated by the French protocol and the European 1969 cooperation agreement which allowed a quota of 120 000 tons duty free in France annually. Table 2 shows a certain trend towards an increase in volume accompanied by a stagnation in FOB prices, indeed a backward movement.

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<sup>10</sup> This is to be found in a special protocol.

Table 2: Tomato Exports: 1967-75

Year	Quantity	Value	FOB price
	000 T	Million Dhs	Dhs/KG
1967	120	175	1,46
1968	104	144	1,38
1969	133	146	1,10
1970	140	180	1,29
1971	131	163	1,24
1972	120	179	1,49
1973	173	230	1,33
1974	146	183	1,25
1975	144	173	1,20

Source:[2] and [3]

*Period 1975-85: beginning of a repositioning in the top of the range market*

In 1975, at the instigation of the Netherlands, the CAP increased its scope to include early market produce and put in place a base level price in order to protect its growing production of greenhouse tomatoes. This mechanism allowed for the possibility of imposing countervailing taxes on imports which were below the so-called reference price. By lowering the level of reference prices during periods of high European production this system was to divert imports towards periods when there was low European production. In this context the cooperation agreement of 1976 with the European Union maintained the tariff advantages with France and also granted a 60% decrease in customs' duty for tomatoes of Moroccan origin with a calendar restriction.

Morocco was able to react to this thanks to a project to promote market garden agriculture for early produce (supported by the World Bank) in the southern zone of Casablanca, which stretches between Casa – Azemmour – El Jadida and Oualidia. This project, founded on the introduction of a radically new technical package, was to enable Morocco to return to the market garden export levels lost since the instigation of reference prices. The technical package included a greenhouse, hybrid tomato seeds and the development of appropriate manure. Marketing, technical assistance and management (financing plans, accountancy) was carried out by the Office for Marketing and Exports (OCE), a monopoly public enterprise with the responsibility for marketing early market garden produce, citrus fruit and tinned vegetable and animal produce in Morocco. Table 3 shows clearly performances achieved during this period. Despite a decrease in the quantities exported, the change in supply to a winter calendar meant that there was a better unit price. FOB unit prices tripled in 10 years whereas tonnage levels went down by about 20%.

Table 3: Tomato Exports: 1976-85

Year	Quantity	Value	FOB Price
	000 T	Million Dhs	Dhs/KG
1976	112	127	1,13
1977	112	115	1,03
1978	109	128	1,17
1979	105	253	2,41
1980	96	248	2,58
1981	91	228	2,51
1982	72	197	2,74
1983	70	233	3,33
1984	92	291	3,16
1985	94	323	3,44

Source:[2] and [3]

#### *1986-1996 : advantages and disadvantages of the integration of Spain into the European Union.*

In 1986 Spain became a full member of the European market. This crucial stage was to severely affect the development of the sector from two aspects.

- From a convenience point of view: the integration of Spanish production under the preferential community treatment package stimulated Spanish exports and put pressure on prices. Spain has doubled its share of the market whereas Morocco has seen its share reduced by half (cf. Graph 1 below). In order to take into account the risks of “diversion of traditional trade flows” an additional protocol to the agreement of 1976 was adopted by Morocco and the EU in 1988. In this protocol an entirely duty free quota of 86 000 tons was fixed for the winter tomato of Moroccan origin. The French quota was also maintained. This quota was raised to 96 208 tons in the framework of the revamped Mediterranean Policy in 1993/1994.
- From the advantage standpoint: in fact, Spain’s integration enabled the transit of refrigerated lorries carrying Moroccan produce which threw all the logistical supply in the sector into disarray. The refrigerated lorry, by comparison with boat travel, provided advantages on many levels. It allowed a better programming of consignments. It enabled a better commercial quality to be maintained. It did not cause any market swelling when it arrived as it had done when arriving by boat. It did not force producers to group together to arrange its transport as in the past, a practice which had had a prejudicial effect on payment for quality.

The global balance for Moroccan exports during this period remained positive (cf. Table 4). This was characterized by an increase in exports by 50% and by maintenance of unit prices at their lucrative level.

Table 4: Tomato Exports 1986-95

Year	Quantity	Value	FOB Price
	000 T	Million Dhs	Dhs/KG
1986	100	388	3,88
1987	105	457	4,35
1988	90	391	4,34
1989	104	286	2,75
1990	120	390	3,25
1991	134	468	3,49
1992	139	515	3,71
1993	162	492	3,04
1994	151	404	2,68
1995	156	612	3,92

Source: [3]

Growth of greenhouse production of 45 hectares in 1978/79 to 2000 was accompanied by a second technological revolution which took over from that begun by the introduction of the early produce project, this time based in the Agadir Region. These changes relate to:

- From a variety point of view, early tomatoes are characterized by the progression of the “Long Shelf Life and Assimilated” varieties, at the cost of traditional varieties which dominated the market up until 1989/90.
- Fertigation: since 1990, 37% of tomatoes kept under greenhouse shelters have been equipped with fertigation material. The export yield has considerably improved. By mid 1991 this had reached an average of 46 tons per hectare for greenhouse tomatoes in the Southern Region, 30 tons per hectare for greenhouse tomatoes in the Northern Region as against only 15 tons per hectare for open field tomatoes.
- Transport by refrigerated lorry: as in 1991, 102 000 tons were exported by lorry, that is 62% of all consignments.

Therefore between the beginning of the 1980s and the beginning of the 1990s, the network was completely restructured around new regions, new productions, new packaging and new logistical procedures. The capital necessary for this restructuring was increasingly provided from outside the agricultural sector. From that point also European capital was becoming involved in the sector and investing in so-called “partnership” operations.

*Period from 1995-1999: Competition becomes keener; the response of the Spanish producers.*

During the recent period the market has once again been overturned by the reforms of the CAP brought about through the signature of the Uruguay Round GATT Agreements on Agriculture. As far as tomatoes are concerned, there have been no substantial changes except for the reduction in customs duty of 25%. Customs duty is currently at 9.5% for

the winter tomato. As far as the protection mechanism of a base price is concerned, this was maintained designated as an entry price. Changes have been made to taxes levied on exports where prices are below the entry prices<sup>11</sup>. Preferential access conditions for Moroccan products have been reduced to a single community quota of 150 676 tons in the framework of the association agreement of 1996 (which came into effect in 1999). The agreement provided for a renewal of agricultural negotiations five years later “with a view to adopting additional and reciprocal measures for liberalisation of trade” (cf. [3]).

Moroccan exports have been able to grow since 1995 and 1999 benefitting from a promising market and from the weakness at that time of Spanish production (cf. Table 5). During the 1999/2000 season, this growth brought about the imposition of import licences on products of Moroccan origin, at the request of Spanish producers.

Table 5: Tomato Exports: 1995-99

Year	Quantity 000 T	Value Million Dhs	FOB Price Dhs/KG
1995	156	612	3,92
1996	153	719	4,70
1997	189	865	4,58
1998	238	1166	4,90
1999	230	1146	4,98

Source: [3] et [4]

### ***Current organisation of the chain***

The organisation of the fresh tomato chain is described in terms of the players involved below. It is growing and this can be seen by classifying the export marketing strategies.

The main players in the chain are:

- The producer
- The packaging site
- The Autonomous Establishment for the Control and Coordination of Exports (EACCE)
- Exports' Groups
- Atlas Fruit Board (AFB) with its two pools: Fresh Fruit Market (FFM) and Moroccan Fruit Board (MFB)
- Transporters (lorry, ship, plane)
- Foreign representatives
- Commissioners

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<sup>11</sup> For further details see [5].

### *Producers*

Here it is appropriate to note the difference between land ownership structures dominated by micro-property in the Northern Region and by the large and medium operations in the South. For cultivating early tomatoes: 79% of producers use a sheltered area of less than one hectare in the North and 24% in the South. Local irrigation equipment reaches 64% of surfaces in the South and 26% of surfaces in the North.

It is in fact in the South that most investment is to be found, both nationally and from abroad, particularly because of more favourable climate conditions, water quality and the availability of agricultural land.

Small producers sell their harvest to an exporting group which has a packaging site. The large ones can be divided in two groups: those which sell to many exporting groups and those which have followed a strategy of integration at the lower level and have their own packaging site.

### *Packaging and wrapping sites*

Packaging and wrapping sites provide technical services related to packaging and wrapping and designed to conserve the quality of the product and to improve its market value. These sites also play an important role in terms of liaison between producers and different players in the exports process: they are also a source of information for producers.

The packaging sites usually have a primary sorting table, a brushing machine, a grading and packaging belt, a weighing machine and also an elevator containing some other small items for packaging. Because of the seasonal nature of their job, these sites are closed during the times of the year when they are not needed or sometimes they are used as warehouses. The workers are seasonal and mostly women, who are paid by the hour worked. The rate of pay for services provided by packaging sites is in the order of 0.80 DH/kg.

### *Export groups*

Apart from defending the interests of associate members the role of these groups is to group consignments together under a single marketing strategy. These groups ensure the provision of services particularly as far as logistics and transit and this is for the benefit of the sites to which they are affiliated. Pay for these services is taken from the sale price (0.12 DH/kg).

With the disappearance of the monopoly of the OCE, all these groups has put in place a board under the name of the Atlas Fruit Board (AFB). It was at first to ensure the logistics were in place by guaranteeing transport, particularly maritime transport: quantities handled were sufficiently important to benefit from economies of scale and to propose profitable transport rates to exporters. The AFB also had a trading role in

countries outside the EU. At present the AFB continues to ensure the transit and logistics for operators which desire it but its objective of a common marketing strategy of products on so-called contract markets has been abandoned.

Since 1997/98 the groups have united around two poles which came out of the Atlas Fruit Board: the FFM made up of four groups (Delassus, Agrissous, GPA and Sogecap) and the MFB made up of six groups (Royal Domains, la Sodea, L'OCE, Salam, Primatlas and GAB). We should point out that the Office for Marketing and Exports (OCE), which held the monopoly for exports of fruit and vegetables up to 1986/87 now acts as an exporting group on the same level as the other groups or private companies.

#### *The Autonomous Establishment for the Control and Coordination of Exports (EACCE)*

The EACCE is a public establishment under the aegis of the Ministry of Agriculture which is responsible for ensuring a qualitative and quantitative follow-up of exports of fruit and vegetables. Following the liberalisation of external trade, the EACCE is acting in a framework organised for the regulation of Moroccan exports of fruit and vegetables. This regulation is both qualitative and quantitative and has for its goal the prevention of effects which would be prejudicial to Moroccan operators and which could be translated into price decreases able to set off the system of tariff equivalents with all the adverse effects that would have on the profitability and the competitiveness of Moroccan exporters.

The main activities of the EACCE are related to:

- Norms which will define minimal rules for quality and presentation;
- Preparation, application and control of regulations relating to norms;
- Control and advice for production and packaging;
- Coordination of exports' activities in relation to supply to the market;
- Action abroad to promote Moroccan goods

The role of control is carried out at ports when tomatoes are sent by boat and at the packaging sites where they are sent by road transport. Representatives of EACCE on the main European markets assist with monitoring of consignments from Morocco and disseminate regular information on the condition of the goods when they arrive and on the market situation.

#### *Transport and logistics*

Transport and logistics continue to be important factors for the development of the network. In exports the problem of transport and logistics has often been quoted as a factor blocking access to new markets, indeed the preservation of existing markets. The contribution of this link in the promotion of exports can be seen through the two following points:

- The quality of the service
- The cost of the service and its share in the global cost of the product.

The quality of transport and logistics services can be appraised through the frequency, the simplicity of procedures, the speed of transit of the goods, the paperwork required and information requested.

The transport chain for tomatoes comprises the following categories:

- An internal road traffic element using private vehicles belonging to producers or hired from transporters. These vehicles transport the farm tomato right to the packaging site and from there (after processing) right to the port (if the product is being exported by sea).
- The Transport International Routier (TIR) which is characterized by an increased level of French and Spanish transporters; these last have very much strengthened their presence since the signature of agreements on the transit of agricultural products by road. In fact, the development of tomato exports has had a direct effect on the activities of Spanish refrigeration transporters because of the importance of the International Saint Charles Market in Perpignan as an advantageous place to land for transit via Spain. Let us note also that the TIR in Morocco transports in part by sea.
- Maritime transport in which there is a public sector and private operators. Next to the COMANAV (Moroccan Navigation Company), some private shipping companies are specialised in the area of citrus fruit and early market garden produce and have focused on creating regular crossings.
- Air transport of merchandise which has developed primarily as a subsidiary activity to passenger transport. Air transport by cargo plane has developed with the evolution of exports of perishable products and constraints on capacities on passenger aeroplanes. The use of this type of transport for exports for tomatoes is, however, very small in comparison with other means of transport because of the high tariffs despite subsidies on some markets (from 1 to 4,50 DH/kg).

As far as the significance of each type of transport in tomato exports is concerned the following table shows the growth in tonnage exported by each of the three types of transport used for consignments from Souss Massa. It shows that air transport is barely used for exporting tomatoes. The evolution over the last four seasons shows also that use of lorries has increased with an annual average growth of 34% at a time when consignments by boat have gone down by 12% annually on average. At present more than  $\frac{3}{4}$  of tomato exports from the Souss Massa district are sent by lorry (cf. Table 6, below).

Table 6: Moroccan Tomato Exports by type of transport – Souss Region

Season	Boat	%	Lorry	%	Plane	%	Total
94/95	60 110	50,5%	58 840	49,4%	174	0,1%	119 124
95/96	48 246	38,0%	76 384	60,2%	2 270	1,8%	126 901
96/97	33 138	24,1%	103 882	75,6%	387	0,3%	137 407
97/98	41 537	22,6%	141 872	77,2%	435	0,2%	183 843

### *Integration and Marketing*

The marketing aspect cannot be analysed simply by the level of integration of the preceding activities. In fact, marketing strategies vary often according to risk profiles and the degree of quality control. These two parameters depend a great deal on the level of integration. Looking at matters from this aspect we can define three types of operators in the chain. We will present them below before looking at marketing strategies.

Traditional operators which are not integrated: sales on commission

This sector is made up of small and medium producers grouped into small cooperatives in the framework of the “early produce” project. Logistics, supply of inputs and marketing is carried out by exporting groups (OCE, COVEM, Royal Domains, etc.). The packaging sites here are amongst the most obsolete and do not meet needs in terms of quality of the major markets. Management of quality and quantity remains random and the capacity for programming is weak. In these conditions marketing is carried out by commissioners.

Operators beginning to integrate: a mixed strategy

This sector is structured around packaging sites which are modern and well-equipped. It is made up either of medium wholesale producers who have formed cooperatives which are beginning to integrate and which reduce the costs of their site by working on account (Agri-Souss, Salam, Sodea), or service providers which invest in improving their tools so that they can remain within the profession (OCE-Socamar, Necomi). Marketing in this group is based on a better management of quality and volumes. It operates using marketing strategies that are mixed (commissioners, direct sales), depending on the market situation.

Integrated operators: strategies of top of the range brands

This is characterized by integration at the top and bottom levels. Usually it is made up of large producers, which have a high performing packaging site in order to gain best value from their produce and who wish to have a top level brand. This group includes companies in partnership or large Moroccan enterprises. At the bottom level they have either their own marketing network and/or that of their partners. They have greater control of exporting quality and quantity and are considered to be a reliable source for large-scale distribution. They have marketing representatives.

Some Moroccan groups have developed a commercial representation in their main markets. The main role of these marketing bureaux is to follow the trend of the market, to follow consignments which have been sent and quality on arrival and most of all to seek to promote direct marketing to the large buying houses and supermarkets.

Lessons to be learned: capacity for adaptation, organisation, competition.

Since the 1960s the tomato has always been a source of currency for Morocco and a remunerative crop for farmers. Moroccan exports which have been affected by constraints imposed by the European common market at the beginning of the 1970s and by an over-valuation of the rate of exchange at the time have gone down significantly in volume from 175 thousand tons in 1973 to 70 thousand tons in 1983 (this includes all export markets). Moroccan exports have been obliged to modify their crop systems in order to take into account the calendar imposed on tomato imports by the European Common Market in order to protect local producers. Some exporters have therefore been obliged to go from an open field crop to a greenhouse crop. This last required rather considerable investment for small farmers who have continued to produce open field tomatoes. Large farmers (old or new investors) have moved towards greenhouse crops and have adapted gradually to the needs of markets, particularly European ones. Furthermore, the Moroccan authorities, conscience of the problem of a decrease in exports generally have, since the 1980s, adopted a series of measures such as lowering exchange rates, devaluing the dirham and providing assistance for modernization and marketing on foreign markets. These elements explain in part the upturn in growth of exports of tomatoes since 1984 which were over 220 thousand tons in 1997/98 with an average of 176 thousand tons over the last five seasons.

However, growth in the sector remains dependent on protectionist measures on the main market which is the EU and also there is the issue of competition between Morocco and Spain on the one hand and other Moroccan exporters on the other.

### *Study of the strawberries' sector: growth through competitiveness*

The study of the tomato market illustrates the case of a “mature” chain in which competition is achieved through exporting significant volumes but also where the chain is sensitive and affected by a number of competitive and protectionist measures.

The strawberry export market is different to the tomato market on many points:

- It is a small market which is expanding rapidly, subject to non-restrictive protection regimes (there is no base price or quota system).
- The Moroccan position on this market is based on a competitive advantage which is much more significant than in the case of tomatoes.
- It is a chain which has been formed out of the relocation of Spanish production
- The profession is not organised enough to deal with problems in the chain.

One of the interesting facts to be found in analysing the case of strawberries is that this chain is representative of a certain number of other products which share some of the same characteristics. Comparisons can most readily be drawn with melons and asparagus. Both crops are, like strawberries, labour intensive and intensive in terms of earliness of season. Like strawberries they are protected by simple customs duties with exemption on the winter calendar for Morocco. As in the case of strawberries, the European market leader is Spain.

#### Performance

Strawberry production in Morocco has grown in a spectacular manner since the beginning of the 1990s, going up from 3000 to 30 000 tons in 1994, of which 17 000 was exported fresh or frozen. The surface cultivated has reached 1000 hectares and yield varies between 30 and 50 tons per hectare. The area of Loukkos is the main area of production: attempts can be seen to extend towards the South in order to supply strawberries earlier in the year. The spectacular growth of the Moroccan share of the market on the European market shows the real boom in the sector during the 1990s.

#### Production costs

Competitiveness measured in terms of agricultural costs is the main factor which explains export performances. In a study carried out in 1995 the difference between Moroccan agricultural costs and Spanish costs rose to about 3 Dhs/kg (cf. Table 7).

Table 7: Strawberries: agricultural costs in Morocco and in Spain

Components of the Agricultural cost	Spain in dhs/kg	Morocco In dhs/kg
Costs for upkeep and harvesting	3,08	0,82
Other costs	0,56	0,14
Rent	0,19	0,15
Irrigation	0,09	0,06
Micro-tunnels	0,48	0,67
Plants	0,97	1,28
Maintenance Products	0,39	0,20
Other	1,15	0,74
<b>Total</b>	<b>6,92</b>	<b>4,05</b>

Source:[5]

### Conditions of Access to European strawberry markets<sup>12</sup>

Before 1995 Moroccan exporters benefitted from a tariff advantage of 14% on the EU market, from September to 30 April, with regard to American, Colombian or Mexican competitors. On the Swedish market duty was nil up to 31 May whereas on the Austrian market Spanish competition was taxed. Morocco's export strategy consisted in exploiting to the maximum the advantages in the Union by delivering strawberries to Perpignan in consignments right up to the end of the month of April; then moving on to non-EU member countries for the period from April to May where its merchandise was subject to the same conditions as that of the Spanish competition.

Since 1996 the tariff advantage to the exporter has been progressively reduced to 11,2% on the European market to the profit of American, Colombian and Mexican producers particularly, because of the Marrakesh Agreement. Furthermore, access conditions on Swedish and Austrian markets have disappeared to the profit of Spanish production because of the enlargement of the European Union. Finally, Spanish products can be moved quicker and more cheaply through the Single Market Area, which makes their products more competitive. In this new context, the strategy of the past, which relies on a certain complementarity between the Union markets and those outside is no longer the best one.

### Current organization of the chain

The organisation of the strawberry chain is simpler than the tomato chain.

The main actors in the chain are:

- Producers
- Exporters

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<sup>12</sup> Cf. [5].

- Transporters (lorries)
- Commissioners

### *Producers*

Here we can distinguish two categories of producers: small ones which sell their produce to an exporter and large ones which pursue an integration policy at the lowest levels and have their own packaging sites.

The production technology is micro-tunnels with mulching made of black plastic and fertigation. Technology transfer between large and small producers is made through on the job training of small farmers who have worked on large farms. An expansion trend towards young entrepreneurs with a technical training can be seen.

### *Packaging*

This is provided directly by exporters. Packaging techniques are identical: strawberries in 250 gram punnets on the spot, covering, weighing and placing on cardboard trays at the site, coldroom storage.

### *Transport*

Transport is made exclusively in refrigerated lorry since 1986. Before the opening of transit possibilities through Spain minimal quantities of strawberries were exported by air.

### *Marketing*

The marketing of strawberries is developed in two ways: by commissioners operating on the Perpignan market or by transfers within Spanish companies which have relocated a part of their production. In the latter case strawberries of Moroccan origin are incorporated into the sales strategies of investors.

## **Lessons to be learned**

The strawberry chain has begun from sound foundations: a serious competitive advantage, partnership investments, growth in market shares. The experience of the past three years reveals, however, a certain number of problems linked to the fall in the rate due to excess seasonal production and by competition between producers. This is a classic scenario for a non-organised chain which is not integrated into the marketing circuit.

***Lessons to be drawn from the two models of export growth.***

The matrix below summarises the two growth models for the agricultural exports examined above.

The first relates to a chain which from a position of a small inherent advantage, has succeeded thanks to successful internal organization, to modernization investments and to partnership with the administration in order to benefit from the advantages of being located close to a major market. The regional intensity of production (in Souss) has been a major factor in reducing logistic costs and an attraction factor for foreign investors. The chain thus constituted has proved to be sufficiently solid to compete against massive European production.

The second model is more traditional. It is based on a competitive advantage in terms of labour costs. Growth in this model takes place outside all public intervention. The contribution of foreign investors has been critical and the mechanisms for disseminating technology have worked in an informal manner. The regional intensity of production (in Loukkos) has wrought the same positive effects as in the tomato model.

Development factors	Tomatoes	Strawberries
Introduction of the crop	Public project	Following the liberalization of external trade and opening up of transit possibilities
Access conditions for the European market	Concessions based on a calendar and with quotas	Concessions based on a calendar
Technological innovations	Public bodies and private operators	Exclusively private operators, particularly foreigners
Factors relating to competitiveness	Largely natural: early season, quality Organizational: integration	Production costs reduced by cost of labour
Internal organization of the chain	Highly developed	Non-existent
Marketing	Organized by groups	Not organized by producers
Prospects	Risks of strict quotas	Risk of seasonal over-production

What stands out from the whole is that it is possible to begin growth driven by agricultural exports from a varied starting point in terms of advantages (concessions, natural advantages, costs, etc.). These advantages are by definition temporary and subject to a more or less rapid rate of obsolescence. Therefore it is crucial to see the growth potential in terms of the capacity for internal organisation, investment and attraction to foreign investors. Without those conditions met, it would be difficult to produce sustainable sources of growth from agricultural exports.

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