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Small and Medium Enterprise Development Authority

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TABLE OF CONTENTS

1	INTRODUCTION	7
2	INHERENT CHARACTERISTICS OF HORTICULTURE	11
2.1	PERISHABILITY	11
2.2	SEASONALITY	11
2.3	QUALITY	11
2.4	SMALL AND MEDIUM SCALE PRODUCTION	11
3	WORLD HORTICULTURE MARKET	13
3.1	FRUIT AND VEGETABLES	14
3.2	FRUIT AND VEGETABLE JUICES	19
3.3	CUT FLOWERS	21
3.4	BULBS AND ORNAMENTAL LIVE PLANTS	23
3.5	SPICES AND PEPPER	25
3.6	HORTICULTURE EXPORTS OF PAKISTAN	27
4	HORTICULTURE SUPPLY CHAIN	29
4.1	CONSTRAINTS OF GROWERS	30
4.1.1	<i>Lack of infrastructure</i>	30
4.1.2	<i>Lack of credit for farm inputs</i>	30
4.1.3	<i>Advance sales</i>	30
4.1.4	<i>Low yields</i>	30
4.1.5	<i>Weak linkages with processors and exporters</i>	31
4.1.6	<i>Absence of specialised research organisations</i>	31
4.2	CONSTRAINTS OF EXPORTERS	31
4.2.1	<i>Highly Skewed Production</i>	31
4.2.2	<i>Lack of quality processing and packing</i>	31
4.2.3	<i>Weak marketing</i>	32
4.2.4	<i>Limited availability of working capital</i>	32
4.2.5	<i>Ruthless competition among exporters</i>	32

4.2.6	<i>Lack of standardisation</i> -----	32
4.3	INFRASTRUCTURE CONSTRAINTS-----	33
4.3.1	<i>Absence of cold chain and limited cold storage facilities</i> -----	33
4.3.2	<i>Limited and expensive refrigerated transport facilities</i> -----	33
4.3.3	<i>Limited air cargo space</i> -----	33
4.3.4	<i>Limited availability of inland transport</i> -----	34
5	STRATEGY FOR EXPORTS -----	35
6	ESTABLISHMENT OF COLD CHAIN INFRASTRUCTURE -----	36
6.1	REDUCTION IN POST-HARVEST LOSSES -----	36
6.2	MARKET PRICE EQUILIBRIUM -----	37
6.3	FAIR REWARD TO FARMERS-----	38
6.4	BETTER EXPORT QUALITY -----	38
6.5	PREVENT EXPORT DUMPING-----	40
6.6	EXTENSION IN EXPORT PORTFOLIO -----	40
6.7	IMPROVEMENT IN HYGIENIC CONDITIONS OF WHOLESALE MARKETS -----	40
6.8	TARGET TIME WINDOWS -----	40
7	TARGETS -----	42
7.1	"THREE V STRATEGY"-----	45
7.1.1	<i>Volume</i> -----	46
7.1.2	<i>Value</i> -----	46
7.1.3	<i>Variety</i> -----	46
8	REQUIRED INVESTMENT -----	47
9	REQUIRED MEASURES -----	51
9.1	IMMEDIATE MEASURES-----	51
9.1.1	<i>Pakistan Railways</i> -----	51
9.1.2	<i>Pakistan International Airlines</i> -----	52
9.1.3	<i>Civil Aviation Authority</i> -----	53

9.1.4	<i>Pakistan National Shipping Corporation</i>	54
9.1.5	<i>Export Promotion Bureau</i>	54
9.1.6	<i>Ministry of Commerce and Export Promotion Bureau</i>	55
9.1.7	<i>State Bank of Pakistan</i>	55
9.1.8	<i>Central Board of Revenue</i>	56
9.2	SHORT TERM MEASURES	57
9.2.1	<i>Horticulture Export Board</i>	57
9.2.2	<i>Cold chain infrastructure</i>	57
9.2.3	<i>Quality standards</i>	57
9.2.4	<i>Consolidation of export data</i>	58
9.2.5	<i>Insurance</i>	58
9.3	MEDIUM TERM MEASURES	58
9.3.1	<i>Quality standards</i>	58
9.3.2	<i>Horticulture extension services</i>	59
9.3.3	<i>Quality assurance laboratories</i>	59
9.3.4	<i>Marketing</i>	60
9.3.5	<i>Farmer co-operatives</i>	60
10	HORTICULTURE EXPORT BOARD	61
10.1	OBJECTIVE	61
10.2	ORGANISATIONAL DESCRIPTION	62
10.3	CO-ORDINATION OF ACTIVITIES	63
10.4	FUNCTIONS	64
10.4.1	<i>Marketing</i>	64
10.4.2	<i>Regulation</i>	64
10.4.3	<i>Monitoring</i>	65
10.4.4	<i>Quality</i>	65
10.4.5	<i>Support services</i>	65
10.5	FINANCING	66
10.5.1	<i>Seed money from EPB</i>	66
10.5.2	<i>Export Development Fund</i>	66

10.5.3	<i>Membership fee</i>	66
10.5.4	<i>Quality certification fee</i>	66
10.5.5	<i>Royalty for the use of brand name</i>	67
10.5.6	<i>Fee for consultation services</i>	67
11	WORLD TRADE ORGANIZATION AND HORTICULTURE	69
11.1	BACKGROUND	69
11.2	AGREEMENT ON HORTICULTURE	70
11.3	OBJECTIVE OF AGREEMENT	72
11.4	SCOPE	72
11.5	POSSIBLE IMPACTS ON PAKISTAN HORTICULTURE SECTOR	72
11.5.1	<i>Reduction in subsidies</i>	72
11.5.2	<i>Horticulture Export Board and WTO</i>	74
11.5.3	<i>Non-tariff barriers</i>	75
11.5.4	<i>Food standards</i>	75
11.5.5	<i>Agreement on Technical Barriers to Trade (TBT)</i>	75

INDEX OF TABLES

TABLE 1.1 SITC CODES FOR HORTICULTURE PRODUCTS.....	7
TABLE 1.2 FARM GATE VALUE OF PAKISTAN FRUITS IN 1998-99	8
TABLE 1.3 FARM GATE VALUE OF PAKISTAN VEGETABLES IN 1998-99	8
TABLE 1.4 PAKISTAN HORTICULTURE EXPORTS	10
TABLE 3.1 WORLD HORTICULTURE MARKET 1998.....	13
TABLE 3.2 WORLD FRUITS AND VEGETABLES MARKET.....	14
TABLE 3.3 TOP FIVE FRUIT IMPORTING COUNTRIES (1998).....	16
TABLE 3.4 TOP FIVE FRUIT EXPORTING COUNTRIES (1998).....	16
TABLE 3.5 TOP FIVE VEGETABLE IMPORTING COUNTRIES (1998)	18
TABLE 3.6 TOP FIVE JUICE IMPORTING COUNTRIES (1998).....	20
TABLE 3.7 TOP FIVE JUICE EXPORTING COUNTRIES (1998)	20
TABLE 3.8 HORTICULTURE EXPORTS OF PAKISTAN	27
TABLE 6.1 PAKISTAN VEGETABLE EXPORTS REGIONAL PRICE COMPARISON FOR 1997	38
TABLE 6.2 PAKISTAN FRUITS EXPORTS REGIONAL PRICE COMPARISON (1997).....	39
TABLE 7.1 TARGETS FOR FRUIT EXPORTS	43
TABLE 7.2 TARGETS FOR VEGETABLE EXPORTS	43
TABLE 7.3 PAKISTAN FRUIT EXPORT POTENTIAL.....	44
TABLE 7.4 PAKISTAN VEGETABLE EXPORT POTENTIAL	45
TABLE 8.1 BREAK-UP OF REQUIRED INVESTMENT	47
TABLE 8.2 TOTAL INVESTMENT BREAK-UP	49
TABLE 8.3 TIMELINE OF REQUIRED INVESTMENT.....	50
TABLE 10.1 SOURCES OF FINANCING OF HEB	67
TABLE 11.1 IMPLEMENTATION PERIOD OF AGREEMENT	70
TABLE 11.2 EU HORTICULTURE SUBSIDIES (1998).....	73
TABLE 11.3 FARM GATE PRICES IN EU	73

1 INTRODUCTION

Pakistan is blessed with vast agricultural resources on account of its fertile land, well-irrigated plains, extremes of weather, and centuries old tradition of farming. Agriculture sector holds a very important position in the economy of Pakistan as it accounts for nearly one-fourth of the total GDP* (slightly above 25%), employs nearly 44% of labour force in the country and is the main source of foreign exchange earnings.

Horticulture is a sub-sector of agriculture that includes fresh, processed and canned fruits and vegetables, vegetable roots, tubers and other edible vegetable products, fruit and vegetable juices, herbs, spices and flowers. Standard Industrial Trade Classification (SITC) codes alongwith product description of horticulture products is given in Table 1.1:

Table 1.1 SITC Codes for Horticulture Products

SITC Code	Products
054	Vegetables; roots & other edible vegetable products.
056	Vegetables, roots, tubers, prepared, preserved.
057	Fruits and nuts (excluding oil nuts), fresh or dried.
058	Fruit, preserved, and fruit preparations (no juice).
059	Fruit and vegetable juices, unfermented, no spirit.
075	Spices.
2926	Bulbs, tubers, rhizomes of flowering; cuttings, slips.
2927	Cut flowers and foliage.

Pakistan is one of the few countries of the world where fruits grown in cool temperate climate (apples, plums, pears, cherries), warm temperate (apricots, grapes, pomegranates and melon), and subtropical climate (citrus, mango, banana, dates and guava) are available. We produce premium quality mangoes, kinnow and dates that have a large global market. The varieties and taste of Pakistan's mango and citrus lend themselves to marvellous marketing opportunity. Total production value of fruits and vegetables of Pakistan is outlined in Table 1.2 and Table 1.3.

* Economic Survey of Pakistan 1999-2000

Table 1.2 Farm Gate Value of Pakistan Fruits in 1998-99

	Rs. Million
Apple	9,135
Citrus	8,454
Mango	7,863
Dates	1,557
Banana	631
Others	20,509
Total Fruits	48,149

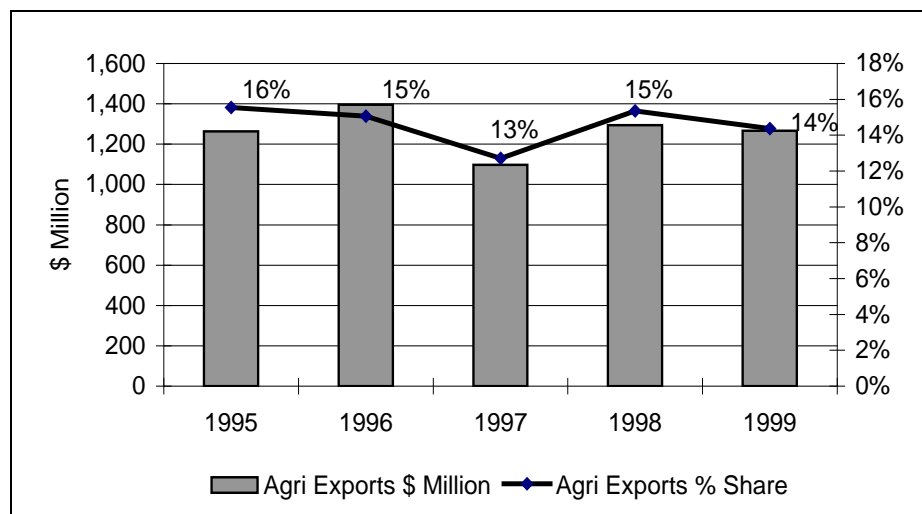
Table 1.3 Farm Gate Value of Pakistan Vegetables in 1998-99

	Rs. Million
Potato	9,336
Onion	5,991
Chillies	4,767
Tomato	4,063
Other condiments	4,314
Other vegetables	17,814
Total Vegetable	46,284

Source: Agricultural Statistics of Pakistan 1998-99

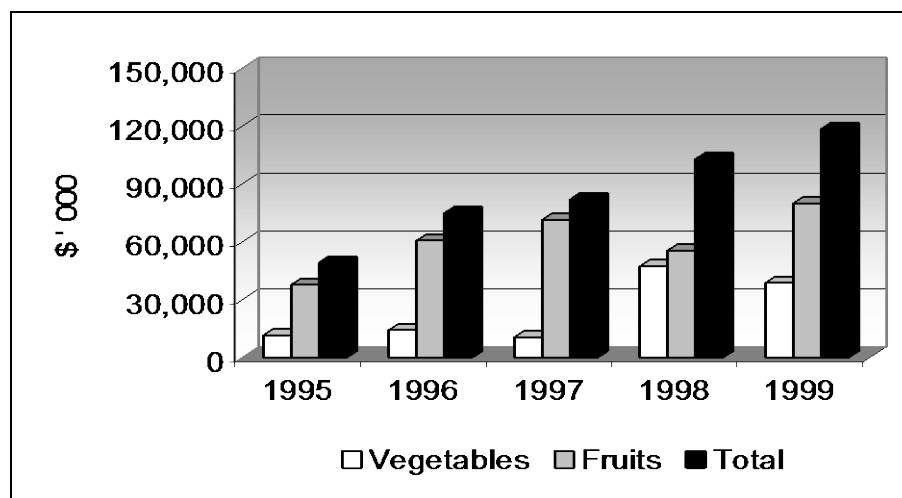
The production value of fruits and vegetables totalled to Rs. 94,433 million. Among fruits, major share comes from apple, citrus and mango and in case of vegetables; potato, onions, chillies and tomato are the major contributors.

The export trend of agriculture sector is outlined in Figure 1.1 below:

Figure 1.1 Agriculture Exports of Pakistan with Share in Total Exports

Source: Federal Bureau of Statistics

The share of agricultural exports in total exports of Pakistan has been fluctuating at around 14% for the last six years. There has been no substantial change but only slight movements of a few points. The export trend of horticulture products is shown in Figure 1.2 below:

Figure 1.2 Pakistan Horticulture Exports (1995-1999)

Source: Federal Bureau of Statistics

Horticulture export sector over the last five years has shown a lot of progress. Between 1995-99, the annual growth rate of horticulture exports has been around 33%. This growth has come

without any significant supporting measures by the Government and despite the problems of the stakeholders. Pakistan has been exporting fruits and vegetables for more than 20 years, especially to regional countries, the Middle East and some European Countries. Pakistani fruits, especially mangoes and citrus, have become internationally acceptable for their taste. Other fruits, which are exported, include apple, pear, apricot, melon, plum, berries and prunes. Pakistan also produces a wide range of vegetables, major products include potatoes, onions, tomatoes, peas, beans, okra, turnips and brinjals (aubergine). However, such high growth of more than 30% is not expected to continue in the coming years unless adequate steps are taken to promote the horticulture exports. A detail of horticulture exports of Pakistan is given in Table 1.4 below.

Table 1.4 Pakistan Horticulture Exports

	1995	1996	1997	1998-99	1999-00
	Value US \$ ' 000				
Vegetables	11,551	14,292	10,569	47,336	38,632
Fruits	37,727	60,711	71,448	55,527	79,873
Total	49,278	75,003	82,017	102,863	118,505

The higher growth has been achieved in the past, as we had started from a very low level. Especially the vegetable exports, which were \$11.5 million in 1995, grew to more than \$ 38.6 million (more than 300% increase) in 1999-00.

Although nature has bestowed us with such a high quality and multiple varieties of fruits and vegetables, we have not been able to benefit from the export potential. Because of sheer ignorance, horticulture production, quality and variety are all suffering. Thousands of tons of production are being wasted each year because of the absence of required infrastructure. In many cases, upto 40% of the produce is wasted in pre & post harvest losses. If some percentage of these losses is saved the same can be exported.

2 INHERENT CHARACTERISTICS OF HORTICULTURE

Horticulture has its own set of characteristics and requires a unique export strategy as compared to any other agricultural or non-agricultural product. Some significant characteristics of horticulture are as under:

2.1 Perishability

Almost all horticulture products are highly perishable in nature and have a very limited shelf life. They can not be stored for a longer period unless they are properly harvested and kept in a temperature-controlled environment (cold storage). Cold storage facilities are not available in the country that results in very high post harvest losses. According to estimates, these losses are as high as 40% in some cases and average at 25% of the total horticulture production. This means that one-fourth of Pakistan's horticulture production never reaches any consumer.

2.2 Seasonality

Most of the horticulture products are not available all year round rather are subject to specific availability seasons. The availability season of any one horticulture product varies among different varieties and different geographic locations. For example, mango is available in Punjab from 1st week of May till mid of August while in Sindh, it becomes available in 2nd week of April till last week of August. Mango is not available in Pakistan other than these time periods.

2.3 Quality

The quality of horticulture produce is a combination of agronomic practices, variety characteristics, grading, processing and finally packaging. The absence of even a single factor makes the product inferior in quality and thus less acceptable in international markets.

2.4 Small and Medium Scale Production

Small and medium scale producers dominate horticulture production in Pakistan. In particular, vegetable farmers are mostly small-scale producers and among the orchard owners are both small-sized and medium-sized producers. Pakistan has not been to supply to buyers of fresh

produce, looking for bulk purchases and uniform quality, as horticulture farmers are of small and medium scale.

3 WORLD HORTICULTURE MARKET

There is a large horticulture export market and Pakistan though an agricultural economy is only marginally present in this market. The size of the global horticulture market is given in Table 3.1 as follows:

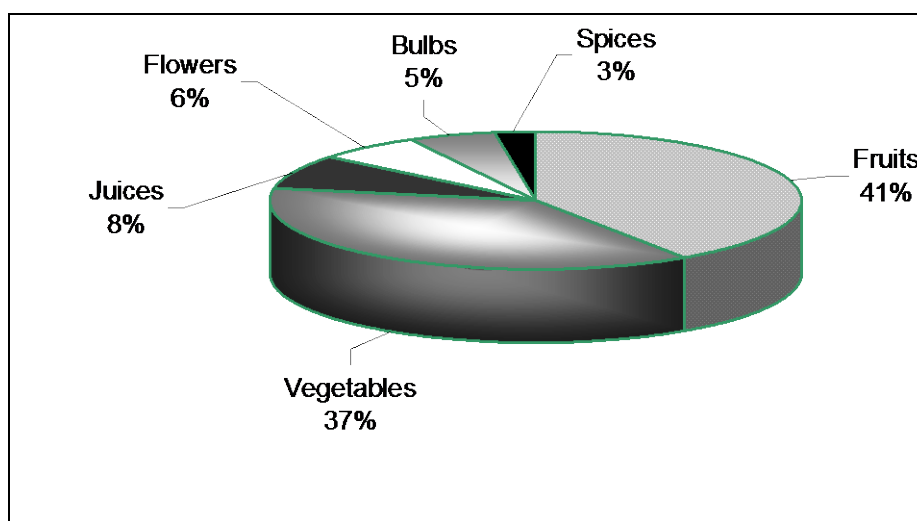
Table 3.1 World Horticulture Market 1998

Product	\$ Billion
Fruits	31
Vegetables	29
Fruit & Vegetable Juices	6
Cut flowers & foliage	5
Bulbs	4
Spices	2
Total	77

Source: International Trade Centre

Out of a total world horticulture import market of \$ 77 billion in 1998, the fruit and vegetable segments constituted a \$60 billion market while fruit and vegetable juices contributed \$6 billion. Cut flowers market accounted for \$5 billion, bulbs contributed \$4 billion while spices had a share of \$2 billion. Percentage shares of these product categories are presented in Figure 3.1:

Figure 3.1 World Horticulture Market Break-up (Value 1998)



Fruits have taken the lead with a 41% share and vegetables follow this with a 37% share while fruits and vegetable juices contributed another 8%. Thus together fruits and vegetables make a major component (86%) of the horticulture market. This is followed by flowers at 6%, then bulbs at 5% and finally smallest share of spices at 3%. Each of these segments are discussed in detail as follows:

3.1 Fruit and Vegetables

Export trend of world fruits and vegetables market is given in Table 3.2:

Table 3.2 World Fruits and Vegetables Market

Exports	1995	1996	1997	1998
Product	\$ Billion			
Vegetables	19.7	19.3	18.4	19.0
Vegetable Prep	10.3	10.0	9.7	9.8
Fruits, Nuts	24.6	25.7	26.9	25.3
Fruit Prep	5.8	6.2	5.9	5.9
Juices	5.7	6.3	5.5	6.0
Total Fruits & Vegetables	66.1	67.5	66.4	66.0

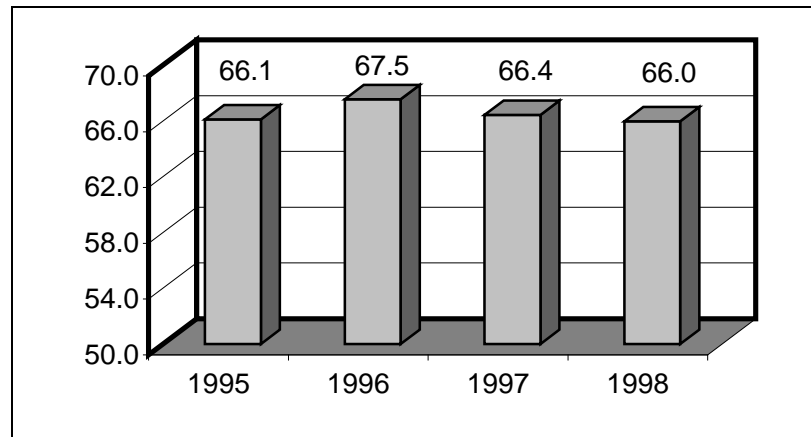
Source: International Trade Centre

Total fruits and vegetables market has not shown any significant growth between 1995 and 1998 as it has fluctuated at nearly \$66 billion between 1995 and 1998. Pakistan's meagre share in this market was US \$ 103 million in the year 1998-99 that means a share of 0.134%. Despite the immense potential, we have not been able to become a significant player in this market.

Within fruits and vegetables, fresh fruits and nuts have dominated the trade with a share of \$25.3 billion in the year 1998. Fresh vegetables that had a share of \$19 billion follow this. Then we had vegetables prepared at \$9.8 billion, juices of fruits and vegetables at \$6 billion and finally fruits prepared at \$ 5.9 billion.

World market trend of fruits and vegetables is given in Figure 3.2.

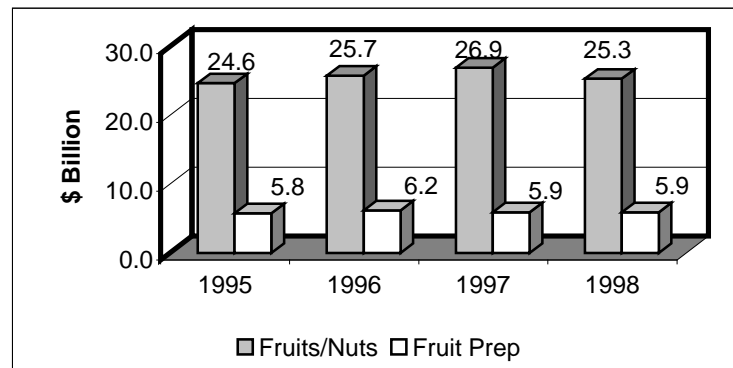
Figure 3.2 World Fruits and Vegetables Market



Source: International Trade Centre

World fruits and vegetable market has not shown any growth between 1995 and 1998, as it has remained more or less at the same level of \$66 billion. Trade trend in each sub-category has been illustrated in form of figures as follows:

Figure 3.3 World Fruits Market



Source: International Trade Centre

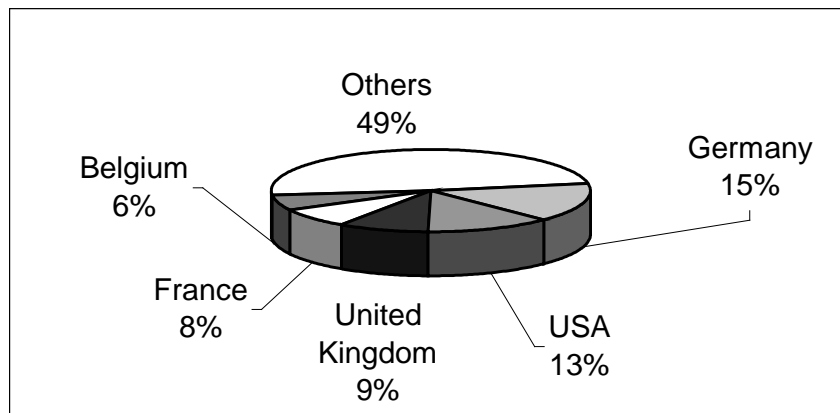
World fruits import market has remained stagnant for both fresh fruits and fruit preparations between 1995 and 1998 with world import market of \$31 billion. Top five fruits importing countries are given in Table 3.3:

Table 3.3 Top Five Fruit Importing Countries (1998)

Importers	Value \$ Million
Germany	4,727
USA	3,971
UK	2,911
France	2,393
Belgium	1,845
Others	15,233
Total	31,080

Source: International Trade Centre

Germany is the largest importer of fruits with its imports totalling \$4.7 billion in the year 1998. USA followed this with imports at \$3.9 billion. Among other significant players were UK \$2.9 billion, France \$2.4 billion and Belgium \$1.8 billion. Import market shares of these countries are given in Figure 3.4:

Figure 3.4 Fruit Importing Country Shares (Value 1998)

Top five fruit exporting countries are listed in Table 3.4:

Table 3.4 Top Five Fruit Exporting Countries (1998)

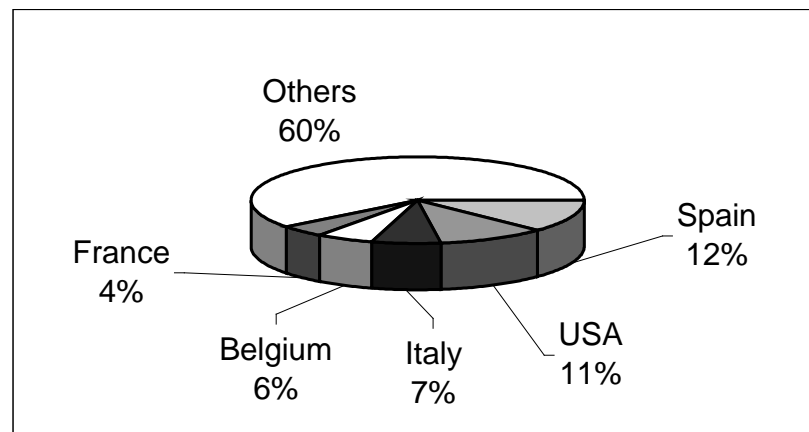
Exporters	Value \$ Million
Spain	3,820
USA	3,283

Italy	2,026
Belgium	1,773
France	1,391
Others	18,786
Total	31,080

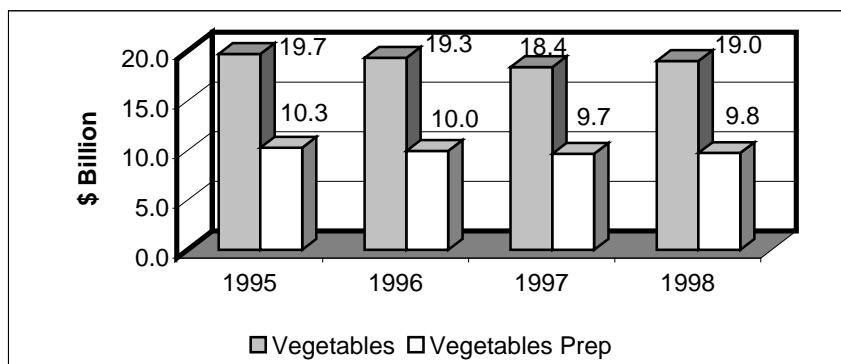
Source: International Trade Centre

Spain was the largest fruits exporter in the year 1998 and exported fruits worth \$3.8 billion. USA was not only the second largest importer but was also the second largest exporter as it exported fruits valued \$3.3 billion. Italy \$2 billion, Belgium \$1.8 billion and France \$1.4 billion were also among top five exporters. Rest of the world exported fruits worth \$18.8 billion. Export market shares of these countries are given in Figure 3.5:

Figure 3.5 Fruit Exporting Country Shares (Value 1998)



The world market of vegetables and vegetable preparations is given in Figure 3.6:

Figure 3.6 World Vegetables Market

Source: International Trade Centre

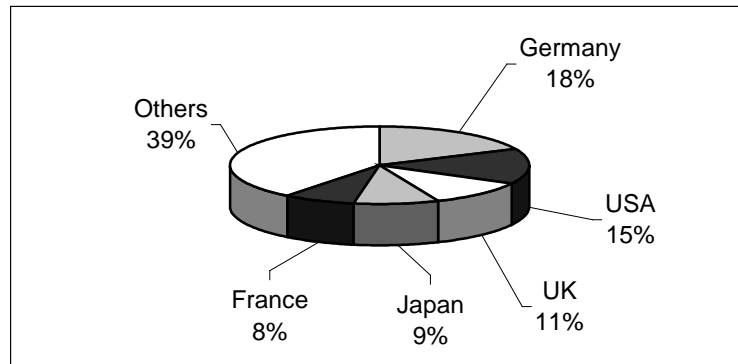
World import market for fresh vegetables has fluctuated at \$19 billion while that of vegetable preparations has decreased gradually from \$10.3 billion to \$9.8 billion between 1995 and 1998. Major importers of vegetables are listed in Table 3.5 below.

Table 3.5 Top Five Vegetable Importing Countries (1998)

Importers	Value \$ Million
Germany	3,427
USA	2,832
UK	2,020
Japan	1,780
France	1,451
Others	7,509
Total	19,019

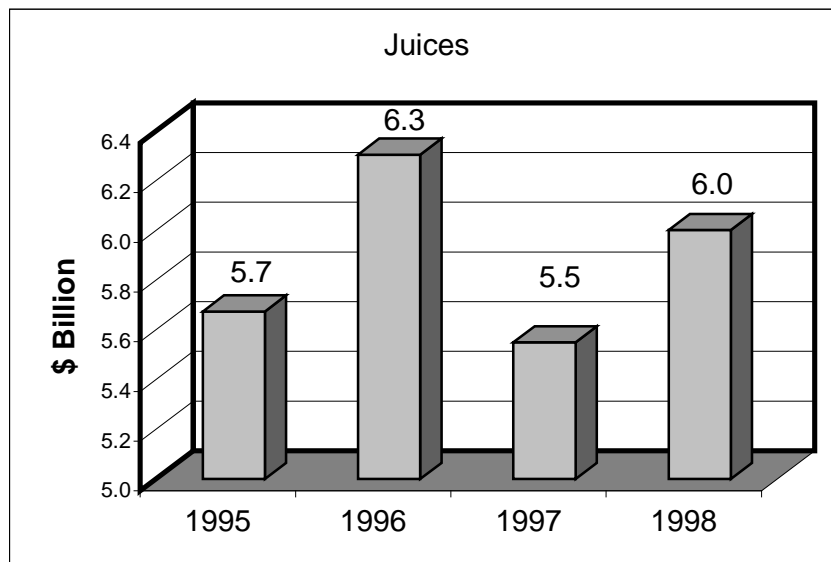
Source: International Trade Centre

Germany was the largest importer of vegetables in 1998 with imports worth \$3.4 billion followed by USA at \$2.8 billion. UK, Japan and France were also among top five importers. Import shares of these countries are given in Figure 3.7:

Figure 3.7 Vegetable Importing Country Shares (Value 1998)

3.2 Fruit and Vegetable Juices

The world import market for fruits and vegetables juices is presented in Figure 3.8 below:

Figure 3.8 World Juice Market

Source: International Trade Centre

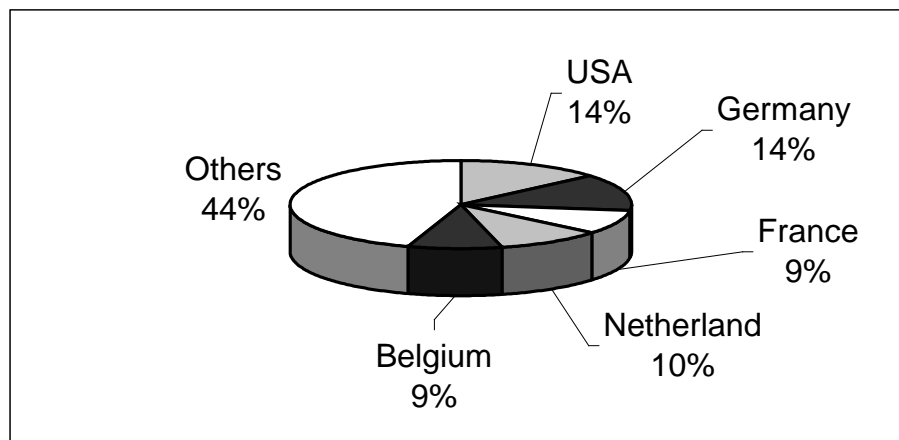
World import market for juices has not shown any consistent increasing or decreasing trend between 1995 and 1998. It increased from \$5.7 billion to \$6.3 billion between 1995 and 1996 but in the next year, it came down to \$5.5 billion and finally rose again in 1998 to \$6 billion. Major importers of juices are given in Table 3.6:

Table 3.6 Top Five Juice Importing Countries (1998)

Importers	Value \$ Million
USA	814
Germany	813
Netherlands	602
France	544
Belgium	521
Others	2,708
Total	6,001

Source: International Trade Centre

USA was the largest importer of juices in 1998 with imports of \$814 million with Germany at almost the level by importing \$813 million. Among top five importers were also Netherlands \$ 602 million, France \$544 million, and Belgium \$521 million. Import market shares of these countries are illustrated in Figure 3.9:

Figure 3.9 Juice Importing Country Shares (Value 1998)

Major export players in the global market are given in Table 3.7:

Table 3.7 Top Five Juice Exporting Countries (1998)

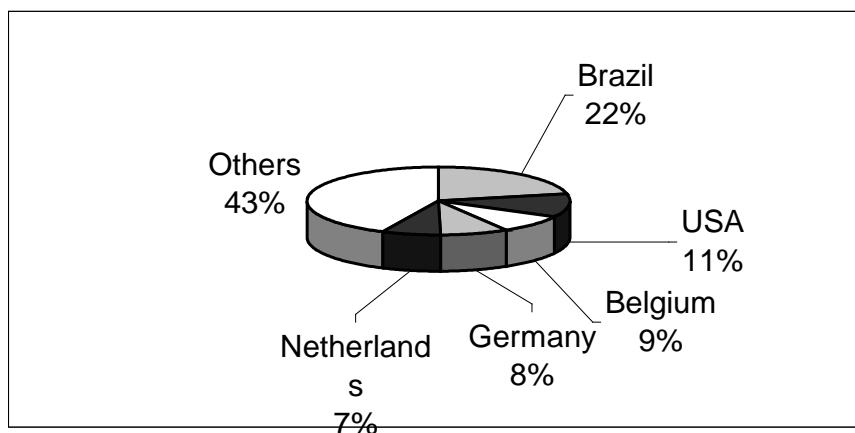
Exporters	Value \$ Million
-----------	------------------

Brazil	1,306
USA	654
Belgium	528
Germany	503
Netherlands	428
Others	2,583
Total	6,001

Source: International Trade Centre

Brazil was the largest fruits and vegetables juice exporter in the world in 1998 with exports valued at \$1.3 billion. USA was the second largest exporter valued at \$654 million, almost half of Brazil's exports. Belgium \$528 million, Germany \$508 million and Netherlands \$428 million were also among top five juice exporters. Market share of these countries are presented in Figure 3.10:

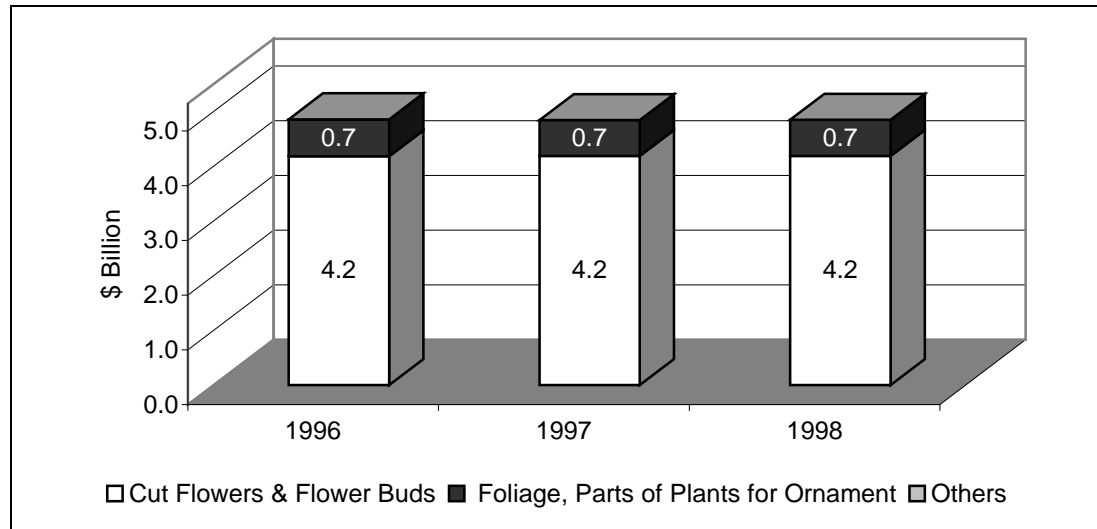
Figure 3.10 Juice Exporting Country Shares (Value 1998)



3.3 Cut Flowers

Market for cut flowers was \$5 billion in the year 1998. Trend of world imports is presented in Figure 3.11:

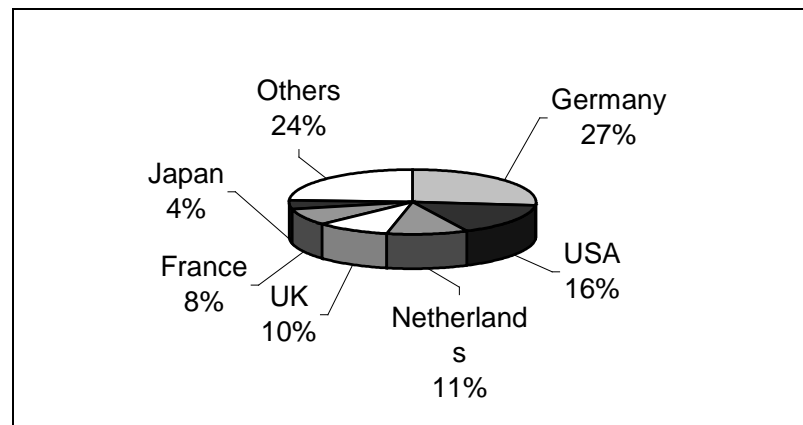
Figure 3.11 World Cut Flowers Market



Source: International Trade Centre

World import market for cut flowers has remained at \$4.9 billion between 1996 and 1998 without any changes. Pakistan does not have any presence in this market. Major importers are given in Figure 3.12:

Figure 3.12 Cut Flower Importing Country Shares (Value 1998)

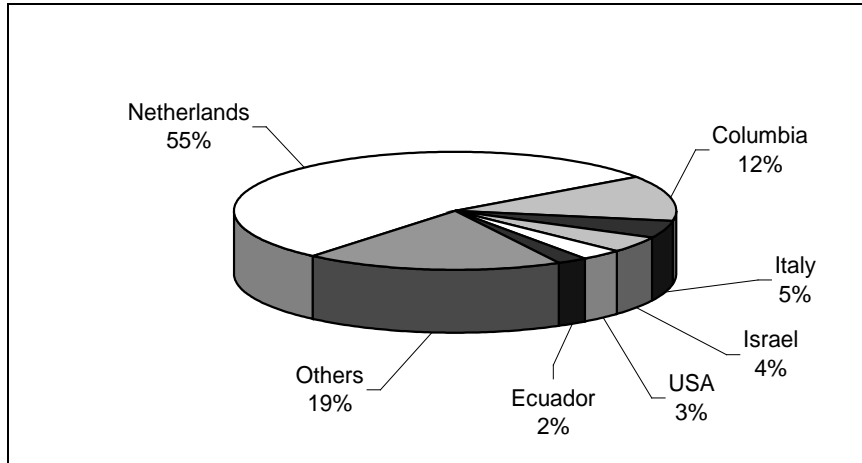


Source: International Trade Centre

Germany was the largest cut flowers importing country with a share of 27% (slightly more than one-fourth of the global import market) in the year 1998. USA was the second largest importer having a share of 16% followed by Netherlands at 11%. It is important to note that Netherlands imports cut flowers for re-exports, as it is the largest exporter of the product. UK had a share of

10% of global imports followed by France at 8% and Japan at 4%. Rest of the world share was 24%. Major exporting countries alongwith their export shares are presented in Figure 3.13:

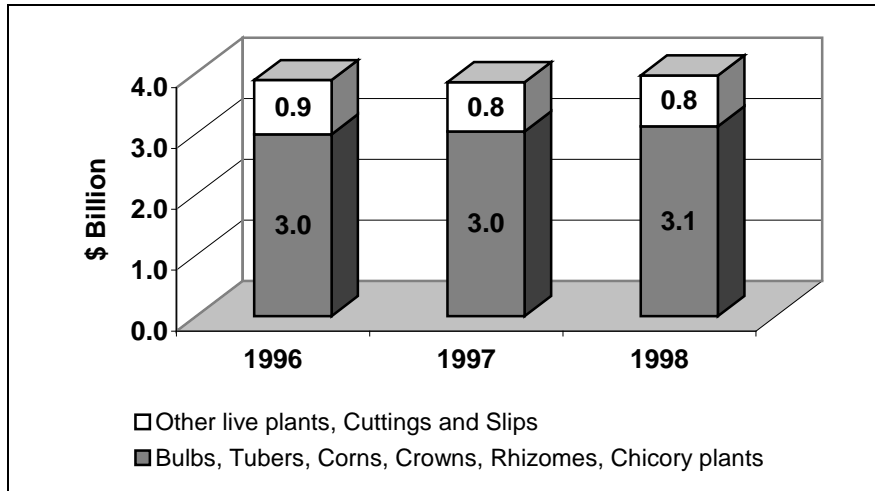
Figure 3.13 Cut Flower Exporting Country Shares (Value 1998)



Netherlands has dominated the market of cut flowers as it had a share of 55% in the year 1998, more than half of the global cut flower exports. Columbia had the second largest share of 12% but that was less than one-fourth of Netherlands exports. Among other significant exporters was Italy at 5%, Israel at 4%, USA at 3% and Ecuador at 2%.

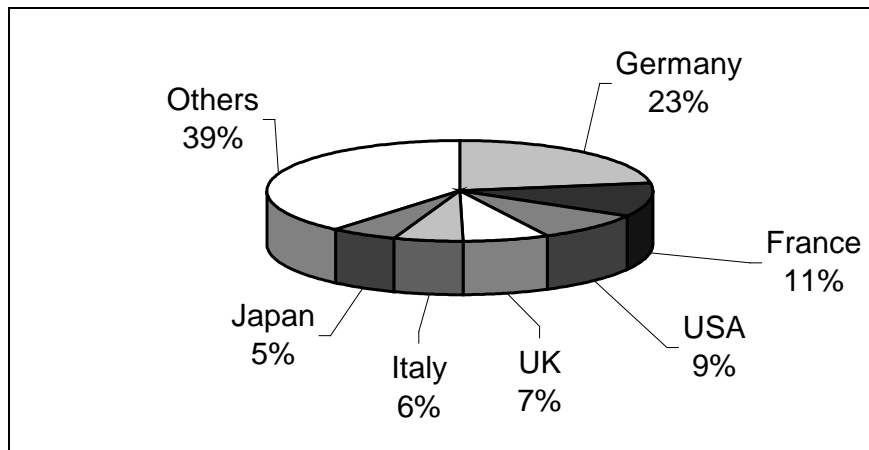
3.4 Bulbs and Ornamental Live Plants

Market for bulbs and ornamental live plants is presented in Figure 3.14:

Figure 3.14 World Market for Bulbs and Ornamental Live Plants

Source: International Trade Centre

World import market for bulbs and ornamental live plants has been stagnant at \$3.9 billion between 1996 to 1998. Pakistan's share in this market is also 0%. Major importing countries and their shares are given in Figure 3.15 below:

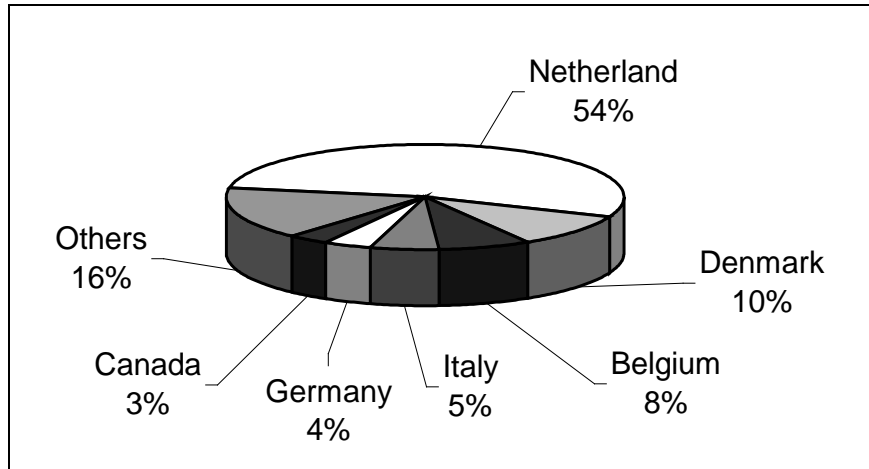
Figure 3.15 Major Importing Country Shares (Value 1998)

Source: International Trade Centre

Germany was the largest importer of bulbs and live ornamental plants in the year 1998 with a share of 23%. France followed this at 11% market share while USA had a share of 9%. Other significant importers included UK at 7%, Italy at 6%, Japan at 5% and the rest of the world had

an import share of remaining 39%. Major exporting countries alongwith their export shares are presented in Figure 3.16:

Figure 3.16 Major Exporting Country Shares (Value 1998)



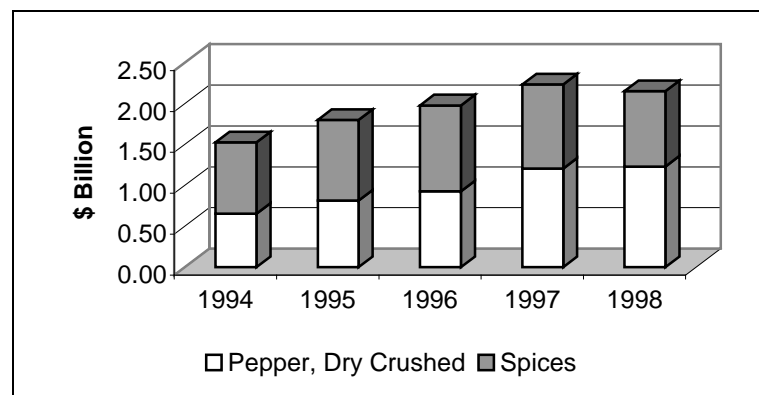
Source: International Trade Centre

Similar to that of flowers, Netherlands dominated export market of bulbs and ornamental plants as well at 54% market share. Second largest supplier was Denmark at 10%, having a market share less than one-fifth of Netherlands. Among other players was Belgium at 8%, Italy at 5%, Germany at 4% and Canada at 3%. Rest of the exporting countries had a share of 16%.

3.5 Spices and Pepper

Market for spices and pepper is presented in Figure 3.17:

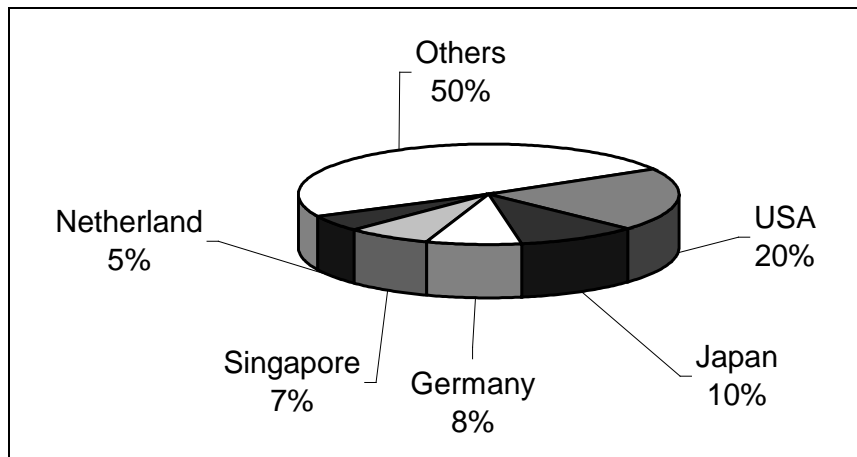
Figure 3.17 World Market for Spices and Pepper



Source: International Trade Centre

World market for spices and pepper has shown sizeable growth over the past few years. This market was valued at \$1.5 billion in 1994 and has grown to \$2 billion in 1998. Pakistan is present in this growing market but with an insignificant share of 0.0008%. Major importing countries and their import shares in this market are illustrated in Figure 3.18:

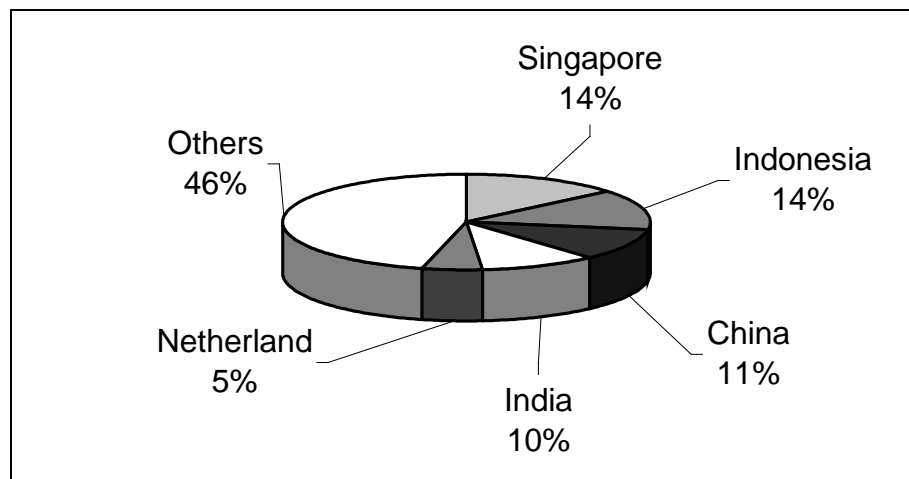
Figure 3.18 Major Importing Country Shares (Value 1998)



Source: International Trade Centre

USA was the largest importing country of spices and pepper in 1998 with a share of 20% of global import market. Japan was the second largest importer at 10% market share followed by Germany at 8%, Singapore at 7% and Netherlands at 5%. Rest of the importing countries constituted 50% of global import market. Major exporting country shares are as follows:

Figure 3.19 Major Exporting Country Shares (Value 1998)



Singapore and Indonesia had the largest export market shares of 14% each during 1998. Then is China at 11% closely followed by India at 10%. Another 5% of the market went to Netherlands share while rest of the exporting countries including Pakistan, had a share of 46%.

3.6 Horticulture Exports of Pakistan

Fruits and vegetables have dominated Pakistan's horticulture exports. The break-up of export quantities and value is presented in Table 3.8:

Table 3.8 Horticulture Exports of Pakistan

	Fruits				US \$ million
	1999-2000		1998-99		000' Mt
	Qty	Val	Qty	Val	Change in Value (%)
Kinnow	83	14	51	9	54
Apple	4	1	5	1	6
Mango	48	12	38	7	71
Dates Fresh	7	3	7	4	(11)
Dates Dry	58	21	42	17	19
Orange	2	0.4	5	1	(53)
Other Fruits	39	29	33	17	74
Total	240	80	181	56	44

	Vegetables				US \$ million
	1999-2000		1998-99		000' Mt
	Qty	Val	Qty	Val	Change in Value (%)
Potato	91	10	121	17	(42)
Onion	129	20	68	24	(17)
Garlic	1	0.3	3	1	(75)
Mushroom	0.1	7	0.1	5	53
Other Vegetables	28	2	3	1	119
Total	249	39	195	47	(18)

Source: Federal Bureau of Statistics 1999-2000

Pakistan's export portfolio is not well diversified, as a few products have dominated exports.

Two-thirds of horticulture exports \$80 million came from fruits and the rest one-third vale \$39 million came from vegetable exports. Within fruits, dates, kinnow and mango were the major contributors and in case of vegetables, potato and onion have been the major contributors. Fruit exports have shown a tremendous increase in value as they have increased from \$56 million to \$80 million during the last year, showing a growth rate of 44%. While vegetable exports have declined from \$47 million to \$39 million, showing a decrease of 18%. Growth in horticulture exports came from vegetables during the last year but this trend has changed in this year.

Though the total horticulture exports have shown an increase of US \$ 16 million, an increase of almost 15.5% between 1998-99 and 1999-2000, it has now reached a point of diminishing returns. The growth rate that has averaged 33% in the past five years has declined to 15.5% during the last year. In the given conditions, the exports are not likely to show healthy growth rates. Moreover, mere increase in export volumes will not result in a substantial jump in the export value of horticulture crops from Pakistan.

The export potential of horticulture sector needs to be exploited and requires intervention at all the levels in the value chain. Strategy formulation needs a thorough understanding of the sector and constraints of stakeholders. This exercise is undertaken in the remaining chapters.

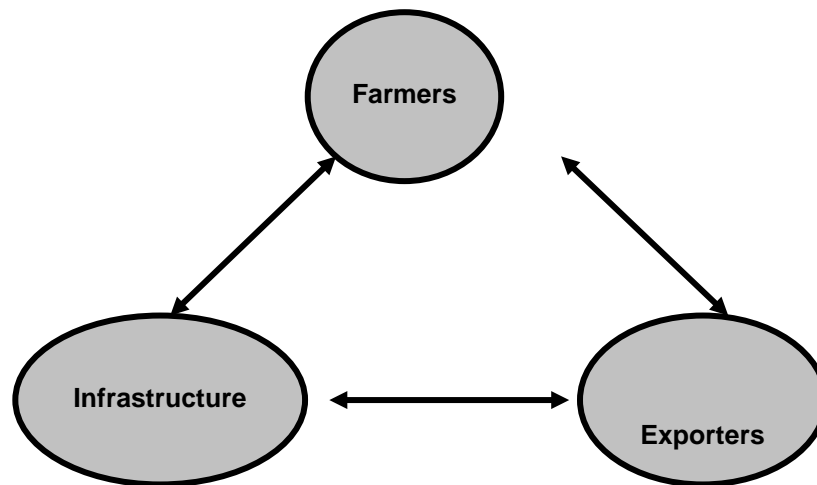
4 HORTICULTURE SUPPLY CHAIN

The supply chain is divided in three exhaustive groups as:

- (1) Growers
- (2) Infrastructure providers (processing, grading, packing, storage, transportation etc.)
- (3) Exporters

An export driven marketing strategy requires a strong integration among the various links in the supply chain. This is illustrated in Figure 4.1:

Figure 4.1 Integration of Stakeholders



Nothing can be achieved unless stakeholders work in co-ordination with each other. So far, there has been no or very little co-ordination among the stakeholders. Growers of fruits and vegetables are not familiar with demands of international markets. There is a lack of basic infrastructure for transportation, storage, preservation and distribution of perishable fruits and vegetables. Horticulture export potential can only be exploited through solving the problems of every stakeholder and bringing them in strong co-ordination. This co-ordination can be achieved by addressing problems of all the links and then formulate an integrated strategy. The constraints of

the said groups of horticulture supply chain are as under:

4.1 Constraints of Growers

4.1.1 Lack of infrastructure

Lack of storage and transportation infrastructure results in as high as 40% of post harvest losses. This means that almost half of the farm produce is lost. This is not only a loss to the farmer but can also put pressure on prices as lost quantities never reach consumers. The prevention of such losses can provide exportable surplus without putting any pressure on demand or on prices in the local market.

4.1.2 Lack of credit for farm inputs

Pakistan's credit system for farmers is such that it does not cater to the needs of small farmers. Since there is a very large number of small horticulture farmers, a major segment is deprived from agricultural credit. This fallacy of credit system forces small farmers to under-invest in farming inputs like pesticides and fertiliser that leads to lower yields and poor quality. Moreover, they often have to buy inputs on credit at a price much higher than the market price. Cost of credit from informal sources is as high as 40-50% per annum.

4.1.3 Advance sales

Due to financial constraints, the farmers are often forced to sell their produce in advance to the middlemen, commonly known as *Bhekars*. The price that they get is much lower than the price at which the *bhekar* sells the produce in turn. Lack of infrastructure of transportation and storage, absence of farmer co-operatives and also the absence of market information lead to exploitation by middlemen.

4.1.4 Low yields

Low yield is resulting from a combination of price insecurity (resulting from absence of buy back agreements), advance sales and seeds that does not meet international standards.

4.1.5 Weak linkages with processors and exporters

The linkage of growers to processors and exporters is very weak in the absence of communication infrastructure and small-sized scattered farms. The processors and exporters, by and large, can not tell the farmer about quality and specifications that customer demands. The net result is that exports have been supply driven rather than demand driven i.e. exporting surpluses rather than growing for exports.

4.1.6 Absence of specialised research organisations

Produce is not in line with the international standards and internationally demanded varieties. Dedicated research organisations to develop varieties that best meet the needs of the global market are not there. Any work done by agricultural research organisations has not reached the farmers due to weak extension services and absence of any co-ordination between the entities.

4.2 Constraints of Exporters

Fruits and vegetable export companies involved in the business in Pakistan are mostly family run small concerns. Most of the people involved in exports have moved from the business of trading of agriculture commodities in the domestic markets. The common problems of export sector include:

4.2.1 Highly Skewed Production

Due to highly skewed production resulting from seasonality and perishability of produce, the exporter has very limited time to ship his products. He is forced to export whatever is available and within the limited time span. The exporters can not adopt better marketing practices unless cold storage infrastructure is available to enhance the shelf life and varieties are developed which are suited for exports.

4.2.2 Lack of quality processing and packing

Processing and packing standards required to meet internationally accepted specifications are not readily available in existing export set-up. Processing of fresh fruits is limited to citrus fruit (*kinnow*) and some facilities have recently started in case of apple. All the remaining fresh fruits

and vegetables being exported are either unprocessed or have undergone sub-standard processing and packaging. Some packaging products that meet international specifications do not match the international prices. It is because of this reason that some exporters are forced to import the packaging material.

4.2.3 Weak marketing

No institutional support is available for marketing on an international level. Most of Pakistan's horticulture exports leave the port without any established brand name. The individual exporters are not large enough to run international marketing campaigns to promote a brand name. Moreover, due to absence of basic infrastructure, large orders can not be entertained. Pakistan's exporters and EPB have declined large orders many times as in the existing set-up; bulk quantities of a consistent quality can not be supplied. It is important to note that it will be useless to run a marketing campaign unless larger volumes can justify this additional expenditure.

4.2.4 Limited availability of working capital

The export refinance available to the exporters is limited because of weaknesses in documentation. Many exporters are selling their produce on Documents Advance (DA) that does not qualify for refinance from banks. Export refinance serves as the working capital much needed to ensure liquidity to buy raw materials in sufficiently large volumes.

4.2.5 Ruthless competition among exporters

The competition among exporters is indiscriminate and ruthless. They often compromise on quality and price in order to grab market share from other exporters of Pakistan operating in the same limited markets available. In this way, exporters end up exporting the same quantities but of poor quality and at very low prices. The outcome of this activity is that Pakistan is fetching the lowest per unit value and deteriorating Pakistan's image as a quality supplier of horticulture products.

4.2.6 Lack of standardisation

There are no laid down procedures for standardisation and quality specifications. Most of the

exporters do not sell their products under established brand names. In absence of brand names, the importer is not sure of the quality he will be getting. So in absence of standardisation, poor quality exports prevent the better quality to fetch a higher price in the international market.

4.3 Infrastructure Constraints

4.3.1 Absence of cold chain and limited cold storage facilities

The cold storage facilities available in the country are not only limited but are expensive as well. This adds to the problems of growers, processors and exporters. Growers can not store their output and processors can process only that much quantity which can be exported right away. The limited facilities available are not integrated with proper refrigerated transport. Lack of cold storage facilities near production areas results in enormous post harvest losses. Absence of such facilities at air and seaports is a major obstacle in the way of increasing exports.

4.3.2 Limited and expensive refrigerated transport facilities

The exporters face the problem of limited refrigerated transport facility, which is expensive as well. This constraint puts a limit on the total exports from the country. Companies providing refrigerated-containers are charging high prices, as the business is small and they do not get the advantages of scale economies. Moreover, Pakistan National Shipping Corporation (PNSC) is not providing any refrigerated-containers facility at all. If PNSC provides this facility, it would not only bring down the costs of refrigerated transport for exporters resulting from more competition but will also place PNSC in a business that has promising returns in the future.

4.3.3 Limited air cargo space

Pakistan International Airlines (PIA) provides cargo space in its passenger planes and is not operating dedicated freighter plane flights. Due to highly perishable nature, mango can only be exported by air. So the exports of mangoes and other perishable products with very little shelf life can not be increased unless additional cargo space is provided.

4.3.4 Limited availability of inland transport

Inland transportation of exportable is either carried out by foreign shipping companies or the product is transported without any temperature-controlled environment. Pakistan Railways (PR) is not providing any facility at all for inland transportation of refrigerated containers. Investment is to be made in refrigerated lorries and generator sets for trucks and railways to carry refrigerated containers. PR is considered as a cheaper source for providing service for inland transportation of refrigerated containers as they have flat bed rolling stock and need to invest only in generators.

5 STRATEGY FOR EXPORTS

Keeping in view the profile of horticulture sector of Pakistan, its inherent characteristics and the constraints of stakeholders, an immediate solution is required that addresses to the needs of stakeholders, takes care of developments in international horticulture market and adds to the value of exports of Pakistan. SMEDA, in conjunction with EPB, has chalked out such a strategy that targets higher exports, creates investment opportunities and aims to improve the economic well being of all the stakeholders. This horticulture export marketing strategy has been termed as "Hexpo 2000 & Beyond" and covers a plan for the years 2000 to 2004. This strategy is designed in such a way that it will take care of needs of stakeholders beyond the year 2004. The vision of this strategy is:

To put Pakistan in the high-end international markets of perishable horticulture products through:

- ◆ *Branding of horticulture products.*
- ◆ *Development of cold chain infrastructure.*
- ◆ *Establish Pakistan as quality supplier of high volume horticulture products for foreign processors.*
- ◆ *Attracting investment (local and foreign) in development of horticulture value chains.*

Achieve exports of \$ 638 million by 2004

Targeting high-end market requires battle at all the fronts encompassing establishment of cold chain infrastructure, selling under established brand names, bringing a quality image with country name and bringing in local and foreign investment.

Products required to target \$ 77 billion global horticulture market are available in Pakistan but various links required to tap this market are missing. Infrastructure needs to be put in place with quality regulations and marketing management. The rest of this write-up will take us through the details and go-about of this strategy.

6 ESTABLISHMENT OF COLD CHAIN INFRASTRUCTURE

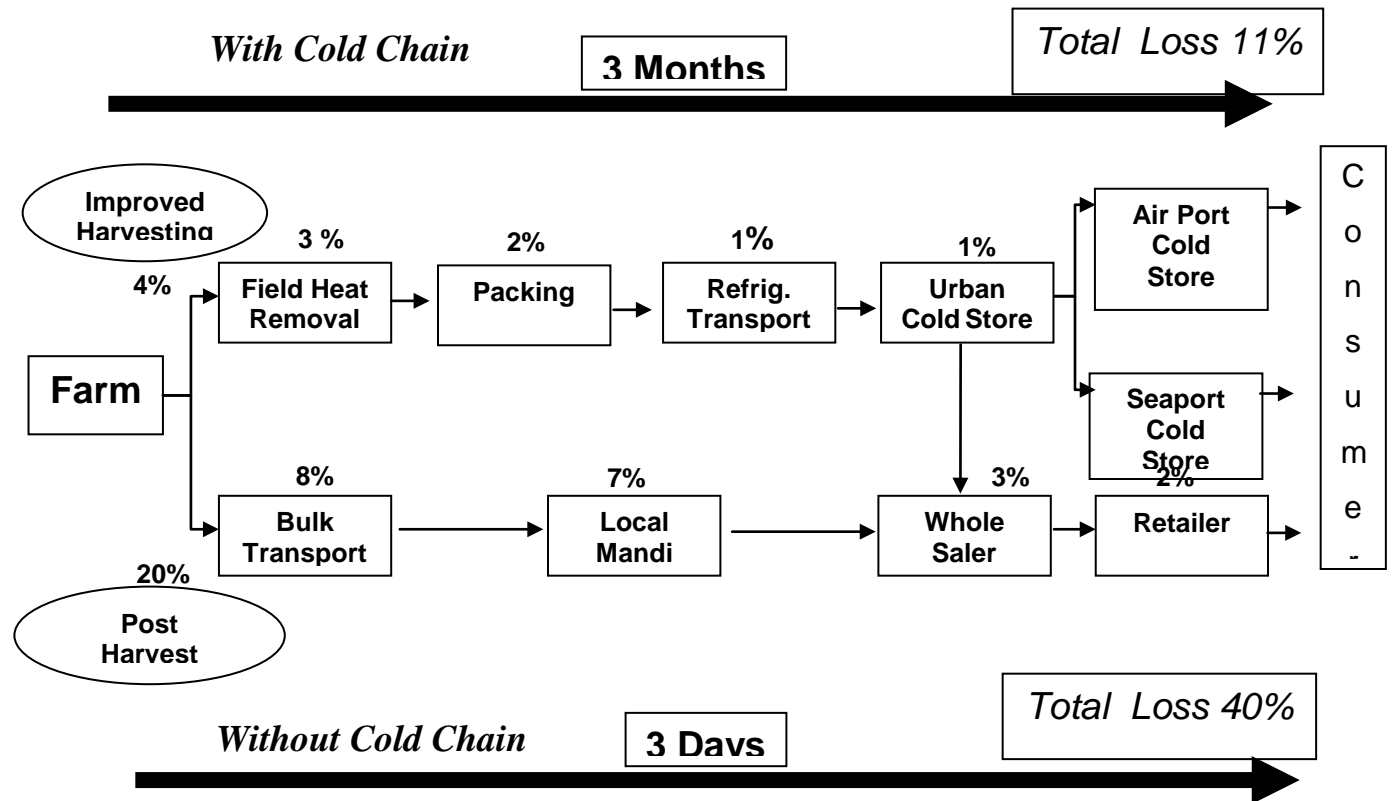
Establishment of cold chain infrastructure is imperative not only to arrest post harvest losses but also to provide high quality products in the international markets. An export strategy for horticulture products is useless unless it is supported by cold chain infrastructure. Such an infrastructure will not only help the storage and transportation of fruits and vegetables but will also provide support to all other perishable products including dairy, flowers, poultry and meat products. It is to be understood that "cold chain infrastructure" is more than Pakistan's conventional cold storage facilities. The existing cold storage facilities in Pakistan are meant for long-term storage of few commodities. Proper storage conditions, i.e. desired temperature and humidity are needed to lengthen storage life and maintain quality once the crop has been cooled to the optimum storage temperature. We need a cold chain infrastructure that not only increases shelf life of all varieties of fruits and vegetables but works as an integrated system of cold environment available to the produce from farm to final point of sale. Such an infrastructure needs to be comprised of urban cold stores, refrigerated transport, wholesale cold stores, seaport cold stores and airport cold stores. Without such an infrastructure, Pakistan will never be able to penetrate world fruit and vegetable markets on a sizeable scale. The following are the advantages that will result from the establishment of cold chain infrastructure.

6.1 Reduction in Post-Harvest Losses

It is estimated that on an average 25% of annual production of fruits and vegetables in Pakistan is lost because of poor pre and post harvest practices/conditions. These losses in case of some products are as high as 40%. These losses, when quantified, add to approximately 2.7 million metric tons of production. Inadequate transportation and storage facilities are one of the major causes of such losses.

A comparison of pre and post harvest losses with and without cold chain is carried out in Figure 6.1:

Figure 6.1 Reduced Pre and Post Harvest Losses with Cold Chain



6.2 Market Price Equilibrium

In wholesale fruits and vegetables markets of Pakistan, there are sharp price fluctuations brought about by excess/shortage of supply in the market. The supply of horticulture products is highly skewed and due to perishability the seller is forced to sell the product at the price offered to him on the day he brings the product in the market. He can not wait for a day or two to get a better price. With appropriate cold chain facilities, the supply situation in the market would be stabilised, as the same quantity of produce will be available for a longer period of time resulting from increased availability period. The time window of supply of commodity would widen and will dampen the sharp fluctuations in price.

6.3 Fair Reward to Farmers

The cold chain facilities will improve the bargaining power of farmers to some extent. It will provide them with the flexibility to store their products during the peak production days. The farmers will have an opportunity to receive a better price with smoother supply of fruits and vegetables to the markets. This will have some positive impact on the economic plight of the small horticulture farmer. The supply chain would demand a better quality fruit and vegetable and in greater volumes. The better price fetched by the farmer as a result of smooth supply will enable him to put more investment on farm inputs and to enhance yield per acre and quality.

6.4 Better Export Quality

At present Pakistan is receiving less than one third of international average price for its fruits and vegetables exports. This is obvious from the information contained in Table 6.1 and Table 6.2:

Table 6.1 Pakistan Vegetable Exports Regional Price Comparison for 1997

US\$/Mt

	Markets	EU	North & Central America	Far East	Asia	Africa
Chilie, Pepper	Pak Origin	1,358	1,316	-	1,464	-
	World Source	2,075	1,057	650	1,399	1,565
Garlic	Pak Origin	-	-	-	442	401
	World Source	1,483	1,272	580	628	807
Onion	Pak Origin	-	-	390	373	-
	World Source	364	449	266	250	544
Potato	Pak Origin	-	-	123	154	-
	World Source	173	240	257	293	308
Peas (Fresh)	Pak Origin	-	-	-	555	-
	World Source	1,041	1,230	532	945	598
Peas (Dry)	Pak Origin	-	-	-	-	-
	World Source	216	432	292	311	423

Source: FAO 1998 and FBS 1999

There is a huge gap between international prices and Pakistan's export prices of potatoes and peas. For potatoes, prices that we have fetched in Asia (\$154/Mt) and Far East (\$123/Mt) are

almost half of what other exporting countries are getting. A similar situation is found for peas as well. Regional price comparison of fruits is given in Table 6.2:

Table 6.2 Pakistan Fruits Exports Regional Price Comparison (1997)

US\$/Mt

Category	Markets	EU	North & Central America	Far East	Asia	Africa
Apple	Pak Origin	293	-	199	236	-
	World Source	661	628	682	614	739
Apricot	Pak Origin	-	-	-	393	-
	World Source	1,123	1,189	470	800	933
Banana	Pak Origin	-	-	-	66	-
	World Source	691	371	307	412	419
Dates	Pak Origin	573	616	-	429	-
	World Source	2,084	1,466	310	293	787
Grapes	Pak Origin	-	-	-	-	-
	World Source	1,270	1,322	1,515	1,325	1,364
Mandarins	Pak Origin	257	336	180	165	-
	World Source	842	1,096	453	433	818
Orange	Pak Origin	-	-	189	170	-
	World Source	576	530	687	597	493
Mango	Pak Origin	312	-	331	229	-
	World Source	1,255	710	937	1,068	201
Peach	Pak Origin	-	-	-	-	-
	World Source	1,179	949	1,289	1,066	943
Pear	Pak Origin	400	-	225	201	-
	World Source	754	758	736	714	823

Source: FAO 1998 and FBS 1999

Situation in fruit export is even worse as compared to vegetable export prices. The average import price of EU for mango during 1997 was \$1,255/Mt whereas Pakistan received \$312/Mt in the same market. Similar is the case with other products. One of the major reasons for this trend is inadequate cold storage facility. As there is no proper cold storage facility to safeguard quality retention, even a standard graded product loses its nutritional value and appearance.

Among other reasons for this low price realisation is absence of cold chain that is required to maintain the quality from the farm to the ultimate consumer.

6.5 Prevent Export Dumping

Fruit and vegetable exporters in Pakistan procure their product from wholesale markets preferably when there is a glut in markets and prices are low. After procurement, they have no place to store their perishable commodity, and since the shelf life is limited, all exporters try to export it immediately. As a result, some of the traditional foreign markets are dumped with Pakistan's fruits and vegetables. Market of Dubai can be quoted here as an example. Because of these practices, we fetch very low price for valuable crops. The availability of cold chain infrastructure will stretch the time window for exports and will smoothen out to some extent, the supply of fruits and vegetables to the wholesale markets. Market glut and urgency for the export of crop will be reduced. As a result, exporter will have an opportunity to enter the higher value segments in the existing markets in order to maximise unit value realisation. Those markets that have not been explored so far because of longer geographic distances or stringent quality standards will also become accessible.

6.6 Extension in Export Portfolio

The highly perishable nature of most of the fruits and some vegetables has made exports of these commodities either not possible or a high-risk venture. Some control over perishability and seasonality will increase the portfolio of exportable products.

6.7 Improvement in Hygienic Conditions of Wholesale Markets

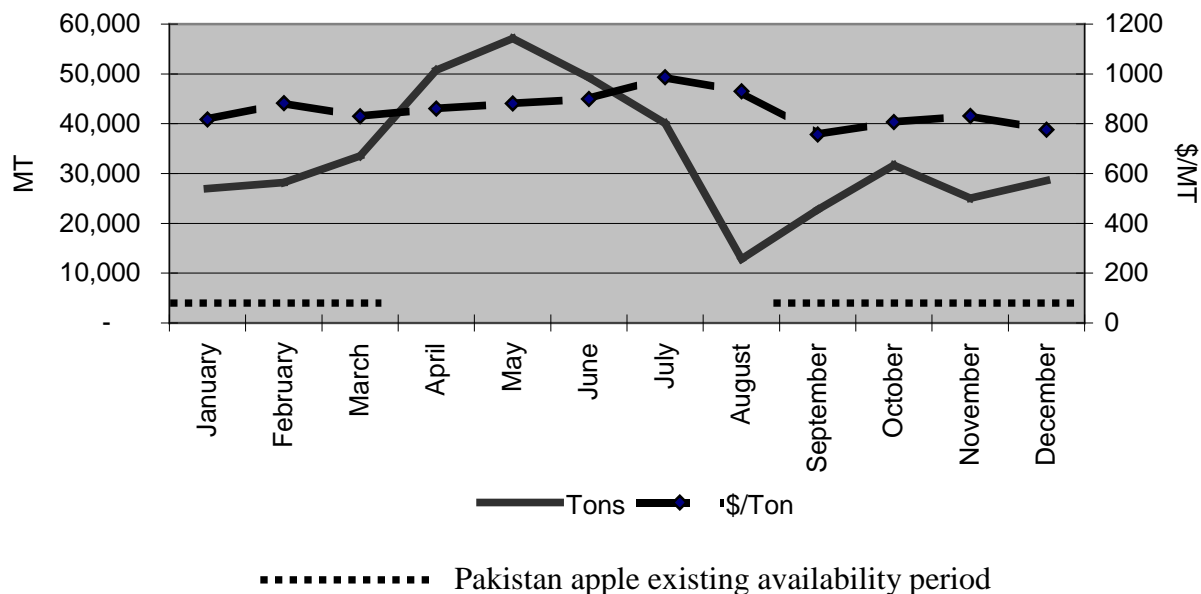
At present in Pakistan, there are four central wholesales markets for the trade of fruits and vegetables. These central markets with a large number of subsidiaries are located in different provinces of Pakistan. Hygienic conditions of these markets are very poor and the major cause of this situation is dumps of decaying fruits and vegetables. As cold storage infrastructure is demand oriented, it will control the supply of fruits and vegetables in the markets. Thus will help reduce the formation of decaying dumps and will be helpful in the development of hygienic conditions in the markets.

6.8 Target Time Windows

Different horticulture products and varieties of same products are produced in different regions

at different times. So the prices of fresh produce varies at different points in time due to supply conditions. Time window concept calls for touching different markets at that time when the product can fetch a higher price. This concept is clarified in Figure 6.2:

Figure 6.2 Apple Time Window in UK (1997)



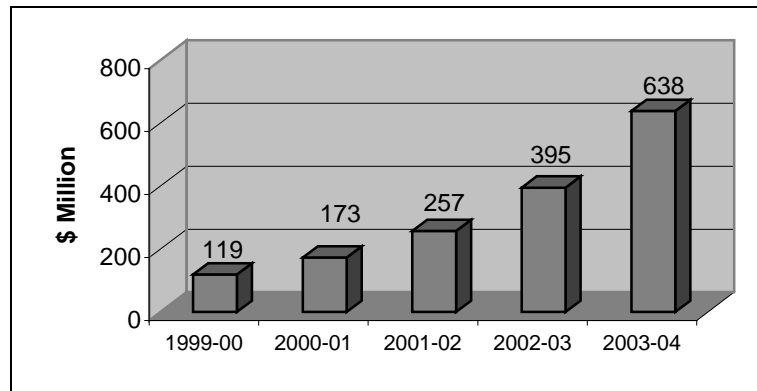
Source: International Trade Centre

In the year 1997, the price of apple imports has fluctuated between \$ 775 and \$ 900. The import quantity has fluctuated between 13,000 and 57,000 metric tons. The availability period of Pakistani apple starts in end August and ends in end March. The time window concept suggests that Pakistan should try to export apples during that time period when there is limited supply and the prices are high for example during July and August. This strategy needs to be adopted in each market for individual products. If cold chain infrastructure is available, the availability period of products can be increased that will enable us to target specific time windows with greater flexibility of time and quantities.

7 TARGETS

It has been estimated that Pakistan can achieve fruits and vegetable exports of \$ 630 million in the short to medium-term. The estimate is based on export quantities of products saved by cold chain infrastructure, which otherwise would have been irremediably lost and wasted under pre and post harvest losses. It is assumed that higher prices will be fetched by adopting better processing, packaging and labelling practices and establishment of a brand name. These export targets are given in Figure 7.1:

Figure 7.1 Total Export Targets



A yearly break-up of targets is presented above. With current level of exports at US\$ 119 million, we aim at achieving \$173 million in 2000-01, \$257 million in 2001-02 and finally reaching \$638 million in 2003-04. Product-wise yearly break-up of these export targets is given in Table 7.1 for fruits and in Table 7.2 for vegetables as follows:

Table 7.1 Targets for Fruit Exports*\$ Million*

Product	1999-00	2000-01	2001-02	2002-03	2003-04
Kinnow	14	24	42	72	125
Mango	12	20	33	57	97
Apple	1	3	9	25	66
Dates	24	31	40	51	66
Others	29	40	55	75	103
Total	80	118	179	280	456

Table 7.2 Targets for Vegetable exports*\$ Million*

Product	1999-00	2000-01	2001-02	2002-03	2003-04
Onions	20	26	33	43	56
Potato	10	14	21	31	45
Tomato	0.001	0.2	1	5	24
Others	9.04	14	23	36	57
Total	39	55	78	115	182

These targets are based on the immense potential that we have in terms of quality and varieties of fruits and vegetables that go wasted due to the absence of required infrastructure facilities. These targets can easily be achieved by arresting a percentage of the post harvest losses by providing the required facilities in terms of cold storage, processing, transportation etc. Such a target can only be achieved by an integrated strategy requiring proper handling of produce by farmers/middlemen, infrastructure availability and market orientation. This required integration of stakeholders would be looked into detail later. We will first take a closer look at the available potential. The quantities that will become available as a result of arresting post harvest losses through provision of cold storage and the export price that can be realised as a result of better marketing techniques and by providing a superior quality product are outlined in Table 7.3 and

Table 7.4:

Table 7.3 Pakistan Fruit Export Potential

Vale in \$ million

Quantity in 000' Mt

	World Avg. Price (\$/Mt)	Pakistan Prod. (Qty)	Exports as % of Prod.	Export Target as % of Prod.	Export Target (Qty)	Target Export Price (\$/Mt)	Pak Existing Export (Value)	Short to Medium-Term Potential (Value)
Mandarins	654	1,410	5.9	25	356	350	14	125
Mango	754	916	5.2	26	242	400	12	97
Apple	526	589	0.7	25	147	450	1.3	66
Dates	591	722	8.9	18	133	500	24	66
Apricot	777	191	0.03	20	38	500	0.02	19
Banana	350	95	0.04	30	28	100	0.4	3
Grapes	996	76	0.01	40	30	700	0.01	21
Orange	453	522	0.40	25	131	300	0.4	39
Peach	1,018	48	-	10	5	700	0.0	3
Pear	634	38	0.45	10	4	400	0.01	2
Sub Total					757		52	441
Others							28	15
Total							80	456

Source: FAO 1998 and FBS 1999

At present, the largest contributor to exports of fruits from Pakistan is dates. However, it has been found out that maximum potential lies in mandarin (kinnow) exports that have been targeted at \$125 million. Mango will be the second largest contributor to the final target of \$456 million in 2003-04 followed by apples and dates at \$66 million each..

Table 7.4 Pakistan Vegetable Export Potential*Value in \$ million**Quantity in 000' Mt*

	World Avg. Price (\$/Mt)	Pakistan Prod. (Qty)	Export as % of Prod.	Export Target as % of Prod.	Export Target (Qty)	Target Export Price (\$/Mt)	Pak Existing Export (Value)	Short to Medium Term Potential (Value)
Onion	314	1,138	11.3	14	160	350	20	56
Potato	190	1,810	5.0	16	291	155	10	45
Tomatoes*	787	332	0.1	16	53	450	0.02	24
Chilies	1,329	137	0.5	5	7	1,450	0.90	10
Garlic	907	83	0.90	5	4	600	0.32	2
Peas (Fresh)	575	93	0.13	20	19	500	0.06	9
Peas (Dry)	236			2	1.86	200		0.4
Sub Total					375		31	147
Others							8	35
Total							39	182

*Tomato exports are based on FAO data 1997, as Pakistan did not export any tomato in 1998-99

Source: FAO 1998 & FBS 1999

At present, onion is the largest contributor to vegetables export list followed by potato. The medium term targets also have these products as major contributors followed by tomatoes.

Export target quantities have been set keeping in view those quantities that can be exported from the total quantity arrested from rotting as a result of post harvest infrastructure. The target price is based on what competitors are getting in Pakistan's potential markets and what quality do we have to offer. The above targets do not call for an increase in production, as it will not be possible to increase production in the short run. Moreover, the target prices set are still below the international levels making these targets achievable.

7.1 "Three V Strategy"

The strategy recommended for achieving these targets has been termed as "three V strategy" as it

calls for improvement in the following three V's.

7.1.1 Volume

The volume of products exported will be increased to achieve the target. Increase in volume will be brought about by:

- ◆ Removing physical bottlenecks
- ◆ Streamlining administrative requirements
- ◆ Establishing required logistical infrastructure including cold chain.

7.1.2 Value

Increase in volume only can not bring about a significant rise in Pakistan's horticulture exports unless it is accompanied by increase in per unit value realised. The per unit value will be increased by:

- ◆ Introducing export friendly environment i.e. inducing exporters to declare true value of their exports
- ◆ Improving the conditions of storage, transportation through cold chain
- ◆ Introducing better processing techniques and improved packaging
- ◆ Branding of Pakistani exports.

7.1.3 Variety

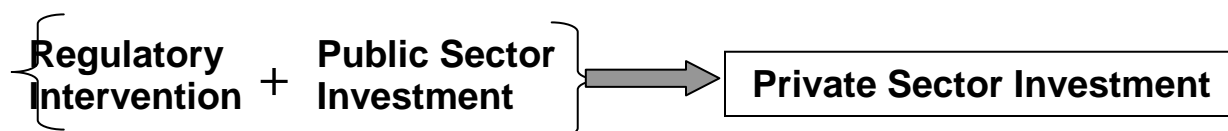
Increase in variety will bring greater exports by increasing volumes and values. Value will be increased by:

- ◆ Adding new products and new actors in the supply chain
- ◆ Introducing “What sells!” varieties of traditional product range.

Adoption of "three V" strategy calls for various measures from the public sector and investment from both private sector and public sector agencies. These will be discussed now.

8 REQUIRED INVESTMENT

The required investment in order to achieve the targets needs to be put in place with an integrated approach incorporating all the links in the value chain. A piece meal strategy can not bring about any significant change but rather can waste resources, as has been done in the past. The private and the public sector will have to work hand in hand but the kick-start should come from public sector. No investment will flow from the private sector unless the public sector provides the necessary infrastructure and an environment conducive for exporters who market premium products and fetch better prices. Once such an environment and public sector investment is in place, the private sector investment will automatically follow the path. This is illustrated with the help of an equation as follows:



A break-up of required private and public sector investment is given in Table 8.1:

Table 8.1 Break-up of Required Investment

\$ Million

	2000-01	2001-02	2002-03	2003-04	Total	Share
Private Sector	18	30	29	63	140	75%
Public Sector						
PR	0.4	0.1	0.1	-	0.5	
PIA	0.9	2.6	2.6	6.7	12.8	
CAA	3.0	6.0	6.1	15.7	30.9	
EPB	1.7	1.7	-	-	3.4	
Total Public Sector	6	10	9	22	48	25%
Grand Total	24	41	38	85	188	100%

Public sector agencies including Pakistan Railways (PR), Pakistan International Airlines (PIA), Civil Aviation Authority (CAA) and Export Promotion Bureau (EPB) are required to take the lead by providing a 25% (\$48 million) of the total required investment. A major share of investment i.e. 75% (\$140 million) is required to flow from the private sector but if the public sector will show reluctance in making his share of investment, the private sector will not be making the required investment. This investment has been calculated on the basis of the additional infrastructure required for achieving the target to be met in that specific year. It has also been determined within the public and private sectors, which agency or group will make what quantum of this investment and at what point in time.

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Within the public sector, Civil Aviation Authority remains the largest contributor by providing a total investment of \$30.9 million spread over a period of four years. This investment will be made in putting freight scanning machines at airports and establishing cold chain infrastructure in partnership with the private sector. CAA will be providing land with required utilities to set-up cold stores at key airports. These cold stores will be established and run by private sector on commercial basis. PIA may also join CAA and private sector in setting up cold stores as PIA is the one that will be carrying products from there on to the ultimate destinations. PIA will be making an investment of \$12.8 million in a period of four years. Export Promotion Bureau will be making investment in form of providing seed money for the establishment of Horticulture export Board (HEB). The structure and functions of HEB will be discussed later. Pakistan Railway (PR) is required to invest in generator sets for refrigerated containers for inland transportation of kinnow from Bhalwal to Karachi and for the transportation of mango from Multan to Lahore and Karachi. PR also has to provide handling equipment for refrigerated containers at Lahore, Sargodha, Multan and Karachi stations. This investment will be done in three years as is outlined in the above tables i.e. \$0.4 million in 2000-01, \$0.1 million in 2001-2 and \$0.1 million in 2002-3. Complete detail of total public and private sector investment is given in Table 8.2:



Table 8.2 Total Investment Break-up

\$ Million

	2000-01	2001-02	2002-03	2003-04	Total	Total % Share
Horticulture Export Board	1.7	1.7			3.4	2%
Cold Chain						
Cold Storage	6	29	29	75	139	
Logistics:						
Gen-sets for trucks	0.4	0.4	1.4	0.9	3.1	
Gen-sets for Railways	0.1	0.1	0.1		0.2	
Local Reefer Lorries	0.03	0.03	0.25	0.33	0.6	
Cold Chain Total	7	29	31	76	143	76%
Processing						
Kinnow		-	-	0.2	0.2	
Mango		6	2	3	11.3	
Apple		0.1	0.1	0.2	0.4	
Dates	14	3.9	3.8	4.4	26.0	
Onions		0.1	0.1	0.1	0.4	
Potato		0.2	0.1	0.3	0.7	
Tomato	0.02	0.03	0.13	0.55	0.7	
Processing Total	14	10	7	9	40	21%
Handling Equipment						
Freight Scanners Airports	1.0	-	-	-	1.0	
Railways	0.3	-	-	-	0.3	
Handling Equipment Total	1	-	-	-	1	1%
Total \$ million	24	41	38	85	188	100%

The private sector will be making investment in establishing cold chain **infrastructure throughout** the country to prevent losses and increase shelf life of the produce. It also includes refrigerated lorries and generator sets for trucks for inland transportation. Private sector will also be making investment in processing and grading of various fruits and vegetables to enhance shelf life and fetch a better price in the international markets. A break-up of all this investment is given in the above table.

A time line of all the investment, whether public or private, is outlined in Table 8.3:

Table 8.3 Timeline of Required Investment

\$ Million

	2000-01	2001-02	2002-03	2003-04
Public Sector	6	10	9	22
Private Sector	18	31	29	63
Total	24	41	38	85
Airport Cold Stores				
Urban Cold Stores				
Scanning Machines				
Refrigerated Lorries				
Processing Plants				
Gen-sets for Railways				
Gen-sets for Trucks				
Handling Equipment Railways				
Horticulture Export Board				

Airport cold stores, freight scanning machines, handling equipment for railways and seed money for the establishment of Horticulture Export Board will require investment in the year 2000-01 only. This investment is related to immediate measures and needs to be put in place immediately to accomplish the objective of achieving targets. Urban cold stores, refrigerated lorries, generator sets for trucks and processing plants will require investment through out the planning period. This investment is required to handle the additional quantities that are to be exported each year. As long as additional quantities are being exported, such investment will have to be made. Pakistan Railways is required to make investment during the first three years of the planning period. No investment will be required from PR in the last year of planning period. It is not only the sizes of investment that will enable Pakistan achieve the targets but timing is also critical. The infrastructure required to achieve the targets should become available at the required time thus making the timing of investment an important consideration. As stated earlier, if any one or some components of these investments are missing, we will not only miss the targets but the investment that would have been made will be under utilised.

9 REQUIRED MEASURES

Government of Pakistan needs to intervene in order to create an environment where exports of high quality fresh fruits and vegetables are encouraged. The government needs to adopt a "carrot and stick" strategy whereby low quality exports are discouraged and in some cases totally banned while high value exports are encouraged by giving financial and other incentives. The required interventions in order to achieve targets need to be put in place as a complete package. A piece meal strategy can not bring about any significant change but rather will result in under utilisation of resources, as has been done in the past.

9.1 Immediate Measures

The immediate measures required from the public sector are related to the following agencies:

1. Pakistan Railways
2. Pakistan International Airlines
3. Civil Aviation Authority
4. Pakistan National Shipping Corporation
5. Export Promotion Bureau
6. Ministry of Commerce
7. State Bank of Pakistan
8. Central Board of Revenue

These are discussed below:

9.1.1 Pakistan Railways

Inland transportation of fruits and vegetables is mostly carried out without any temperature-controlled environment. The availability of refrigerated containers and generator sets for these containers has always been a problem for exporters. The exporters consider Pakistan Railways as a safe and cheap mode of transportation. As a first step, Pakistan Railways should handle kinnow transportation between Bhalwal and Karachi in the coming export season of 2000-01. It is

recommended that PR should:

1. Provide flat bed rolling stock at Bhalwal twice a week capable of carrying upto thirty-five 40-foot containers at a time. This train should be routed through Toba Tek Singh and onwards to Karachi.
2. Facilitate shipping lines to provide generator sets to energise the refrigerated containers to be transported by PR.
3. Provide container-handling equipment and power plug-ins at Bhalwal and Toba Tek Singh railway stations.

Railway should also get ready to provide a similar service for the coming mango season. PR should provide flat bed rolling stock at Multan twice a week capable of carrying upto thirty-five 40-foot containers at a time. This train should be routed to Lahore and/or Karachi depending on the availability of air cargo space. Moreover, PR should increase the train trips from two per week to four per week in 2001-02 and then to six trips per week in 2002-03 for both kinnow and mango.

9.1.2 Pakistan International Airlines

Pakistan International Airline requires the exporters of perishable cargo to sign a mandatory indemnity bond, which says that PIA will not be held responsible in case the cargo reaches the destination in a rotted condition. This bond has made the airlifting of fresh produce a high-risk venture thus making exports of fresh fruits and vegetables a high-risk business. Cargo insurance can not be introduced in presence of such a bond. It is urgently required that PIA should do away with the requirement of mandatory indemnity bond and at the same time guarantee the conditions required for safe and timely delivery of perishable cargo. However, the elimination of the said bond and provision of guarantee is not to be provided to all the exporters. In order to encourage exports of superior quality produce, only those exporters are to be provided with this incentive who fulfil the following conditions:

- Exports in temperature controlled environment in refrigerated compartments

- Products packed in cardboard packs (wooden packaging will not be allowed)
- Standard Labelling (specifying net weight and number of pieces)
- Kinnow: waxed and graded
- Apple and mangoes: graded.

In order to ensure that exporters provide the product to the airline in best condition, PIA may become a stakeholder with CAA and private sector in setting up cold stores that are to be put in place at Karachi, Lahore, Islamabad, Peshawar, Quetta, Multan and Saidu Sharif airports.

9.1.3 Civil Aviation Authority

Exports of products that have a very short shelf life (for example mango and tomatoes) are not possible unless they are transported by air. Airport cold stores are required to bridge the gap between the arrival time of the product at the airport and the flight time. These cold stores will keep the product in temperature controlled environment such that it reaches its destination in an optimum condition. It is required that Civil Aviation Authority (CAA) should allocate land with civic amenities (utilities) for setting up these cold stores in partnership with the private sector and PIA. These cold stores are to be set-up at Karachi, Lahore, Islamabad, Peshawar, Quetta, Multan and Saidu Sharif airports.

Exporters have been facing the problem of unpacking the product at the airports for physical inspection, as there are no freight scanning machines. Physical inspection wastes time and thus the exporters run the risk that the product might rot or deteriorate in quality due to the time lag. So freight scanning machines should be installed immediately by CAA at Karachi, Lahore, Islamabad, Peshawar, Quetta, Multan, Saidu Sharif, and Turbat airports. These machines will reduce the time spent in inspection and will enable exporters to keep their products at required temperature as the temperature will not be lost as in case of physical inspection.

Cargo handling and inspection services are not available round the clock. Due to highly perishable nature, it is required that CAA should deploy their staff to provide cargo handling and

inspection services on a 24 hour basis at Karachi, Lahore, Islamabad, Peshawar, Quetta, Multan airports.

9.1.4 Pakistan National Shipping Corporation

Refrigerated containers are currently being provided by foreign carriers at very high rates. Such high prices, alongwith various other factors, have restricted exports through refrigerated containers. The monopolistic pricing structure enjoyed by foreign carriers needs to be broken and Pakistan National Shipping Corporation (PNSC) can do this. PNSC should provide refrigerated container facility to exporters at reasonable rates. The export targets can not be achieved unless exporters get refrigerated containers at competitive rates.

9.1.5 Export Promotion Bureau

There is an abundance of quality fruits and vegetables in Pakistan but cut throat competition among exporters, who compromise on quality to fetch market share, has created Pakistan's image as supplier of poor quality products. There is a need to improve this image and one way of doing this is by giving financial incentives to all exporters of fruits, vegetables and flowers (whether fresh, frozen or refrigerated) who make additional efforts of value addition. Processing, packaging and use of refrigerated transport can bring about value addition. Value addition will result in export of premium quality products and hence it would not only enable exporters to fetch a higher price but will also create the image of Pakistan as a supplier of quality products. For this purpose, EPB should subsidise freight cost of those exporters who comply with the following standards:

- ◆ Exports against Letters of Credit
- ◆ Products packed in cardboard packs (wooden packaging will not be allowed)
- ◆ Standard Labelling (specifying net weight and number of pieces)
- ◆ Exports in temperature controlled environment (refrigerated containers in shipping lines and refrigerated compartments in airlines) as specified in Letter of Credit and guaranteed by the carrier (shipping line/airline)
- ◆ Kinnow: waxed and graded

- ◆ Apple and mangoes: graded.

This subsidy should be 25% of freight cost. In order to prevent abuse of this subsidy by exporters, it should be given directly to the shipping lines/airlines (and not exporters). However, this subsidy should only be given to those carriers who guarantee the quality of service and ship or airlift products complying with the standards described above.

9.1.6 Ministry of Commerce and Export Promotion Bureau

Ministry of Commerce is required to take the following steps:

1. In order to prevent exports of unripe kinnow, there should be a ban on export before 15th of November from any port in Pakistan.
2. In order to promote value addition and exports of premium quality products, kinnow exports for the season 2001-02 should only be allowed through refrigerated containers and not in open top containers.
3. In order to facilitate value addition and enhancement of shelf life of grapes, import of grape guard paper should be allowed from all sources.

9.1.7 State Bank of Pakistan

State Bank of Pakistan should facilitate the process of value addition and hence achievements of targets by providing export refinance facility. All exports of fruits, vegetables and flowers (whether fresh, frozen, refrigerated, packaged, canned, dehydrated) should qualify for this scheme subject to the fulfilment of following conditions:

- ◆ Exports against Letters of Credit
- ◆ Products packed in cardboard packs (wooden packaging will not be allowed)
- ◆ Standard Labelling (specifying net weight and number of pieces)
- ◆ Exports in temperature controlled environment
- ◆ Kinnow: waxed and graded
- ◆ Apple and mangoes: graded.

The said export refinance scheme should be available to the extent of 40% of total value of the consignment. This scheme should guarantee at least 80% of the exposure of the bank against commercial risk. The exporter to the satisfaction of the bank should cover the balance 20% of the risk.

All these incentives are designed in such a way so as to facilitate value addition.

9.1.8 Central Board of Revenue

Central Board of Revenue is required to play its role in value addition by providing the following incentives:

1. Duty free import of all the inputs required for horticulture industry should be allowed. These inputs include:
 - ◆ Packaging cardboard/cardboard boxes and other packing material
 - ◆ Processing wax
 - ◆ Grape guard paper
 - ◆ All consumables used in the exports and processing of fruits, vegetables and flowers.
2. Exempt import duty on clip-on generator sets for refrigerated containers.
3. General sales tax levied on all inputs being used for exports of fruits, vegetables and flowers should be exempted/reimbursed under the same procedure as applied to re-exportable goods at time of their import i.e.
 - ◆ Undertaking by the exporter of their proper use and provision of consumption certificate
 - ◆ Post dated cheque as a guarantee against misuse by the exporter.
4. 24-hour one-window facility should be made available to exporters at Karachi, Lahore, Islamabad, Peshawar, Quetta and Multan airports.
5. Customs department should set-up camp offices at Bhalwal and Toba Tek Singh functional from 1st December to end February to facilitate kinnow exports.
6. Export tax should be considered as final tax liability for exporting companies.
7. To facilitate the export of dates and apples from Baluchistan, export infrastructure facilities

should be provided at Gawadar seaport and Turbat airports.

These incentives will facilitate exporters in reducing their costs of imported machinery, equipment and raw materials. The machinery, equipment and raw material that needs to be imported will be used in value addition and will enable the exporters to realise a better price in the international markets.

All these measures are required to be in place on time. However, it should be noted that ongoing practices will be allowed but without any incentives.

9.2 Short Term Measures

The short-term measures are those that need to be in place within six months. These measures, alongwith the date of implementation, include:

9.2.1 Horticulture Export Board

Establishment of Horticulture Export Board (HEB) fully functional by June 2001. The functions and objectives of HEB will be discussed in detail later.

9.2.2 Cold chain infrastructure

Establishment of cold chain infrastructure is to be initiated. This infrastructure will include cold storage at airports, seaports, near growing areas etc. The airport cold stores at Karachi, Lahore, Islamabad, Peshawar, Quetta, Multan and Saidu Sharif airports are to be completed and fully functional by June 2002.

9.2.3 Quality standards

Designing and introduction of quality standards for export markets should be completed by June 2001. HEB will be playing a major role in the accomplishment of this task. These standards will not be the final word and will be modified according to the needs of the markets.

9.2.4 Consolidation of export data

Consolidation of all export data lying with various agencies including Federal Bureau of Statistics, Central Board of Revenue and Export Promotion Bureau should be complete by December 2001. This data is the key for enabling EPB and HEB to develop a marketing strategy targeting specific regions and specific products.

9.2.5 Insurance

By June 2001, State Bank of Pakistan and Ministry of Commerce should devise mechanisms to insure participation of insurance companies in crop insurance and in coverage of perishable stocks. Introduction of crop insurance is a must to facilitate farmers towards better utilisation of resources and improvement of yields. Coverage of perishable stocks will not only reduce the risk of exporter but will also enable him to make more investment in inventory and thus increase export quantities.

9.3 Medium Term Measures

These measures are to be in place within two to four years. These include:

9.3.1 Quality standards

Quality standards that were designed and introduced in the short term will be strictly enforced in **the medium term**. It will be made sure that these standards are internationally acceptable. This task will be accomplished by June 2002. Some basic standards include:

- ◆ All exports of perishable products through temperature controlled environment only. This is the key to ensure quality of produce when it reaches the consumer.
- ◆ Strict standards for packaging and labelling. Packaging not only ensures protection of the produce but also makes it presentable. Labelling would include origin of the product, name and address of exporter and weight of the product.
- ◆ Enforcement of product specific grading and processing standards. A sizeable investment has been recommended for grading and processing plants. This investment will only follow if grading and processing standards are in place.

9.3.2 Horticulture extension services

Pakistan's research organisations have not been able to educate the farmer about the research work that they carry out. Comprehensive horticulture extensive services need to be put in place by December 2003. There is a need to introduce export culture among farmers. This can be brought about by directing horticulture extension services towards farmers to promote:

1. **Growing for exports.** The culture in Pakistan is that we export those products that are available in excess of demand in the local market. So Pakistan's exports have been supply driven rather than demand driven. We can not force the consumer to eat what we have rather we have to grow the product that is needed by the consumer. Farmers should be advised to grow those products and varieties that have an international market.
2. **Improve Yields.** Orchard yields in Pakistan are way below the international benchmarks. Horticulture extension services should be educating the farmer to improve yields by using better varieties, proper pest and fertiliser management, pruning and better irrigation practices.
3. **Orchard/Farm Management.** The farmers need training in orchard management to improve yields and growing for exports.
4. **Introduce and promote organic farming.** Market for organic foods is growing globally. Organic foods have a niche market and they fetch a higher price. Since the use of pesticides and fertilisers is only marginal in a number of orchards, it would be easier for us to introduce and promote organic farming. **This job needs to be carried out by horticulture extension services.**

9.3.3 Quality assurance laboratories

Establishment of quality assurance laboratories at key locations in collaboration with private sector is needed to assure that products that leave Pakistan's ports conform to designated quality standards. Horticulture Export Board and Export Promotion Bureau need to accomplish this task by end of year 2003. Once quality standards are in place and are being strictly followed, running such labs on commercial basis will not be a problem.

9.3.4 Marketing

Fruits like kinnow and mango need a brand name under which they can be marketed world-wide. Horticulture Export Board (HEB) should develop such a brand name. HEB will market this brand name and will charge exporters a fee to use this brand name. This brand will be used for a portfolio of products. However, vegetables like peas, carrots, onions have the attributes of commodities. It will be difficult to establish a brand name for such products. So it is recommended that international marketing and processing companies should be invited to outsource such products from Pakistan and market them under their established brand names. These companies will be invited to make investment in processing, grading and packaging of such products.

9.3.5 Farmer co-operatives

Establishing farmer co-operatives can increase the bargaining power of farmers. Bargaining power is a must to enable farmers to get better returns and growing for exports. Farmer co-operatives will enable international marketing companies to outsource products in bulk and direct farmer co-operatives to grow specific products and varieties.

10 HORTICULTURE EXPORT BOARD

The long-term development of horticulture sector is dependent on adopting an integrated approach, which involves all stakeholders and promotes their collective interests. The accomplishment of this objective calls for establishment of an organization that takes on the activities of promoting horticulture sector by involving all the links in the value chain. Establishment of horticulture Export Board (HEB) is recommended for the said purpose. The vision of HEB would be:

"Institutionalize Fruits & Vegetable Export Marketing in Private Sector"

HEB with the representation of different players on the Board will play crucial role for this sector. The establishment of similar boards has achieved export expansion in many countries. SMEDA, EPB and the proposed Horticulture Export Board will establish the trade integration between the growers, export houses and international marketing chains.

10.1 Objective

The primary objective of forming a Horticulture Export Board (HEB) is to promote, regulate, coordinate, control and improve the export of horticulture such that the economic well being of all the stakeholders in the value chain improves; without producing any socially undesirable affect.

Objectives of the Horticulture Export Board are as follows:

- a. Develop and implement horticulture export marketing strategies, which result in higher value for Pakistan's exports.
- b. Develop and promote a premium quality brand.
- c. Invite international marketing companies to source products from Pakistan.
- d. Develop procedures and regulations to create an environment conducive for exports.
- e. Design and implement quality standards for exports.
- f. Diversify overseas markets by finding new markets and expand exports in non-traditional exports like flowers and their value-added products.
- g. Represent the industry in international forums.

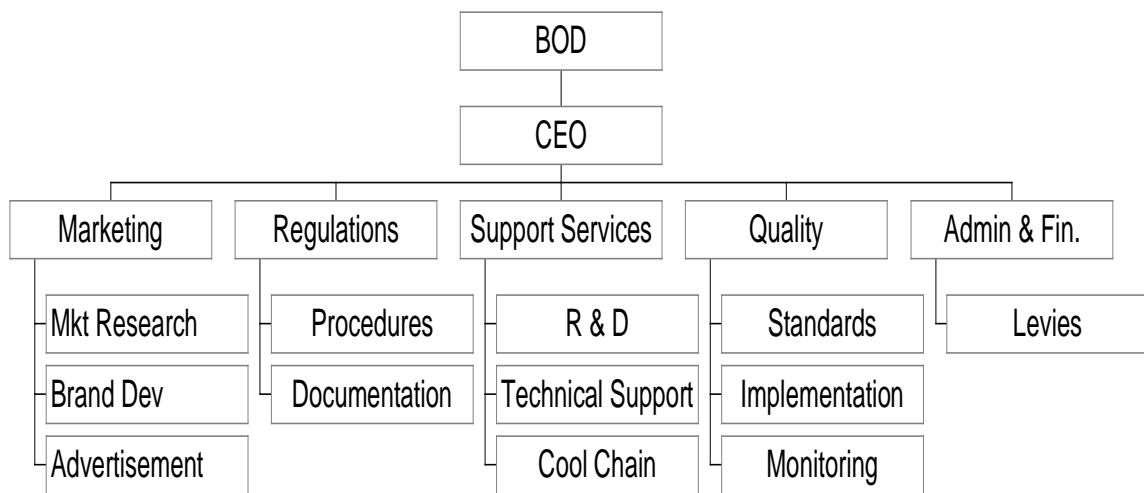
- h. Export products through a common pooling system under an umbrella brand.
- i. Facilitate setting up of cold chain infrastructure all over the country.
- j. Develop linkages with research and development institutions of the country and facilitate them in improving extension services.
- k. Encourage and facilitate the growers to "grow for exports".

It should be a dynamic set-up that adheres to the changing needs of the domestic and international markets and results in the evolution of efficient corporate structures that will work together for exports of horticulture. These objectives will continuously be evaluated for possible changes such that they are in line with the primary objective and purpose of the Board.

10.2 Organisational Description

Horticulture Board will have five major wings according to their functions. The organisational description has been structured to assure built-in accountability mechanism such that efficiency is guaranteed. At the time when the Board becomes functional, firm dates will be announced on which the Board will report to concerned agencies. All these agencies are required to keep a vigilant eye on the Board to assure transparency and accountability through regular board meetings and performance evaluation against specific financial targets. The organisational structure is as follows:

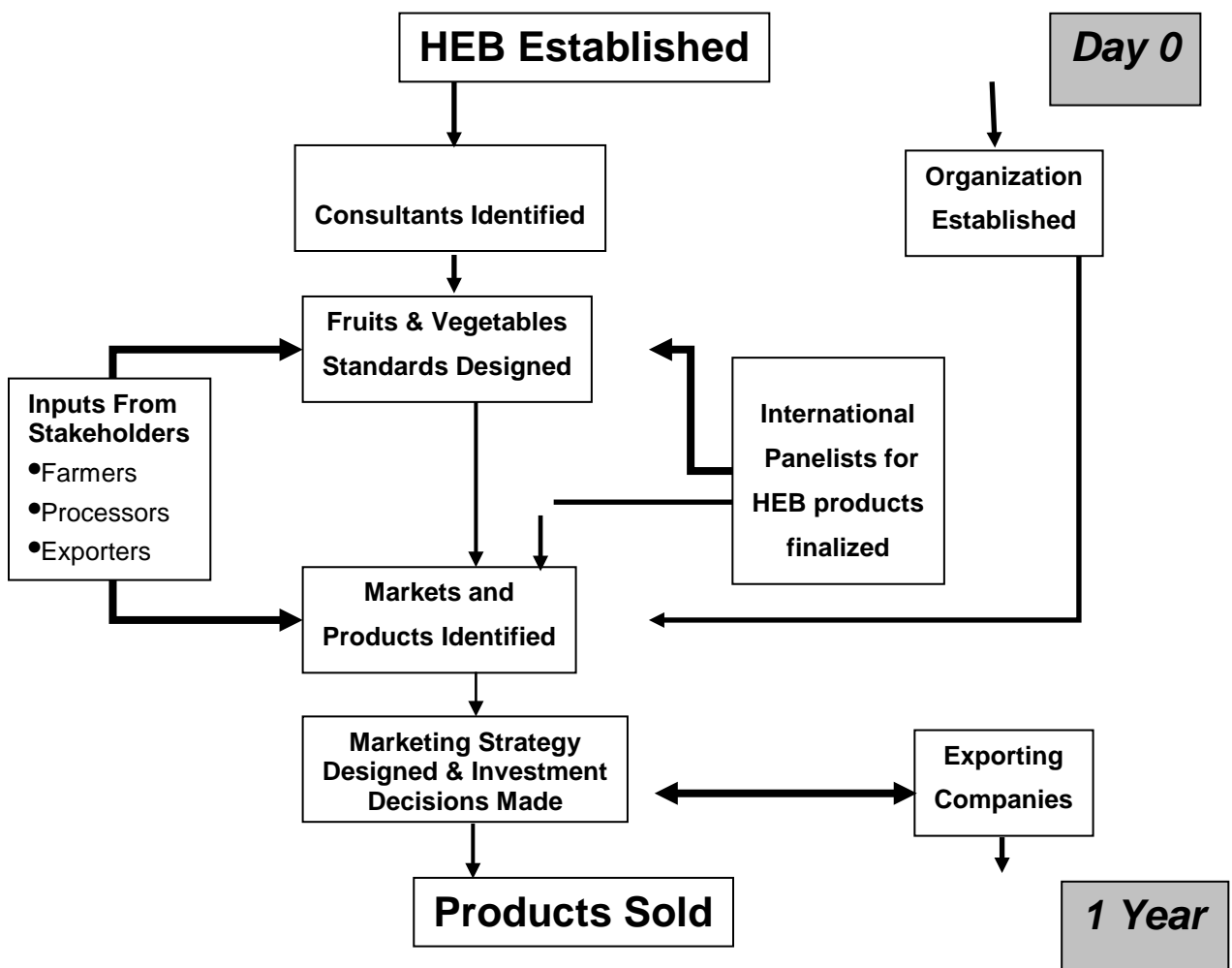
Figure 10.1 Organogram of Horticulture Export Board



10.3 Co-ordination of Activities

The following flow-chart clearly defines that how HEB will co-ordinate its activities.

Figure 10.2 Horticulture Export Board Activities



As a first step, consultants to work with HEB will be identified along with the establishment of the organization. Then HEB will design standards for fruits and vegetables and will identify markets and products. Inputs from stakeholders will facilitate this process. Parallel to that, HEB will also finalise panelists to work with in order to market products. After that, marketing

strategy will be finalised and investment decisions will be made in conjunction with exporting companies. The final outcome will be products sold under the supervision of HEB in one year's time after HEB establishment.

10.4 Functions

The main activities that will be performed by HEB are summarised below:

10.4.1 Marketing

HEB will take on the following marketing activities in conjunction with EPB.

10.4.1.1 Brand development

The first marketing activity that the Board will take on is to establishment an umbrella brand to market citrus and mango initially under that brand. More fruits and vegetables will be added later. Exporters will be given the option to market their product under this brand name or use their own brand. The Board will take the responsibility of promoting this brand through advertisements, promotional schemes, international seminars etc. A targeted international marketing campaign will be launched in different countries for different products.

10.4.1.2 Diversify export markets

The Export Board would carryout its marketing activities not only to increase exports in the existing markets but will also introduce the products in non-traditional markets. In this regard, HEB may seek long term trade arrangements with the governments of the importing country in order to ensure sales in the future. HEB will also work with international panelists to market products world-wide.

10.4.2 Regulation

The Board will ensure that the rules, regulations and procedures governing the exports of horticulture are simplified to be conducive to exports. The exporters, processors, growers and transporters will provide the feed back for regulatory changes. However, amendments will only be made if they conform to the broad objective of the Board i.e. improving the economic well being of all (or some) links in the value chain without producing any socially undesirable affect.

10.4.3 Monitoring

The Board will monitor the activities of all the stakeholders and will periodically evaluate their performance to identify any shortcomings and at the same time avoid pitfalls and recurrence of mistakes. This is essential because it is very difficult to get a perfect plan under the dynamic circumstances of the international market. Vigilant monitoring by the Board will ensure timely review and reorientation of marketing plans.

10.4.4 Quality

Board will design and implement quality standards in terms of variety, size, colour, appearance and taste of the produce and will define specifications for packaging and labelling. Based on these standards, the Board will assign a grade to each export consignment, as it will be mandatory for all the exporters to go through the process of grading and obtain quality certification. Substandard produce will not be allowed to leave the ports under any circumstances. This practice will bring many advantages including:

- ◆ Private sector will make investment in grading and processing plants.
- ◆ Uniform quality in exports such that the importers are sure of the quality they are going to get.
- ◆ Better price realisation by exporters.
- ◆ A better price to exporter will result in a better price offer to the grower for his produce. It will also encourage the growers to grow internationally acceptable varieties and to work efficiently such that the exporters are willing to buy their product.

10.4.5 Support services

Horticulture Export Board will facilitate following support services.

10.4.5.1 Establishment of cold chain

Storage facilities are essential for cost-effective marketing of horticulture produce as they reduce post harvest losses and health risks. Export Board will give recommendations about the key spots

where such facilities are to be made available. A project is already in the pipeline that is funded by the Spanish government.

10.4.5.2 Research and development

HEB will work in collaboration with Faisalabad Research Institute and Pakistan Agricultural Research Council for developing new varieties that are popular world-wide, increasing yield of existing varieties and bringing uniformity in the produce. New varieties will be tried to be developed that extend the harvesting season. For example, citrus is exported from Pakistan between 15 December to 15 April whereas the harvesting season ends on 15th March. Efforts will be made to produce varieties that increase this harvesting season.

10.5 Financing

Seed money will be obtained from Export Promotion Bureau to buy tangible assets and for the initial set-up of the Board. Then it will be run on commercial grounds such that at minimum the board is self-sustaining. The Board is expected to raise its funds from the following sources:

10.5.1 Seed money from EPB

One-time seed money, Rs. 200 million, will be obtained from Export Promotion Bureau to start the operations of the Export Board. Once the Board becomes operational, it will generate its own funds through various sources as discussed below.

10.5.2 Export Development Fund

An export development fund of 0.25% of all horticulture exports will be charged.

10.5.3 Membership fee

Membership fee will be obtained from all the stakeholders i.e. growers, processors, exporters etc. The purpose of charging every one is to make sure that there are no free riders.

10.5.4 Quality certification fee

Quality Certification Fee (QCF) will be charged against each export consignment in order to

issue a quality certificate to accompany the consignment to assure its quality. These fees will not only raise funds but will also help in keeping a track of the exporters.

10.5.5 Royalty for the use of brand name

As many exporters will be channelling their exports under a single brand name, which is the property of the Board, so a royalty will be charged for the use of the brand name. Royalty will be charged on each consignment depending on the volume of exports such that bigger exporters end up paying more. Funds thus raised will primarily be used for the promotion of the common brand.

10.5.6 Fee for consultation services

Export Board will provide its services to all stakeholders to help them meet international and domestic standards and export specifications. A fee will be charged for such services.

The various sources discussed above will contribute to HEB annual budget as follows:

Table 10.1 Sources of Financing of HEB

Source	% Contribution
Export Development Fund (EDF): 0.25% of all horticulture exports	25
Membership fee	5
Quality Certification Fee	5
Brand name Royalty	40
Fee-based consultation services	15
Other Services	10
Total Annual Budget	100

Once HEB is fully functional, its main source of revenue will be royalty charged on brand name

followed by export development fund (EDF). The table highlights the fact that HEB will raise 100% of its revenue needs and hence will be self-sustaining.

11 WORLD TRADE ORGANIZATION AND HORTICULTURE

11.1 Background

The attempt to create an "International Trade Organization" (ITO) was under way since the First World War. In 1946, twenty-three countries decided to negotiate to reduce and bind customs tariff. The combined package of trade rules and tariff concessions became known as GATT (General Agreement on Tariffs and Trade). It entered into force in January 1948 while negotiations on ITO charter were under way. However, despite negotiations, ITO was never established and it was practically dead in 1950. GATT, though provisional, has remained the only multilateral instrument governing international trade from 1948 until the establishment of World Trade Organization in 1995.

The purpose of establishing GATT was to have a general agreement among countries regarding liberalised global trade. Negotiations started to take place among countries and there were a total of eight multilateral rounds to arrive at some kind of agreement regulating global trade. New laws were passed and new countries joined in each round. A total of 134 countries attended the eighth round, which took place at Uruguay (1986-1994). In the eighties it was felt that GATT needs to be overhauled. So in the Uruguay round, a deadline i.e. December 15, 1993 was set for a more comprehensive international trade agreement. After finalising all the details, the agreement was signed in April 1994. Since the purpose of GATT was to arrive at an agreement, hence it was ceased to exist on 31st December 1994. From January 1st, 1995, World Trade Organization (WTO) came into existence.

World Trade Organization (WTO) agreements call for liberalisation of international trade through dismantling of trade barriers. Under the agreements, all the countries are required to first convert the non-tariff barriers into tariff barriers and then reduce the tariff barriers over a designated time period. This time period is longer for developing countries and shorter for developed countries.

11.2 Agreement on Horticulture

Horticulture sector is covered by the WTO's agreement governing trade in agriculture. The original GATT also included the agricultural sector but the problem was it had provisions that allowed quotas and export subsidies. This led to a highly distorted international agricultural market. Even now, the situation is that big players like EU and USA are heavily subsidising their agricultural sector. The agricultural agreement signed under WTO is called "Agreement on Agriculture" (AoA) or Uruguay Round Agreement on Agriculture (URAA). This agreement will be implemented in a time span of 10 years for developing countries and in 6 years for developed countries. This is stated in Table 11.1.

Table 11.1 Implementation Period of Agreement

	Developed Countries	Developing Countries
Implementation period	6 Years (1995-2000)	10 Years (1995-2004)
<u>Tariffs*</u>		
Average cut for all agricultural products	-36%	-24%
Minimum cut per product (base period: 1986-88)	-15%	-10%
<u>Domestic support</u>		
Total AMS** cuts for sector (base period: 1986-88)	-20%	-13%
<u>Exports</u>		
Value of subsidies	-36%	-24%
Subsidised quantities (base period: 1986-90)	-21%	-14%

*Includes non-tariff barriers converted to tariff.

** Aggregate Measure of Support (AMS) is an index that measures the monetary value of the extent of government support to a sector. It includes budgetary outlays (direct payments to

producers such as deficiency payments), input subsidies, revenue transfer from consumer to producer as a result of market distorting policies (market price supports) and interest subsidies on commodity loan programs. It does not include estimated benefits from non-commodity specific policies (such as research and development). The WTO-defined measures of deficiency payments and market price supports are also excluded. Moreover, the final AMS for the WTO implementation period is adjusted to exclude deficiency payments under WTO special provisions, even though they are included in the WTO base period.*

Source: World Trade Organization

For trade liberalisation, the agreement has given all the countries an adjustment/transition period that depends on the **economic** state of every country (defined as developed, developing or least developed country). Least developed countries agreed not to increase domestic support policies from the base period. However, they were subject to a minimum reduction of 10% per annum. There is no deadline year for them. Tariffs on all agricultural products (including horticulture) are now bound (subject to a maximum ceiling). The developed countries are required to implement their support reduction commitments in a time span of six years. The average tariff cut for all agricultural products has to be 36% with a minimum reduction of 15% in each product. AMS for agricultural sector will be cut by 20% per year. The value of export subsidies is to be reduced by 36% per annum and also calls for 21% annual reduction in subsidised export quantities.

On the other hand, the developing countries are given a time period of ten years to implement their support reduction commitments. Their commitment levels are two-third of the commitment levels of the developed countries. So the average tariff cut for all agricultural products has to be 24% with a minimum reduction of 10% in each product. AMS for agricultural sector will be cut by 13% per year. The value of export subsidies is to be reduced by 21% per annum and requires 14% annual reduction in subsidised export quantities.

* A direct government payment made to farmers based on the difference between the target price and the market price.

Membership in the WTO requires that all member countries will provide information regarding their compliance with the commitments on a periodic basis. This process is called “notification”. The purpose is to keep an eye that the governments are working according to their commitment levels.

11.3 Objective of Agreement

The main objective of Agreement on Agriculture (AoA) is to make this sector more open to trade and market oriented such that it brings security and predictability to both importing and exporting countries. However, under some special circumstances, the countries are allowed to give support to their farmers. The purpose is not to give any unfair advantage but provide help in bad times and take care of non-trade concerns of individual countries.

11.4 Scope

The new rules and commitments under AoA call for

- Better market access by removing trade distortions that restrict imports.
- Eliminating domestic support that is in form of either subsidies or guaranteed price/income for the farmer.
- Elimination of export-subsidies that are there to make exports artificially competitive.
- Elimination of quotas, restrictions and any other form of non-tariff measures. The new rule is to replace **such measures** by tariffs and the process is called “tariffication”. These tariffs are then to be reduced over the implementation period.

11.5 Possible Impacts on Pakistan Horticulture Sector

11.5.1 Reduction in subsidies

Most of the developed countries have not followed the AoA in its true spirit and their **produce** remains highly subsidised. The process of trade liberalisation under AoA has been slower than expected. This is obvious from the farm subsidies provided by OECD* (Organization for Economic Co-operation and Development) countries in the year 1998. OECD countries spent

* Source: Organization for Economic Co-operation and Development

US\$362 billion on agricultural subsidies, two and a half times the total GDP for all least developed countries. **Per farmer** subsidies in the US and the EU were **almost the same and at** about US\$19,000 for each farmer.() Though these figures have been widely criticised that these are under stated because of the way they have been calculated, but even according to these figures, the subsidies remain extremely high. The fact is no matter how slow is the process of liberalisation; developed countries will be reducing farm subsidies under the AoA thus enabling the developing countries to get their share of the market. As these subsidies will be abandoned, more market opportunities will become available and we need to prepare our exporters to fill in such vacuums that are to be created.

An analysis of EU market is carried out in order to see the affect of abolition of agricultural subsidies. The quantum of EU subsidies in the year 1998 is given in Table 11.2:

Table 11.2 EU Horticulture Subsidies (1998)

Subsidy	US \$ million
Total Agriculture	40,000
Horticulture	1,510
Share	3.8%

Source: FAO, EU 1998

Out of a total agricultural subsidy of US \$ 40 billion, the horticulture sector received \$ 1.51 billion. This subsidy is given in many forms including export refunds, guidance premiums and price support. Such subsidies have made the horticulture **sector** of EU artificially competitive. A comparison of farm gate prices **offered** to EU farmers and export price of Pakistan is carried out for some of EU member countries in Table 11.3:

Table 11.3 Farm Gate Prices in EU

Product	Pakistan	Farm gate prices in EU (US \$/Mt)

	Export Value (US \$/Mt)	France	UK	Italy	Netherlands
Apples	293	358	-	290	373
Pears	400	582	552	671	637
Mandarins	257	-	-	396	-

Source: FAO, FBS, EU 1998

The above table clearly depicts the fact that EU farmers can not compete with the export prices that we are offering. Farm gate price is given to all the producers for all the varieties while Pakistan's export **price is of premium quality** produce that should be higher than EU farm gate price. Moreover, to protect domestic producers, EU also announces minimum import price to discourage imports. Once price support and benefits to EU horticulture sector are withdrawn, it will not be able to compete in the global market place. A similar situation can be found in USA and other developed countries.

Apart from greater opportunities in the wake of trade liberalisation under WTO, other possible points of concern are discussed below.

11.5.2 Horticulture Export Board and WTO

Under the provisions of WTO, Export Boards are considered as State Trading Enterprises (STE). Countries operate STE's particularly to make purchase and sales of agricultural produce and sometimes these STE's are also actively involved in import and exports. STEs and similar organisations have significant government influence in agricultural trade. It is required that the countries notify the WTO that they operate the STEs on commercial grounds and in a non-discriminatory manner. Otherwise, any signatory of WTO is required to dissolve all government funded STE's by 2005. However, if a Board/STE is self-sustaining i.e. it does not receives any fund from the government, it is justified under WTO agreement. The proposed Horticulture Export Board will not be facing any scrutiny from WTO, as it will be a self-sustaining organisation.

11.5.3 Non-tariff barriers

Under WTO the signatory countries cannot impose import duties but can raise non-tariff barriers based on quality and hygiene issues. Such issues are widespread in case of fresh horticulture products. One example is ban on mango imports from Pakistan imposed by USA and Japan due to the presence of fruit fly. Many Western and Asian countries are raising non-tariff barriers due to quality and hygiene issues. Pakistan needs to gear-up to this eventuality and impose these international standards on its exports voluntarily. This would not only bring more value to Pakistan's exports but will also improve country image.

11.5.4 Food standards

Codex Alimentarius Commission is a body of United Nations dealing with food standards. It is comprised of the FAO (Food and Agriculture Organisation) and the WHO (World Health Organisation) and is recognised by the WTO for the establishment of international food standards. Pakistan needs to put standards of Codex Alimentarius in place in order to place itself as a supplier of internationally acceptable quality of fruits and vegetables.

11.5.5 Agreement on Technical Barriers to Trade (TBT)

The Technical Barriers to Trade (TBT) agreement of WTO covers any procedures or standards that might be deemed to interfere with international trade. This includes packaging, marking and labelling standards. This agreement can be a threat to Pakistan's fresh produce exports, as we do not follow any packaging and labelling standards. The trade arena bound to set in as a result of WTO agreements will call for better labelling and packaging practices which so far has remained a weak area for Pakistan.