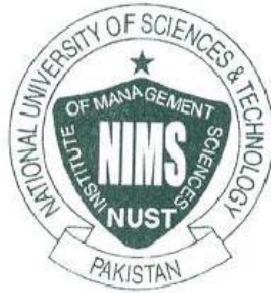




NUST Institute of Management Sciences



BUSINESS PLAN OF EXPORT PROCESSING PLANT OF MANGOES

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Acknowledgements

*Proclaim! (or read!) in the name of thy Lord and Cherisher, Who created-
Created man, out of a (mere) clot of congealed blood: Proclaim! And thy
Lord is Most Bountiful, - He Who taught (the use of) the pen, - Taught man
that which he knew not.*

*First and Foremost I thank Allah Almighty for giving me the strength and
teaching me ways that I knew not and helping me at each and every step
from the mothers womb to what I am today.*

*All respects for his Holy Prophet Hazrat Muhammad (Peace be upon him),
who enlightened our mind to recognize our creator.*

*All praises for my Parents who give me strength and power to study and
who always pray for my success.*

*With a deep emotion of benevolence and gratitude, I feel it me moral duty to
place on record my sincerest appreciation to my learned thesis advisor
Assistant Professor Mr. Yaaman Majeed for suggesting and supporting this
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supervision and constant encouragement throughout the tenure of MBA,
enabling me to successfully complete my business plan and write this report.*

*I am also grateful to many people for their help and encouragement during
the writing of this report. Comments received from our friends resulted in
many changes.*

*“The moving finger writes: And having writ
Moves on. Nor all thy piety nor wit
Shall lure it back to cancel half a line, Nor all thy
tears wash out a word of it.”*

Omar Khayyam

Executive Summary

Mango the king of fruits in Indo-Pakistan sub-continent was known from very early times, it is said to have been growing for the past 4,000 or even 6,000 years in this region. In Pakistan the cultivation of mango is as old as the civilization of this tract. It is said that the Great Moghal Emperor Shah Jahan planted the groves of the mango tree in the Shalimar Garden, Lahore.

It is one of the most popular tropical fruits in the world. Mango is the second major fruit crop of Pakistan after Citrus. Pakistan, the world's third largest exporter of mangoes, has some 102,800 acres devoted to mango cultivation and the harvest is estimated at 1,034,600 tones. The Pakistani Mangoes are well known for its taste and quality abroad. More than 54,000 tons of mangos are exported to neighboring and European countries.

The production of Mangoes in southern Punjab i.e., Multan, Bahawalpur, Rahimyar Khan and Dera Ghazi amounts to approximately 0.70 million metric tones while 0.3 million metric tones is being produced in various districts of Sindh Province.

About 250 varieties of mangoes are grown in Pakistan. Mango varieties have been known for attractive colors, savoring smell, delightful taste and high nutritive value. There is a great demand for mangoes in some foreign countries and Pakistan is exporting a good quantity of mangoes every year and earning a good amount of foreign exchange. The most popular exporting varieties are Chaunsa, Sindhri and Anwar Retol.

The project involves processing of fresh mangoes for export from Pakistan. The process would include undertaking value-added activity(s), which will increase the quality and shelf life of Pakistani mangoes for the international market. Pakistani Mangoes have huge demand in the international market due to its rich flavor, aroma, and health value, i.e., nutrients and minerals contents. It has been observed that in order to enter into the international markets with longer shelf life, good quality mangoes will require physical infrastructure facilities like modern processing and logistics¹. The major scope of processing activities will include post harvest handling, pre-cooling, grading, ripening, packing and logistics.

A plant with processing capacity of 3 tons per hour is considered to be an economically viable setup. The total operational days of plant shall be 70 days. This means, that for a total 70 operational days, with 8 hours of operations per day, a total of 1, 3443 metric tons of fresh mangos can be processed.¹

A family own company will be formed by brothers who are highly educated in different fields like law, economics, doctor in medicine & surgery, engineering and masters in business administration. They all agreed on forming a partnership deed to start this business as soon as possible. The Processing plant is proposed to be set up at Shahbazpur Road, Near Commerce College in Rahimyar Khan City.

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INTRODUCTION

Introduction

Mango the king of fruits in Indo-Pakistan sub-continent was known from very early times, it is said to have been growing for the past 4,000 or even 6,000 years in this region including Burma.

According to the Candolle, Mango has been under cultivation for over 4,000 years. In 327 B.C Alexander the Great is reported to have spotted a mango, garden in the Indus Valley during his invasion.

Mango occupied an important place in horticulture during Moghal reign and the old Moghal gardens bear testimony of the same. They

developed and planted different varieties of mango. Akbar the Great (1550-1605) planted an orchard of 100,000 mango trees in the Lakhibagh near Darbhanga in Bihar. An encyclopedic work, the Akbari, written during the rule of Akber (about 1590 A.D) contains a lengthy account of mango, their qualities and varieties.

Mango is now cultivated in many other countries of South East-Asia including Philippines, Indonesia, Java, Burma, Thailand, Malaysia and Ceylon. It is gaining importance in Egypt, South Africa, South Africa, Hawaii and West Indies. Efforts are being made to develop it as a commercial crop in Florida, tropical Australia, Brazil and Mexico.

In Pakistan the cultivation of mango is as old as the civilization of this tract. It is said that the Great Moghal Emperor Shah Jahan planted the groves of the mango tree in the Shalimar Garden, Lahore. It is one of the most popular tropical fruits in the world. Mango is the second major fruit crop of Pakistan after Citrus. Pakistan, the world's third largest exporter of mangoes, has some 102,800 acres devoted to mango cultivation and the harvest is estimated at 1,034,600 tones.



The production of Mangoes in southern Punjab i.e., Multan, Bahawalpur, Rahimyar Khan and Dera Ghazi Khan amounts to approximately 0.70 million metric tones while 0.3 million metric tones is being produced in various districts of Sindh Province.

Mango enjoys second position after citrus in Pakistan. The Pakistani Mango is well known for its taste and quality abroad. More than 54,000 tons of mangos are exported to neighboring and European countries last year. Mangoes are mainly eaten fresh, but are also used in preparing squash, jam, and other preserves and sometimes canned. Young mangoes are used in making mango chutneys and pickles.

Pakistan has direct competition with India, which is world's largest producer of mangoes. Pakistan has cost advantage over India in terms of transportation costs because of lesser distances of ports, especially for Middle Eastern markets.

Mango is one of the most popular and best-loved fruits worldwide. Because of its excellent flavor, attractive fragrance, beautiful shades of color, delicious taste and healthful value, mango is now recognized as one of the best fruit in the world market.

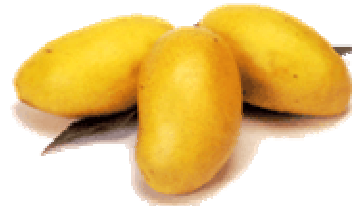
Mangoes come in market early in the May and remains in market till August / September. The typical mango season is from June to September, with export surpluses available in July. Peak season will begin from June 1, when the mango would be full ripe and its taste and shape would be ideal. Most of the traders do not follow the recommended processing methods.

The main orchards of mango are in district Multan, Bahawalpur, Muzaffargarh, and Rahimyar Khan, which include: Rahimabad, Jamaldinwali, Sadiqabad, Shaikh Wahan, Mianwali Qureshian Zahirpir, Bagho Bahar, Tirandah Mohammad Panah, Shuja abad, Khangarh and Koat Addu, Whereas, Hyderabad, Tandojam, Tando Allahyar, Tando Jan Muhammad, Mirpur Khas, Digri, Umer Kot, Nawab Shah, Naushero Feroz, Khairpur Mirus, Ghotki, Khanewal, Sahiwal, Vihari, Okara, Faisalabad, Jhang, Toba Tek Singh and Sargodha are also very famous for mango production. In the province of NWFP it is grown in Peshawar and Mardan.

Subsequently, a new trend of growing late varieties in Punjab has received a wide popularity, which has extended the market period and added to the exportable surplus.

About 250 varieties of mangoes are grown in Pakistan. Mango varieties have been known for attractive colors, savoring smell, delightful taste and high nutritive value. The most popular commercial varieties, all are in different colors and sizes and each with a distinct flavor and taste – include:

- Sindhri
- Chaunsa
- Anwar Retol
- Langra
- Fajri
- Samar
- Bahist
- Dasehri
- Saroli
- Gulab Khasa
- Tota Pari
- Neelam
- Maldah
- Collector
- Mian Jee
- Sensation
- Bengan Phali & etc.



Export of Pakistani Mangoes

There is a great demand for mangoes in some foreign countries and Pakistan is exporting a good quantity of mangoes every year and earning a good amount of foreign exchange. The mangoes, which are in great demand abroad, include Anwar Ratol, Chaunsa, and Sindhri. According to TCP report, the total available surplus for export of mangoes was estimated at 159 M Tons in 1982-83.

According to the report that Pakistan currently discovered two new markets Nepal and Australia for the exports of mangoes which will fetch foreign exchange worth of \$450,000 per month.

A few years back in 1983 for the first time Pakistani mangoes were introduced in Romania, West Germany, Holland, France, Italy, Denmark, Norway, Malaysia and Singapore.

Some important varieties of mangoes have good demand in European Markets. Like Sindhari, Anwar Ratol and Chaunsa are generally considered to make a premium price in UK Market Boribo and Nigowe.

Export Varieties of Mangoes

Sindhri

It is one of the leading varieties of Sindh (Mirpur Khas). Fruit shape ovalish long, size large, skin color lemon yellow when ripe, pulp color yellowish cadmium, texture fine and firm fibreless, stone medium sized, flavor pleasantly aromatic and taste sweet.



Chaunsa

It is originated as choicest seedling in a village Chausa in Malihabad, Tehsil of Lucknow. It is also known as "Kajri" or "Khajri". There is resemblance between the foliage of Fajri and this variety but there are marked difference in fruit shape and quality. Fruit medium to large ovate to oval, base obliquely flattened, ventral shoulder raised than the dorsal, beak distinct, sinus shallow, apex round, skin medium in thickness, smooth, flesh firm, fibreless with pleasant flavor and sweet taste. Stone is somewhat large oblong. Ripening season is in August (late).



Anwar Ratol

It has originated as a chance seedling in "Shohra-e-Afaq" Garden in Ratol, India. Now it has become popular in mango growing areas of Punjab because of its high flavor. Fruit medium, ovate, base flattened with equal shoulders, which are rounded, beak not prominent, absent in some cases, sinus absent, and apex round.

Other Varieties

Langra

It has originated as a superior chance seedling near Benares. Its size from medium to large, ovate, base round to slightly flattened, shoulders equal. Beak minute but distinct, sinus slight to absent, skin green and thin, flesh fibreless, yellowish brown in color, scented, highly melting, very sweet. Its stone very small, flattened, and oval.

Dusehri

It derives its name from village between Lucknow and Malihabad where it was originated as a superior chance seedling. Size small to medium, oblong, ventral, shoulder higher than dorsal, beak and sinus absent, color yellow when ripe, skin thin, pulp fibreless, very sweet, flavor pleasant aromatic.

Al-Phanso

This is a leading commercial variety of Bombay State and is one of the best in India. Because of its better adaptability to humid climate it has not been able to maintain its esteemed position in the dry districts of Pakistan. The Al-phanso is successful in some districts of Sindh. Size medium, ovate, oblique, base obliquely flattened, Ventral structure broader and much higher than dorsal, beak just a point, sinus not prominent, color of the ripe fruit yellow or brownish yellow, skin thin, pulp yellowish brown, flesh firm, taste very sweet, flavor excellent, almost fibreless. Fruit quality is good.

Bagan Pali

Fruit shape is obliquely oval; Size is big, length about 14 cm. Breadth 9.1 cm Thickness 8.2 cm. Weight 22.0 oz. Base obliquely flattened. Stalk inserted obliquely. Shoulders ventral typically razed, broader and much higher than dorsal. Skin color is dark green and glazy when unripe.

Neelam

Fruit shape ovate, size small, length 7.7cm breath 5.9cm thickness 5.6cm weight 5.0oz. The base is rounded. Stalk inserted squarely. Cavity slight to absent, Shoulders unequal. Ventral is higher than dorsal, back rounded. Apex rounded Skin color sea green when unripe & yellow with reddish tinge when ripe.




Sammar Bahisht





It has originated as a superior chance seedling in Muzaffernager U.P. It got its name because of its pleasant flavor. Fruit medium, base slightly flattened, shoulders equal, sinus very light, beak point prominent, skin greenish yellow, thin, pulp yellow, very sweet, sparsely fibrous, flavor pleasant to delicious. It's stone medium and oblong, oval. Quality of the fruit is very good, keeping and peeling qualities well. Its ripening season is from July-August.





Fajrikalan



It has originated as superior chance seedling in Bihar and its name after the name of lady Fajri who selected and brought up its trees. Size big, oblong, obliquely oval, base rounded, shoulder unequal, with ventral higher than the dorsal, beak distinct, sinus very shallow with rounded apex. Stone is large and oblong, fruit quality well to very good bearing late season August.

Chart of Different Types of Mangoes

Type of Mango	Figure	Origin	Season	Color	Pulp Gravity	Flavor/ Taste	Fiber	Sugar	Moisture Content	Weight	Relative Humidity
Sindhri		Mirpur Khas, Pakistan	Mid-May-to-Mid-July	Gold	Medium	Slight perfume	3-5%	15 -18%	79% after ripening; 18% before ripening	1-3.5 Pounds	85%
Chaunsa		Lucknow, India	July- Oct.	Gold	Heavy	Slight Perfume	17.2 - 27.3%	18 - 22%	78% after ripening; 81% before ripening	1-2.3 Pounds	85%
Anwar Ratol		Rataul, India	July	Pale Yellow	Heavy	Rich Sweet	Absent			0.41 Pounds	

Type of Mango	Figure	Origin	Season	Color	Pulp Gravity	Flavor/ Taste	Fiber	Sugar	Moisture Content	Weight	Relative Humidity
Langra		Benares, India	1 st week of July to 3 rd week of July	Light Green	Low	Excessive Smell/ Very Sweet	Very Slight			0.51 Pounds	
Zafran			August	Green with Red shades	Low	Pleasant aromatic/ Sweet	Slight			0.44 Pounds	
Saroli			July-August	Greenish Yellow	Low	Aromatic/ Sweet	Absent			0.49 Pounds	
Dusehri		Lucknow and Malihabad, India	Mid July	Greenish Yellow	Low	Pleasant aromatic/ very sweet	Absent			0.39 Pounds	

Type of Mango	Figure	Origin	Season	Color	Pulp Gravity	Flavor/ Taste	Fiber	Sugar	Moisture Content	Weight	Relative Humidity
Gulab Khasa			Sep.	Reddish Yellow	Medium	Light odor/ Sour Sweet	Present			0.39 Pounds	
Saleh Bhai			Sep.	Yellowish with pale green tinge	Low	Pleasant/ Very Sweet	Less			0.55 Pounds	
Al-Phanso		Bombay	June - July	Yellow or Brownish Yellow	Low	Slightly aromatic/ Sour Sweet	Absent			0.44 Pounds	
Sawa-rnarica			July - August	Dark Green	Low	Typical Aromatic	Absent			1.063 Pounds	

Type of Mango	Figure	Origin	Season	Color	Pulp Gravity	Flavor/ Taste	Fiber	Sugar	Moisture Content	Weight	Relative Humidity
Bagan Pali			July - August	Yellowish light crimson patches	Low	Pleasantly Aromatic/ Very Sweet	Absent			1.25 Pounds	
Neelam			Sep.	Yellow with Reddish tinge	Medium	Insignificant/ Sweet	Less & Short Slight			0.27 Pounds	
Sammar Bahisht		Muzaffernager U.P, India	July-August	Greenish Yellow	Medium	Pleasant/ very Sweet	Sparsely Fibrous				
Fajrikalan		Bihar, India	Late August	Pale Yellow	Low	Pleasant/ Sweet	Fibreless				

Seasonal Chart

Products	Main Varieties	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mango	Sindhri												
	Chunsa												
	Dusheri												
	Langra												
	Began Pali												
Citrus	Sweet Orange (Mosumbi, Red Blood)												
	Mandarin (Kino)												

Climatic Conditions of Mangoes

Elevation	Suitable Temp.	Propagation	Suitable Age of Nursery Plant for Trans-planting	Time for Transplanting						Production Technology			
				Spring	Autumn	Time to Start of Bearing	Time to Full Bearing	Normal Economic Bearing Life	Time of Flowering	Annual Water Demand	Irrigation Intervals		
											Young Plants	Mature Plants in Winter	Mature Plants in Summe
200-300 Meters	15-40C Hot & Humid Climate	Grafting on Local Seedlings	1.5-2.0 Years	Feb./ March	Sep./ Oct.	4-5 Years	6-7 Years	30-50 Years	Feb./ March	500-750 milli-meters	7 Days	15-20 Days	8-10 Days

Climate and Soil

The ecological conditions suitable for mango cultivation are:

Pruning

Mango usually assumes a graceful dome shape shading the main trunk. No pruning is practiced however, annually after fruit harvest diseased, dried, broken branches and those touching the ground should be pruned off. To rejuvenate the orchard, after every 3-4 years, it is advisable that 15-20% of old wood should be removed.

Harvesting

Picking should be done when the fruit is fully developed and mature. Natural drop of the fruit is the main indication that the fruit is ready for picking. In Sindh, mango varieties start ripening from May to June. In Punjab ripening starts from June and continues up to mid August. In NWFP, the harvest is a later which helps to extend the period that mangoes are available. Expected yields vary from 40 to 100 kg per tree.

Pests and Diseases

Aphids

These suck the sap of the leaves and attack the plant during Feb/Aug. Use Folido 50% EC at the rate of 0.45 liters 450 liters of water per acre.

Fruit Flies

These attack mango fruits throughout the season. They have three generations and multiply very rapidly. For effective control collect all the fallen and affected fruits and bury them deep into the soil. Pheromone traps can also be used for trapping the male population. Use Dioptries 80% at the rate of 1 liter in 450 liters of water or Malathion 57% at the rate of 0.5 liter to 450 liters of water per acre.

Mango Borer

These cause damage to shoots and stems between May and Oct. To protect the stems, cover them with a cloth or Jute and paste charcoal over it. Fostoxin tablets can also be placed and sealed in the holes made by the borers.

Mango Scales

These suck the sap from the leaves as results of which the tree starts drying. Collect the affected leaves and burn them to check further spread. Use Metasystox 25% EC at the rate of 0.3 liter in 450 liters of water of Fotidal 50 EC at the rate of 0.5 liter in 450 liters of water per acre¹.

Mango Malformation

This is a very serious disease of mango in which the leaves and inflorescence are badly deformed and gradually dry up. There is no fruit setting and no production is obtained. There is no effective control yet, however, with better cultural measures incidence can be reduced.

Mango Blight

Erwinia bacteria cause it. Many spots appear on the leaves, which cause a reduction in growth and yield. Use Dithane M 45 at the rate of 750 gram in 450 liters of water per acre.

Mango Diseases Causing Loss

Sindh province is incurring a loss of one billion rupees per year as its 0.3 million mango trees continue to suffer from multiple diseases for last few years. Mango trees were suffering from sudden death disease for last three years resulting in decline of mango export. According to independent estimates the disease has attacked 0.3 million trees on the 0.1 million acre of mango growing area at an average of 3 trees per acre.

This situation is adversely affecting the overall economy of the province. Immediate measures to contain the disease should be taken to save the multibillion mangos export

pact signed with China recently; otherwise, Pakistan might lose a very large market. Government officials say that they are working extensively to combat the disease to make the mango orchards green once again. This is not only a loss of farmers but the whole mango industry is facing a set back due to 'sudden death' among mango trees.

EXPORT **POTENTIAL**

Untapped Potential

There are many mango varieties other than Sindhri that can successfully meet the export challenge in the world market and earn sizeable foreign exchange. But mango growers are unable to tap the export potential of the fruit due to absence of scientific cultivation, harvesting, grading, and packing and transport methodology.

There is a need of certification for mangoes from international standardization agencies to enter the world market as food safety was a global issue. International clients are very careful regarding production circumstances in agricultural and food industry causing toxic effects on humans, animals and on the environment.

In order to compete in the world market the growers should have to change their old patron of cultivation especially in the field of fruits including mango production that has great demand in Middle East, EU and China. By adopting scientific planting and tutelage the mango tree can live up to 100 years and yield more than 10 tons per acre as compared to its present production of 2.5 to 3.0 tons per acre.

Export of Mangos

The export of mangoes is expected to increase by five percent to 10 percent during the current season despite some damage to the crop in Sindh. Pakistani mango has always been considered a hot cake in Europe and the Scandinavian countries. Similarly, export to short distance destinations like Middle East and Gulf area will also be increased as mango can be shipped through sea routes at economical rates. Mango export was estimated at 67,000 metric tons amounting to more than \$17 million. This year, the volume and value of mango export would surpass last year's figures.²

Pakistan was providing samples of mangos treated for fruit flies to Japan for the last two years and if these are approved this year than Japan will sell treatment plants to Pakistani

² <http://www.brecorder.com>

exporters. The main markets for Pakistani mangoes are Europe, Middle East, Gulf countries and far eastern countries including Singapore and Malaysia.³

Mango fruits contain 10-20% sugar, an important source of vitamin A and C and contain vitamin B. Small amount of protein, Iron, Calcium and Phosphorus are also present.

The USA's imports of mangoes are the highest (43.2%) in the world. China, Hong Kong, the Netherlands, UAE, France, Malaysia, UK and Saudi Arabia, Germany and Singapore are other major importers of mangoes. About 85% of Pakistani mangoes are shipped to Dubai. The rest are exported to around 25-30 countries in various parts of the world the prominent among them include Saudi Arabia, the U.K., Bahrain and Singapore.⁴



Pakistan produces almost 5.86 percent world's mangoes being the third largest producer. Its export is progressing resulting into substantial foreign exchange earnings. Mango export including Middle East has also found its way to the UK and other European markets. It is believed that the demand would rise to as high as 50 percent given the right impetus and expanding the export to Germany, Japan China and Hong Kong.

³ <http://www.jang.com.pk>

⁴ <http://www.phdeb.org.pk>

AREA-WISE MANGO CULTIVATION STATISTICS OF PAKISTAN

Year	Punjab	Sindh	NWFP	Balochistan	Pakistan
(Area'000'hectares)					
1985-86	41.0	33.5	0.1	0.7	75.3
1986-87	42.9	33.8	0.2	0.7	77.6
1987-88	44.7	33.8	0.2	0.7	79.4
1988-89	45.3	33.9	0.2	0.8	80.2
1989-90	47.2	34.5	0.2	0.8	82.7
<u>5-Years' Avg:</u>	44.2	33.9	0.2	0.7	79.0
1990-91	47.7	36.7	0.2	0.8	85.4
1991-92	47.5	37.2	0.2	1.1	86.0
1992-93	44.7	37.4	0.2	1.3	83.6
1993-94	45.3	37.8	0.2	1.5	84.8
1994-95	47.8	38.7	0.2	1.6	88.3
<u>5-Years' Avg:</u>	46.6	37.6	0.2	1.2	85.6
1995-96	48.0	39.5	0.2	1.8	89.5
1996-97	48.1	40.3	0.2	1.8	90.4
1997-98	48.2	42.5	0.2	1.9	92.8
1998-99	48.4	42.9	0.2	2.0	93.5
1999-00	48.4	43.5	0.2	2.0	94.1
<u>5-Years' Avg:</u>	48.2	41.7	0.2	1.9	92.1
2000-01	49.5	45.0	0.2	2.3	97.0
2001-02	50.7	45.8	0.2	2.3	99.0
2002-03	54.0	46.5	0.3	2.0	102.8

To convert hectares into acres multiply by 2.4711.

MANGO PRODUCTION STATISTICS OF PAKISTAN BY WEIGHT

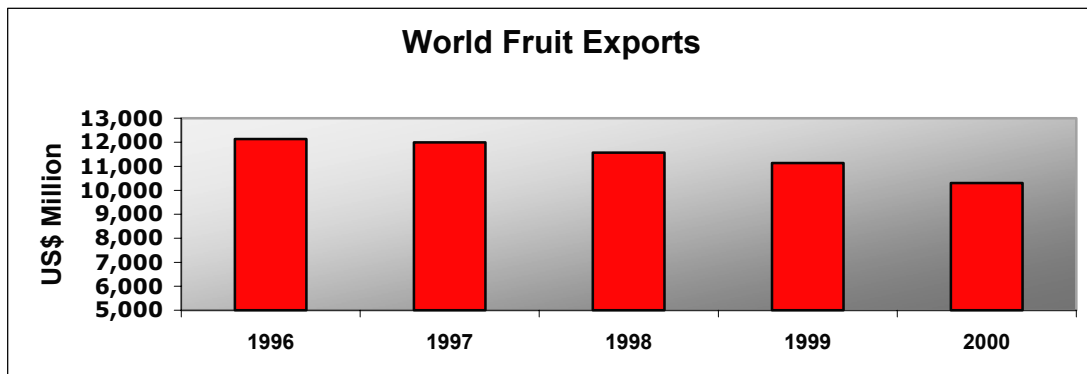
Year	Punjab	Sindh	NWFP	Balochistan	Pakistan
(Production'000'tonnes)					
1985-86	450.6	257.2	1.5	4.1	713.4
1986-87	470.3	260.3	1.6	4.4	736.6
1987-88	446.8	259.1	1.7	5.3	712.9
1988-89	467.6	260.2	1.7	5.5	735.0
1989-90	493.1	265.4	1.8	5.7	766.0
<u>5-Years' Avg:</u>	465.7	260.4	1.7	5.0	732.8
1990-91	501.0	267.1	1.9	6.0	776.0
1991-92	507.6	269.2	1.9	8.5	787.2
1992-93	510.1	270.9	2.0	10.7	793.7
1993-94	550.2	274.4	2.0	12.7	839.3
1994-95	581.4	285.3	2.1	14.9	883.7
<u>5-Years' Avg:</u>	530.1	273.4	2.0	10.5	816.0
1995-96	598.8	291.7	2.2	15.1	907.8
1996-97	602.4	293.5	2.2	16.4	914.5
1997-98	586.2	311.9	2.3	16.4	916.8
1998-99	582.8	314.6	2.3	16.7	916.4
1999-00	603.8	320.7	2.3	10.9	937.7
<u>5-Years' Avg:</u>	594.8	306.5	2.3	15.1	918.6
2000-01	634.9	340.3	2.3	12.3	989.8
2001-02	650.3	371.5	2.5	12.8	1037.1
2002-03	684.2	335.9	3.2	11.3	1034.6

Pakistan's Fruit Exports

Value in \$ million					
Pakistan Exports					
Years	1996	1997	1998	1999	2000
Value	12.56	21.08	15.71	21.67	30.51
Growth % (Value)		68%	-25%	38%	41%
Growth % (Value)	0.10%	0.18%	0.14%	0.19%	0.30%
WORLD Quantity (Tons)	73,000	135,000	107,000	112,000	135,000
Growth % age		85%	-21%	5%	20%
Price per Ton US\$	171.37	155.69	146.83	193.59	226.59

World's Fruit Exports

Value in \$ million					
World Exports					
	1996	1997	1998	1999	2000
WORLD	12,134	11,993	11,571	11,134	10,302
Growth % age		-1%	-4%	-4%	-7%



Major Mango Importers

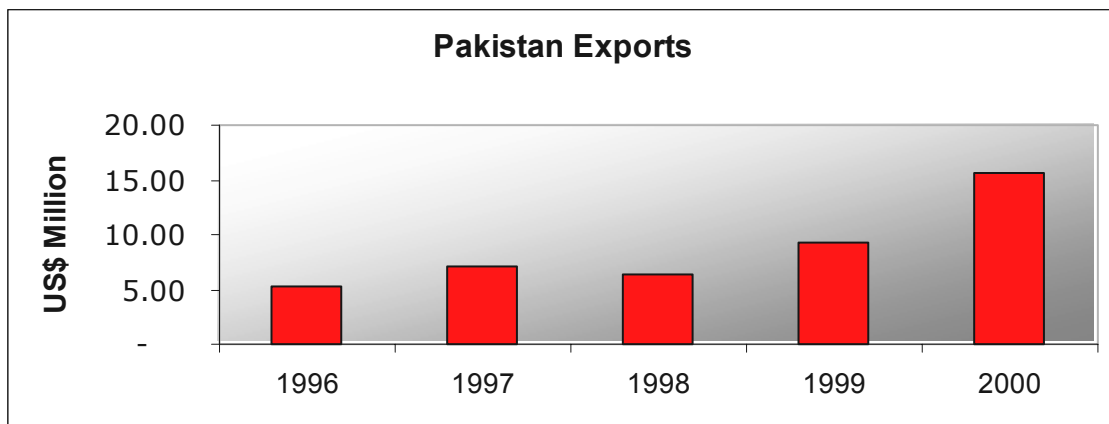
	Value in \$ million					Quantity in '000 Tons				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
USA	2,127	2,223	2,304	2,609	2,498	5,183	5,343	5,547	6,224	5,927
CHINA	2,722	2,185	2,127	2,069	1,673	3,530	3,371	3,319	3,299	3,211
UNTD KINGDOM	1,672	1,688	1,708	1,550	1,406	2,027	2,033	2,207	2,066	2,117
UAE	1,329	1,186	1,133	1,101	970	1,602	1,579	1,557	1,540	1,569
NETHERLANDS	812	710	743	859	705	1,181	1,144	1,142	1,369	1,268
JAPAN	697	678	707	789	781	1,029	1,108	1,078	1,144	1,293
BELGIUM-LUX	810	1,166	1,136	1,034	912	983	1,769	1,762	1,652	1,720
Others	5,515	5,022	4,805	4,687	4,650	10,711	10,292	9,762	10,124	10,918

World Exports of Mangoes

Value in \$ million					
World Exports of Mangoes					
	1996	1997	1998	1999	2000
WORLD	547	560	613	647	692
Growth % age		2%	10%	6%	7%
WORLD Quantity ('000'tons)	757	833	743	767	891
Growth % age		10%	-11%	3%	16%
Price per Ton US\$	722.95	671.79	824.95	843.88	776.68

Pakistan's Mango Export

Value in \$ million					
Pakistan Exports Mangoes					
Years	1996	1997	1998	1999	2000
Value in US \$ Million	5.27	7.16	6.44	9.34	15.59
Growth % (Value)		36%	-10%	45%	67%
Share % (Value)	0.96%	1.28%	1.05%	1.44%	2.25%
WORLD Quantity ('000'tons)	22.22	40.91	40.25	41.00	48.48
Growth % age		84%	-2%	2%	18%
Price per Ton US\$	237	175	160	228	322



Major Mango Producers Weight ('000 M.Tons)

COUNTRY	1998	1999	2000	2001	2002
India	11,500	12,000	12,000	12,000	12,000
China	1,958	2,008	2,150	2,127	2,126
Mexico	1,342	1,190	1,500	1,504	1,449
Thailand	1,200	1,400	1,350	1,250	1,250
Philippines	428	480	987	932	932
Pakistan	884	908	914	917	916
Nigeria	500	500	689	731	731
Indonesia	889	1,128	1,088	600	600
Brazil	456	456	600	600	600
Egypt	232	203	231	231	231
Haiti	220	210	210	225	225
Others	2,502	2,553	2,572	2,667	2,739
TOTAL	22,111	23,036	24,291	23,784	23,799

Major Mango Exporters By Weight ('000 Tons)

Country	2000	2001	2002
Mexico	164,903	187,127	209,426
Philippines	40,252	44,939	52,579
Pakistan	18,361	25,058	40,251
Brazil	24,186	23,370	39,186
India	26,780	26,780	26,780
Netherlands	21,332	24,685	17,154
Guatemala	8,876	9,567	10,195
Haiti	8,200	10,000	7,100
France	3,464	8,445	8,999
South Africa	7,810	10,912	5,329
Thailand	8,250	7,397	4,338
Others	103,266	82,429	88,541
TOTAL	416,348	460,709	509,878

Potential for Export

Mangoes, considered to be king of fruits in Pakistan, are cultivated widely and exported to countries all over the world. It is one of the most important fruits of Pakistan, and its annual output is the highest after citrus fruits.

Mango does not require any particular soil, but the fine varieties yield good crops only where there is well-marked dry season to stimulate fruit production. In the rainy areas, a fungus disease, known as anthracnose, destroys flowers and young fruits and is difficult to control. Mangoes in commercial plantings are generally spaced 10 to 14 meters (33 to 46 feet) apart.

Production

In Pakistan many varieties of mangoes have been developed since Independence. In the Punjab, the famous varieties grown are the Langra, Dosehri, Samar, Bahisht, Chausa, Fajri Kalan, Malda, Anwar Ratole, Muhammadwala, Khangarhi and Bacha. In Sindh the well-known varieties are the Sindhri, Bangan Pali, Swarnareka, Khasa, Collector, Neelum, Dusehri, Langra and Alfanso. New varieties are constantly being evolved and cultivated by the horticulturists interested in the development of mango fruits such as Shane Kuda, Shane Mustafa, Kala Chaunsa and Chita Chaunsa. The area under mango cultivation has increased from 85.4 thousand hectares in 1990-91 to 93.8 thousand hectares in 1998-99 thus showing an average increase of one per cent per annum. On the other hand, production of mangoes has also increased from 0.79 million tones in 1991-92 to 0.92 million tones in 1998-99 thus showing an average increase of two per cent per annum. Out of the total mango production in the country during the year 1998-99, Punjab accounted for 64.0 per cent. Sindh produces 34.1 per cent, Balochistan produces 1.7 per cent, and NWFP produces 0.2 per cent of total Pakistani mangoes by weight.

Export

Pakistan exports considerable quantities of fresh mangoes, mainly to the Middle East countries, where it is a very popular fruit. Export of fresh mangoes increased from 17,716 tones valued at US \$ 4.49 million in 1991-92 to 35,034 tones valued at US \$ 7.15 million

in 1997-98. As against this, 1998-99 mango exports decreased to 34,185 tones valued at US \$ 6.89 million, a decline of 3.6 per cent, due to price competition in the international market.

The principal importing countries are Dubai, U.K. Saudi Arabia, Singapore, etc. With price competition, increasing in international markets, Pakistani exporters of fresh mangoes are finding it hard to compete due to difference between the rates, transports carriers, charges for foreign cargo into Karachi and consignments leaving the Karachi Port. High shipment costs are reducing the competitive edge of Pakistan goods abroad.

It is bare fact that the demand of mango and its products already existed in the Gulf countries, and to lesser extent the Asian, Australian. North American and South American countries have expressed their willingness. Considering the economic depressions faced presently by the country one must carry out efforts to introduce Pakistani products in the global market at individual collective as well as government levels to earn maximum foreign exchange.

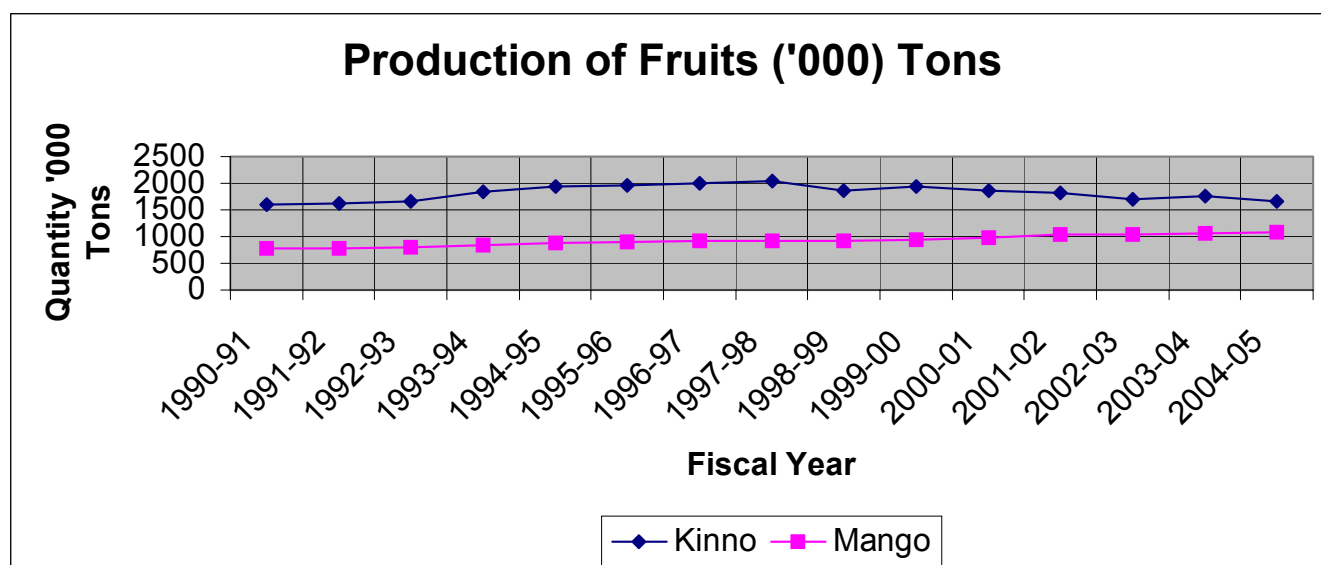
Production of Mango

('000' Tones)					
Year	Sindh	Punjab	NWFP	Balochistan	Total
1991-92	269	508	2	8	787
1992-93	271	510	2	11	794
1993-94	274	550	2	13	839
1994-95	285	582	2	15	884
1995-96	292	599	2	15	908
1996-97	294	602	2	17	915
1997-98	312	586	2	17	917
1998-99	314	589	2	16	921

(Source: Ministry of Food, Agriculture and Livestock, Government of Pakistan)

Production of Fruit

Production of Fruits ('000) Tons		
Fiscal Year	Kinno	Mango
1990-91	1,609	776
1991-92	1,630	787
1992-93	1,665	794
1993-94	1,849	839
1994-95	1,933	884
1995-96	1,960	908
1996-97	2,003	915
1997-98	2,037	917
1998-99	1,861	921
1999-00	1,943	938
2000-01	1,865	990
2001-02	1,830	1,037
2002-03	1,702	1,035
2003-04	1,760	1,058
2004-05	1,670	1,089



Exports of Mango to China

Pakistan Horticulture Development and Export Board (PHDEP), a state owned company established for promoting export of mangoes and fresh fruit, is expecting to export at least 5000 tones to China in its mango export marketing strategy 2005. The PHDEB was

quoting the example of about 250 tones of Indian mango exports to China last year, which got sold in Beijing and Shanghai markets within two hours.

China has recently accorded access to Pakistani mangoes with condition that the consignment must be treated through Hot Water Dip for one hour at 48 degree Celsius temperature to sterilize fruit fly eggs. In addition, mangoes should be packed in 5 kilograms new corrugated boxes clearly labeled indicating area of production, farm name, count and weight in the Chinese language.

Exporters believe that the PHDEP had to make arrangements for disinfestations against fruit flies using irradiation, hot water dip and vapor heat treatment methods under the Research and Development head.⁵

With a view to better market Pakistani mangoes in the export markets during this season, the EPB plans to hold exhibitions in important export markets like Malaysia, Brunei, Hong Kong (Special Administrative Region of China), the People's Republic of China, Bangladesh, Turkey, Greece, Germany, France, The Netherlands and the UK.

Pak-China Business Forum

Pakistan is expecting a big headway in bilateral trade since it will start exporting rice, mango and some other food items to China this year.

A special pavilion was also set up at the exhibition held in Shanghai for introducing Pakistani rice and mango. It was jointly organized by the Export Promotion Bureau, Pakistan Embassy and a Pakistani company, Midrans Commodities International. Initial response from Chinese side is very encouraging. Local traders have also shown keen interest in imports.

Businessmen expressed confidence that the Pakistani food products would be received well by Chinese consumers. China had been spending billions of dollars annually to import food items, like rice, and added Pakistan enjoyed a competitive advantage to take its due share.

⁵ <http://www.phdep.org.pk>

Export Potential to Iran

A seven-member Pakistan businessmen delegation visited Iran in mid June, 2005 to firm up arrangements with their Iranian counterparts under the MoU signed early this year 2005 for facilitating exports. During its weeklong stay, the delegation comprising Pakistani fruits exporters visited Tehran, Mashhad and Zahedan.⁶

The MoU provides for facilitation of fruit exports from Pakistan to Iran with respect to quarantine conditions on which the two sides reached agreement. Pakistan delegation held meetings and talks with Iranian importers, retailers, transporters, and officials in Mashhad, Tehran and Zahedan. Delegation also visited local Chambers of Commerce and Industry, wholesale markets and held business meetings with Iranian businessmen and transporters.

Exports to USA

The processed food and beverages industry is considered to be one of the largest industrial sectors in Pakistan. It accounts for approx 27% of total production and 16% of total employment in the manufacturing sector. The total value of production was over Rs. 46 billion.

Pakistan produces a wide variety of fruits and vegetables, with total annual production estimated at 9 million metric tons. Production estimates for various fruits are: over 1.9 million metric tons citrus 989,000 metric tons, mangoes 438,000 metric tons, apples 525,000 metric tons, guavas 126,000 metric tons, apricots and other fruits 1.914 million tons, other fruits include bananas, grapes, pomegranates, pears and dates.

Although mechanized grading and packaging has started but still nearly 50 percent of total fruit and vegetable production is lost during harvesting, transportation, preservation and storage. Exports of fruits stood at 4 to 5 percent of total production amounting to US\$ 78.29 million during 2000-01.

⁶ <http://www.jang.com.pk>

There are good opportunities to export fruits juices to America; however, we are confining ourselves to this market only.

The USA imports a wide variety of juices from different sources. The juices are mainly in frozen, concentrate and ready to consume condition in pure or combinations. The most popular juices imported into USA are apple, grapes, citrus, lemon lime, pineapple, berry, pears, oranges, cherry and prune.

Pakistan is producing a wide variety of apples and citrus fruits, but due to Animal and Plant Health Inspection Services (AMPHS) regulations, the fresh fruits cannot be exported to USA from Pakistan.

Among the fruits preparations, mango preparations, preserved dried fruits, apricots dried, sultan raisin SD & grapes dried were exported to the USA. The main competitor for Fruits and prepares was India. Out of the total imports fruit and vegetable juices, into USA, Pakistan's share was very nominal.

The main item include strawberry Jam, Mango, Paste pure, Cherry Jam, Peach Jams, Citrus, Fruits Paste, Papaya and Guava Jams. Pakistan's export of Jams and Jellies is negligible where as India's exports of these items are significant quantities.

India is marketing its products. It is regularly participating in the major trade fair and advertising its products in the special magazines. While since the last 3 years, no serious efforts have been done by Pakistani exporters or the government departments for the market promotion.

To promote Pakistani products in US market participation in exhibition is necessary. As agriculture produce export offer tremendous opportunities for Pakistan especially for rice, fruits and vegetable preparations and fish products, Pakistan should launch aggressive marketing campaign to promote these products.

PPROCESSING

PLANT

Proposed Processing Plant

The project involves processing of fresh mangoes for export from Pakistan. The process would include undertaking value-added activity(s), which will increase the quality and shelf life of Pakistani mangoes for the international market. Pakistani Mangoes have huge demand in the international market due to its rich flavor, aroma, and health value, i.e., nutrients and minerals contents. It has been observed that in order to enter into the international markets with longer shelf life, good quality mangoes will require physical infrastructure facilities like modern processing and logistics. The major scope of processing activities will include post harvest handling, pre-cooling, grading, ripening, packing and logistics.

At present, it is grown on an area of approximately 102,800 hectares with production of nearly 1,034,600 Tones. The production of Mangoes in southern Punjab i.e., Multan, Bahawalpur, Rahimyar Khan and Dera Ghazi amounts to approximately 0.70 million metric tones while 0.3 million metric tones is being produced in various districts of Sindh Province.

The important factor, which affects Pakistan mango exports, accounts for post harvest losses due to improper treatment and handling between the time of harvesting and delivery to the ultimate consumers. Inadequate facilities in post harvest handling, transportation, storage and marketing cause 20% to 40% losses in mango production. The value of this loss amounts to millions of rupees annually. Careless harvesting and rough handling of mangoes could make bruises and scars on the skin, thus reducing quality and market price. Such damaged produce also fails to attract the international buyer, and bring about bad name and low profit for the exporting country. This ultimately results in huge economic losses to the country. However, using modern processing and packing facilities could control these losses.

In the year 2003, Pakistan produced 1,034,600 Tones of mangoes and exported over 50,000 metric Tones in the same year, which amounted to nearly 5% of the total production. This means that 95% of mango production is being consumed domestically

including post harvest losses. Even then, Pakistan stands as the third largest exporter of mangos in the world.⁷

Pakistan has direct competition with India, which is world's largest producer of mangoes. Pakistan has cost advantage over India in terms of transportation costs because of lesser distances of ports, especially for Middle Eastern markets.⁸

Proposed Processing Capacity

A plant with processing capacity of 3 tons per hour is considered to be an economically viable setup. The total operational days of plant will be 70 days. This means, that for a total 70 operational days, with 8 hours of operations per day, a total of 1, 3443 metric tons of fresh mangos will be processed.

At present the Rahimyar Khan and its adjacent areas are producing around 150,000 metric tones of total production of Pakistan. Almost 60-65 percent of total production which is around 90,000 – 97,500 metric tons of mangos is locally consumed or lost during different stages of post harvesting and rest of the production is exported indirectly. The proposed processing capacity is only 9 percent of locally produced mangoes which is easily achievable and economical.

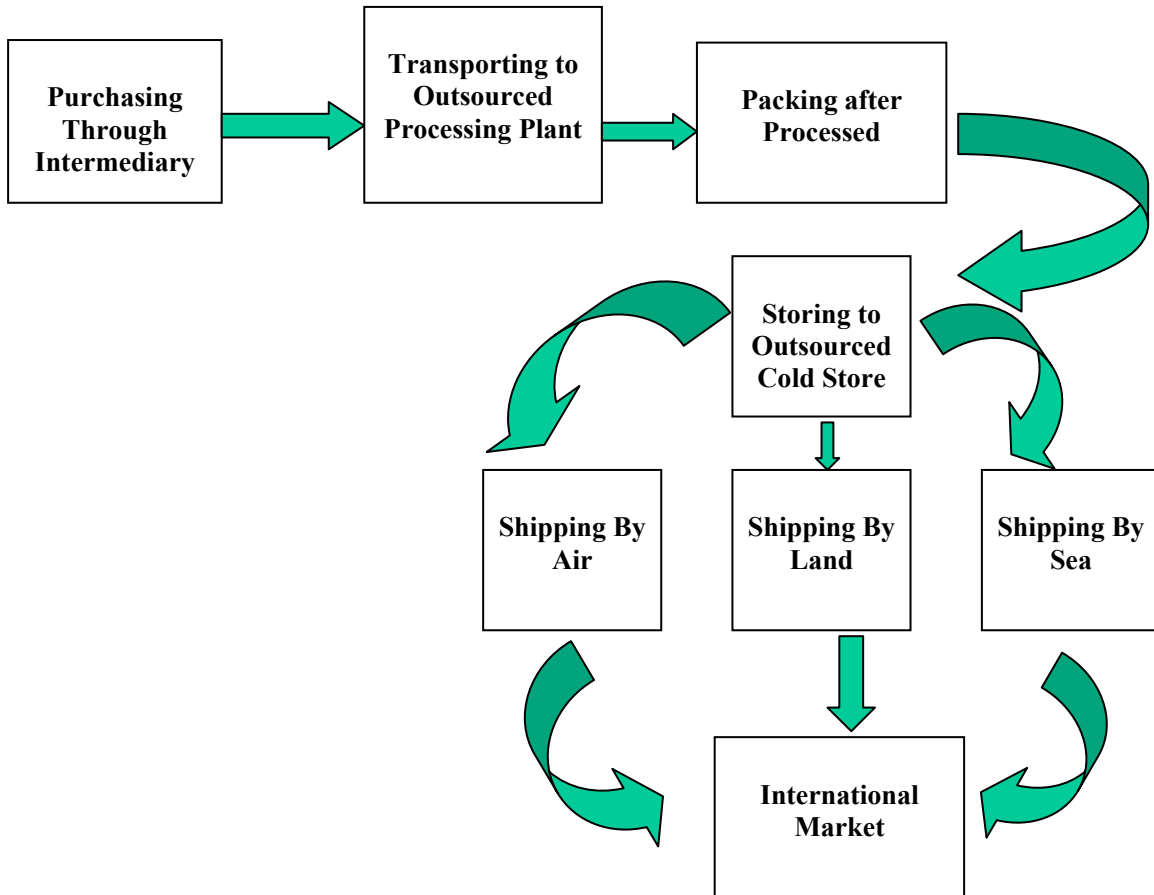
The exportable varieties which is targeting by the proposed processing plant have the peak season starts from last week of May and ends in the first week of August every year but these mangoes are available till end of August and start of September but at that time the quality of these mangoes is not up to the required standards. So the operational days of proposed processing plant will be around 70 days.

Picking of mangoes from farms start early in the morning than it takes time to reach to the processing plant according to proposed standard. The proposed plant timing will be from 9:00 am – 6:00 pm with one hour lunch break from 1:00 pm – 2:00 pm. Note that plant will not start processing its full capacity; it will take 3-4 years to attain this design capacity.

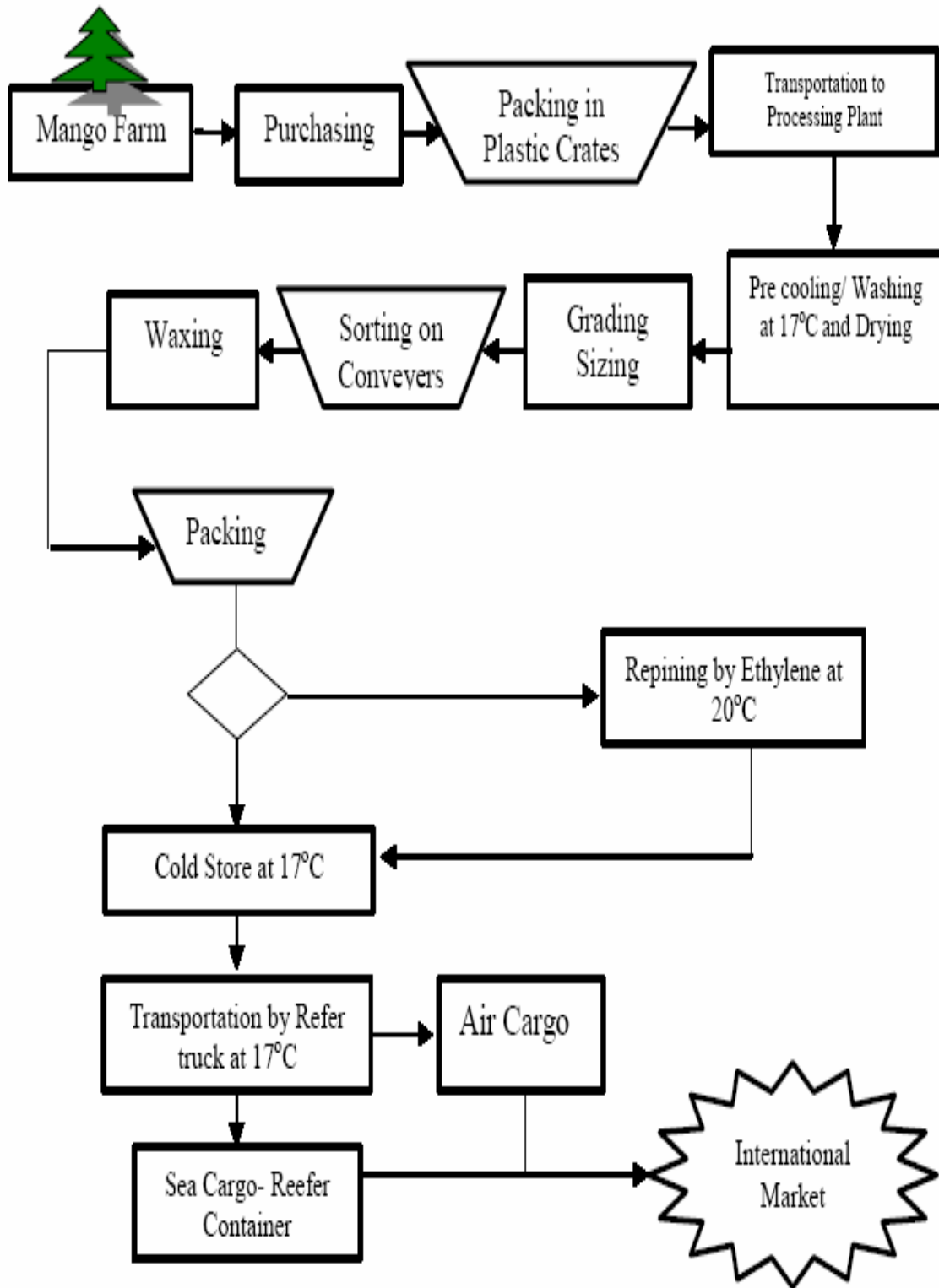
⁷ <http://www.smeda.org.pk>

⁸ Reference to Page # 24

Current Value Chain Activity



Proposed Value Chain



Harvesting

The main consideration during harvesting should be to ensure that mangoes are harvested at correct maturity and staining of latex (Sap) on the fruit is avoided. Mangoes should be harvested by cutting the stem 1 to 2 centimeters away from the fruit; this technique reduces latex exudation and staining, as well as the possibility of fungal organisms entering the fruit.

The most suitable equipment comprises of a long mast with a cutting blade and a small bag under the blade to catch the fruit. Mangoes should never be knocked from the tree, dropped, or thrown onto the ground.

After harvest, latex should be allowed to drain away from the fruit; placing the mango with the stem downward on grass below the tree normally carries this out. The fruit can normally be placed directly into a ventilated field crate. The crate should not contain more than three layers of fruit. If possible, the fruit in the crate should be left under the tree until taken to the processing plant.

Hydro-Cooling/Cleaning

Hydro cooling is done to remove field heat from the fruit. It is important to remove the field heat as soon as possible. The heat reduction process is often carried at the time of cleaning mangoes on the farm with water. Field heat removal can also be done through “forced air cooling” and or in cold stores, but once the fruit moves through the cold chain, it should not be allowed to heat up again.

In this project, it is assumed that field heat removal function will be performed at the processing facility. Mangoes delivered at the processing unit are gently dumped into water holding tanks (at normal water temperature) with overhead sprayers to wash and clean the field dust. The fruit is gradually cooled down at 17°C through different stages. The water may contain a mild solution of chlorine. This process helps stop latex flow and also reduce field heat. The time in residency of the fruit in the hydro-coolers is approximately 10-15 minutes.

After hydro cooling, washing and cleaning, mangoes are passed through drying tunnel that blows excess water off the fruit. Mangoes are then moved from the pre-cooling area to live belts that take it past the grader/sorters.

Grading, Sizing & Sorting

Due to the normal ovate or oblong shape of mangoes, they do not lend themselves very well to mechanical graders, although weight based equipment works well. At sizing and sorting stage, it is observed that mangoes should be of uniform size and color. Mangoes will be sorted into color ranges and sizes by hand (normally this process will be done on a conveyer belt which will feed fruit onward to packing lines). Then mangoes will be moved to the packing area. The fruit handlers will wear soft white cotton gloves. Handling of the fruit involves sorting, hand wiping, cleaning. Wax treatment will be used on mangoes to slow the ripening and reduce water loss during storage, and to improve the appearance of the fruit.

Packing

The packers will only pack one size of fruit so that packing personnel do not have to make decisions and therefore, they only put pre-sized mangos into the standard carton efficiently. Packing will be done into mango cartons made of cardboard paper. Uniform size/weight mangoes will be individually wrapped in soft tissue papers before placing them into the carton.

Typical sizes of 4.5 kg net weight mango cartons are (10.9 cm x 34 cm x 26.9 cm) and (10.2 cm x 43.2 cm x 27.9 cm). Smaller carton sizes for 4 kg & 2 kg net weight pack are now also being used. The carton should have a minimum bursting strength of 250-275 psi (lb per sq. inch). Ventilation and hand holes' openings should be designed to provide adequate handling, circulation of air and maximum cooling.

Mangoes will be packed into the cartons by count. These counts can be 6, 8, 10, 12, 14, 16, and 18 numbers of mangoes per carton, depending on the size of the mango. Mangoes will be packed side by side, or on edge, rather than flat so as to maximize the number that will be accommodated in a single layer.

Palletizing

The cartons will be palletized together. Cartons can either stacked 12 cartons per layer to a height of 12 rows, providing a total of 144 cartons per pallet. Twenty (20) pallets fit inside a standard 40-foot refrigerated sea container (2,880 cartons). Other carton sizes, pallet dimensions and stacking configurations are utilized for the 4 kg net weight cartons, resulting in higher container load of between 4,500 and 5,120 cartons per refrigerated container.

Each pallet normally will bear a Pallet Tag attached to it that carries an inventory control number on it. The Pallet Tag will show the date it was prepared, the product, packer name, size, count, and the number of cartons. The pallet tag will become an integral part of the inventory control system and that the packer (processing unit) and shipper know precisely what stock he has in inventory of each product.

Cooling

Mangoes may be stored in refrigerated, humidity-controlled facilities before and after packing. The proper temperature for holding Pakistani mangoes is 17 degrees Celsius at a relative humidity of 90-95% for mature green mangoes. At the mature green stage, mangoes may be stored for up to two weeks with no adverse affect. Raising temperature to 21 degrees Celsius is frequently used to trigger ripening just before retail sale. Depending on the cultivator, mangoes are placed in gassing chambers where ethylene gas is introduced to trigger additional color change. This is usually done just before shipping to market as it also induces ripening. However, wholesale distributor normally carries out this final preparation work at the time of delivery or by the retail chain after receipt of the fruit.

This process insures the desire temperature of mangoes before shipment to foreign market. Temperature will be maintained in reefer container to ensure smooth transportation according to the time takes by the shipment.

Shipping

There are three possible ways of shipment for mangoes either mango can ship by sea or by land and or by air. Shipment by sea is cheapest way to transport fruit but currently only export to Iran is going on by land as well as by sea. The shipments to Middle East, Saudi Arabia is going on by sea and export to China, Far East and EU is through air which is the most expensive route for export to mangoes.

Shipment by Sea: Rs. 7.00 / Kg

Shipment by Land: Rs. 10.00 / Kg

Shipment by Air: Rs. 72.00 / Kg

Although shipment by sea and by land have not much difference in charges but land route is much riskier not only from law and order point of view also from the quality of fruits. For proposed processing plant mangoes will be transported to the port by reefer trucks at temperature of 17°C to the Middle Eastern locations; however, shipments to European and Far Eastern location will be done by air. For Reefer shipments, a container size of (20ft x 8ft x 8ft) will be mounted on a truck, which will be acquired on rent during the season. Mangoes may be shipped by a multitude of means i.e., by air and sea, but would be shipped in refrigerated containers to Middle Eastern countries. Although, air shipment of fruit normally receives premium price, based on a perceived "freshness" but it is a highly expensive mean of shipment. Logistically, deliveries will be made on concept of "just in time (JIT)" via sea on reefer containers, to possibly avoid long holding periods at exit ports.

Ripening

Mangoes would normally remain fairly dormant for a period of time; say 2-4 weeks, at the mature green stage given that the steady temperature of 17°C and a humidity of 90-95% is maintained. The shelf life can further be extended up to 6 weeks by using Controlled Atmosphere (CA) facilities, which is relatively the most expensive mode of storage.

The ripening of mangoes will be induced, according to destination and length of voyage, by raising the temperature to 20 degree centigrade and/or by introducing ethylene into their holding atmosphere. Once mangoes will ripen from this time onwards, their marketability will last for only 7-10 days.

RAVI STARLET
(PVT) LIMITED

Ravi Starlet (Private) Limited



Ravi Starlet (Pvt) Limited
Quality Products

World Wide

Exporters

Personalized Service
Hygienic Packing
Intime Delivery

Mission

The mission of Ravi Starlet (Private) Limited company is to become a leading exporter of Pakistan in the category of fruits.

Keys to Success

Customer satisfaction through

- Provision of quality fruits.
- On time delivery.
- Trust worthy service.

Company Summary

The name of the company will be Ravi Starlet (Private) Limited. It will transform the present exporting business by total value chain activity i.e. from farm to market. Ravi Starlet will initially focus on the Middle East, Iran, UK and China markets through exporting mangoes. However as Ravi Starlet grows and other markets show potential than it will also start its operations in other countries like Indonesia, Malaysia, Central Asian countries and African countries etc.

Company Objectives

The company will strive to enhance the confidence and trust worthy of importers by providing the on time quality fruits.

Company Ownership

The company will have four (4) partners who will form a partnership equally sharing the profits and liabilities. They will be:

Mr. Naeem Jamil	25 percent share
Mr. Fahim Jamil	25 percent share
Mr. Dr.Omer Farooq	25 percent share
Mr. Hassan Jamil	25 percent share

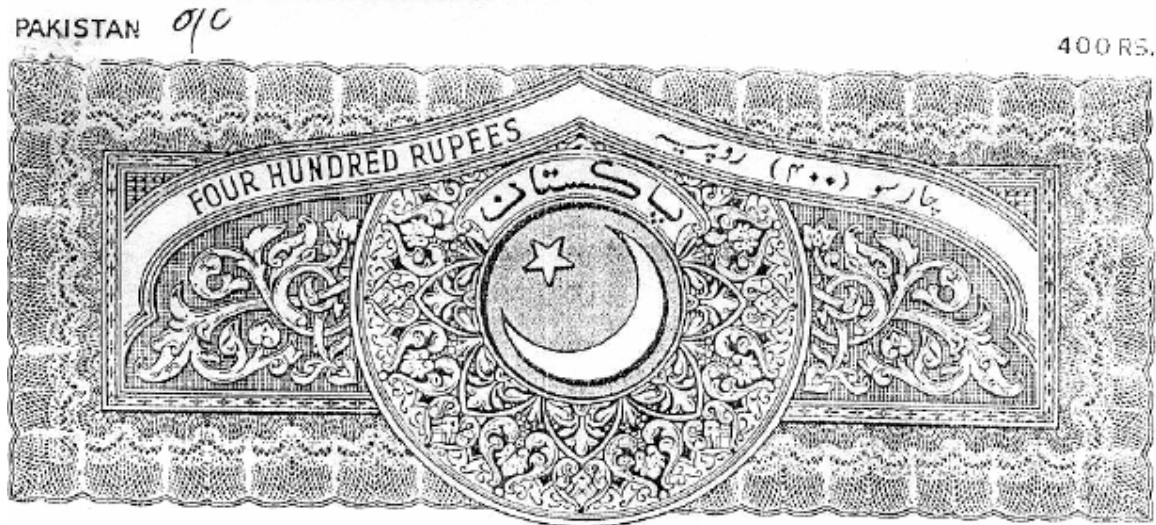
Partnership Deed

Legal form of business:

There are many different forms of businesses which has its own advantages and disadvantages. After considerable analysis, we have come to conclusion that Partnership is the most appropriate business form for our business. It has the following features:

Ownership:	Four (4) partners Mr. Naeem Jamil 25 percent share Mr. Fahim Jamil 25 percent share Mr. Dr. Omer Farooq 25 percent share Mr. Hassan Jamil 25 percent share
Liability:	Since it is a general partnership, all partners are liable for business liabilities.
Costs of starting business:	Partnership agreement, legal fees etc are less as compared to others.
Continuity of business:	Partnership is dissolved by death of one partner. New partnership deed should be formulated.
Transferability:	Partner can transfer his interest only when others agree.
Management Control:	All partners have equal control. In case of any disagreement between the partners, majority will rule.
Distribution of profits:	Depends on the share of every partner and will be distributed

Capital requirement: Debt to Equity Ratio is 40:60 with debt coming from a bank. So a change in partnership deed will be sought. In case the equity changes of any one of the partners, the same procedure will have to be performed.



Partnership Deed

The deed of the partnership is made at Rahimyar Khan on this day of August 2005, by and between:

1. Mr. Naeem Jamil s/o Muhammad Jamil, Resident of house 14-b, new officers colony, Rahimyar Khan.
2. Mr. Fahim Jamil s/o Muhammad Jamil, Resident of house 14-b, new officers colony, Rahimyar Khan.
3. Mr. Dr.Omer Farooq s/o Muhammad Jamil, Resident of house 14-b, new officers colony, Rahimyar Khan.
4. Mr. Hassan Jamil s/o Muhammad Jamil, Resident of house 14-b, new officers colony, Rahimyar Khan.

(Hereinafter called the parties of the Ist, IInd, IIIrd and IVth part respectively)

WHEREAS THE parties above named are agreed to become partners with effect from 25th August, 2005 and from a partnership firm under the name and style of “XYZ” with

its head-office at Shahbazpur Road near Commerce College, Rahimyar Khan. The following terms and conditions have been settled mutually:

1. That the business of the firm shall be an export base that export fruits from Pakistan to other countries.
2. That the capital of the firm shall be as per the books of accounts to be maintained by the firm. The profit and loss of the business shall be shared/distributed according to the following ratio of share
 - i. Partner No. 1 25 %
 - ii. Partner No. 2 25 %
 - iii. Partner No. 3 25 %
 - iv. Partner No. 4 25 %

The capital can be increased and decreased according to the requirement of the business.

3. That the entire partner shall be the Managing Directors of the firm.
4. That the partner No. I Mr. Naeem Jamil shall be looking after the marketing and distribution of fruits.
5. That the partner No. II Mr. Fahim Jamil shall be looking after the affairs of procurement of raw materials and inputs.
6. That the partner No. III Mr. Dr. Omer Farooq shall be looking after the quality and legal affairs of the company.
7. That the partner No. IV Mr. Hassan Jamil shall be looking after the operational, production and human resource management affairs of the plant of the company.
8. That the duration of the firm shall be at will.
9. That the books and accounts shall be maintained regularly, which shall be open to inspection by other partners.
10. That the bank account shall be opened in the name of the firm, which shall be operated by the Managing Partner or by other partners.
11. That the financial year of the partnership business shall be 1st January of every year.
12. That each partner shall bear individual income tax liability.

13. That in the event of the death of any partner, his legal heirs shall succeed his interest in accordance with the law.
14. That in case of any dispute, touching the affairs of partnership, the matter will be referred to arbitration to resolve the dispute. The provision of partnership act 1932 shall apply to all matters not specifically mentioned in the partnership deed.
15. That the partners shall be honest and faithful to each other and shall abide by all the terms and conditions and rules in force.

IN WITNESSES WHEREOF all three of the partners have signed this deed of partnership on the date mentioned above.

EXECUTANTS

PARTNER NO. 1:

NAME: _____

NIC No.

SIGNATURE:

PARTNER NO. 2:

NAME: _____

NIC No.

SIGNATURE:

PARTNER NO. 3:

NAME: _____

NIC No.

SIGNATURE:

PARTNER NO. 4:

NAME: _____

NIC No.

SIGNATURE:

WITNESSES:

NAME: _____

NIC No: _____

SIGNATURE: _____

NAME: _____

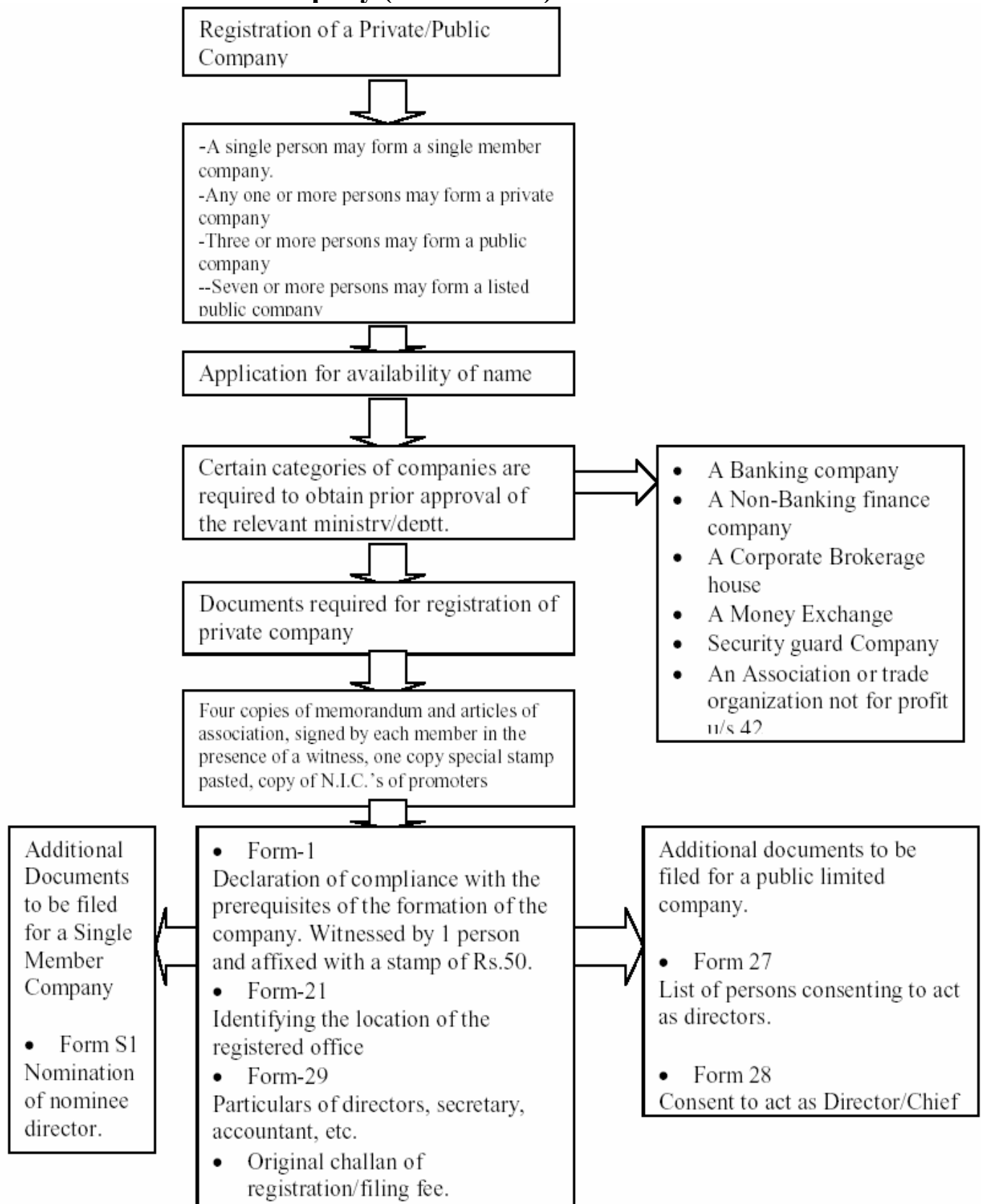
NIC No: _____

SIGNATURE: _____

Importance of Company Registration

The Companies Ordinance, 1984 strictly lays down that no company shall be formed for the acquisition of gain through its mode of business unless it is registered as a company under the 'Ordinance'. Hence any person who shall do so in contravention of the provisions of the 'Ordinance' shall be liable for the payment of fine which may extend to Rs. 5000 and also for all the liabilities incurred in the business.

Formation of a Company (Flow-Chart)



Documents Required

Private Limited Company

- Photocopies of National Identity Cards or passports of all the promoters/subscribers and witnesses to the memorandum and articles of association.
- Four copies of Memorandum & Article of Association of the company duly signed by each subscriber in the presence of witnesses. One copy should be affixed with special adhesive stamps at the rates prescribed under the Stamp Act, 1899.

RATES OF STAMP DUTY

Province/ Territory	Memorandum of Association Authorized Capital Rate	Memorandum of Association Authorized Capital Rate
Punjab	One hundred rupee plus one rupee per rupee hundred or part thereof subject to the maximum of Rs. 1,000.	One hundred rupee plus ten paise per hundred of the amount of share capital or nominal share capital subject to maximum of Rs. 1,000.

- Photocopy of certificate of availability of the name issued by the registrar.
- **Form 1** in triplicate duly filled and signed. This form is the declaration of compliance with the pre-requisites for formation of the company. **Form 1** is also required to be witnessed by one person and it should be affixed with a stamp of Rs. 50/-. This declaration can be made by any one of the following persons:
 - An advocate entitled to appear before a High Court/Supreme Court
 - A Chartered Accountant/ A Cost and Management Accountant practicing in Pakistan.
- The Company is required to notify the whereabouts of its registered office on **Form 21** within 28 days from the date of its incorporation, but to facilitate communication and for the sake of convenience, this form is normally submitted with the registration documents.

- **Form 29** particulars of directors and other officers. In fact the directors are required to be elected by subscribers within 14 days from the date of incorporation, but to facilitate communication and for convenience, this form is normally submitted with the registration documents.
- Original paid challan towards registration/filing/certified copies fee in the authorized branches of Habib Bank Limited or a bank draft/pay order drawn in favor of the Securities and Exchange Commission of Pakistan of the prescribed amount.
- Letter of authority on one hundred rupees stamp paper, duly notarized and signed by all promoters, in favor of Advocate/Consultancy firm/or any other person to make good the deficiencies, if any, in memorandum and articles of association as may be pointed out by the Registrar concerned and for the collection of the certificate of incorporation.

TABLE OF FEE

1	Availability of name	Rs. 200/-
2	For registration of a company whose nominal share capital does not exceed 100,000 rupees, a fee of ..	Rs. 2,500/-
3	For registration of a company whose nominal share capital exceeds 100,000 rupees, a fee of two thousand five hundred rupees, along with an additional fee to be determined according to the amount of nominal share capital as follows, namely:- (i) For every 100,000 rupees of nominal share capital or part of 100,000 rupees, after the first 100,000 rupees, up to 5,000,000 rupees, a fee of (ii) For every 100,000 rupees of nominal share capital or part of 100,000 rupees, after the first 5,000,000 rupees, a fee of .. Provided that for registration of a company the total amount of fee to be paid shall not exceed ten million rupees.	Rs. 500/- Rs. 250/-
4	Filing fee per return	Rs. 200/-
5	Documents relating to registration/satisfaction of mortgage/charge	Rs. 5000/-
6	(i) Copying fee certificate of incorporation, certificate of commencement of business, per certificate of mortgage/charge certificate. (ii) Other documents (per page)	Rs. 50/- Rs. 20/-
7	Inspection of file	Rs. 200/-
8	Application u/s 21 for alteration	Rs. 5,000/-
9	Application u/s 158 for extension in holding of A.G.M (i) For Public Company (ii) For Private Company	Rs. 15,000/- Rs. 5,000/-
10	Application for change of name	Rs, 1000/-
11	Any other application from the company other than above.	Rs. 500/-
12	For an application to the Commission seeking approval to issue, circulate and publish the prospectus, a non - refundable fee in the following manner according to the size of total issue including all types of securities:- (i) Up to Rs. 250 million. (ii) More than Rs. 250 million and up to Rs. 1000 million.	Rs. 25,000/- Rs. 50,000/- Rs. 100,000/-

National Tax Number

Every company is assigned a national tax number.

Documents Required for NTN Registration

The documentation required for registered firms and companies in order to obtain the national tax number are as follows.

- Complete application form for the issuance of NTN.
- Photo copies of NICs of all the partners or directors.
- Incorporation or the registration certificate.
- Application for NTN by individual partners or directors in case they do not have NTN.

Class-1 gazette officer or an officer of the state owned bank should attest all documents.

All application forms should be sent to the following address.

Business Development Manager.

NTN centre, CBR house,

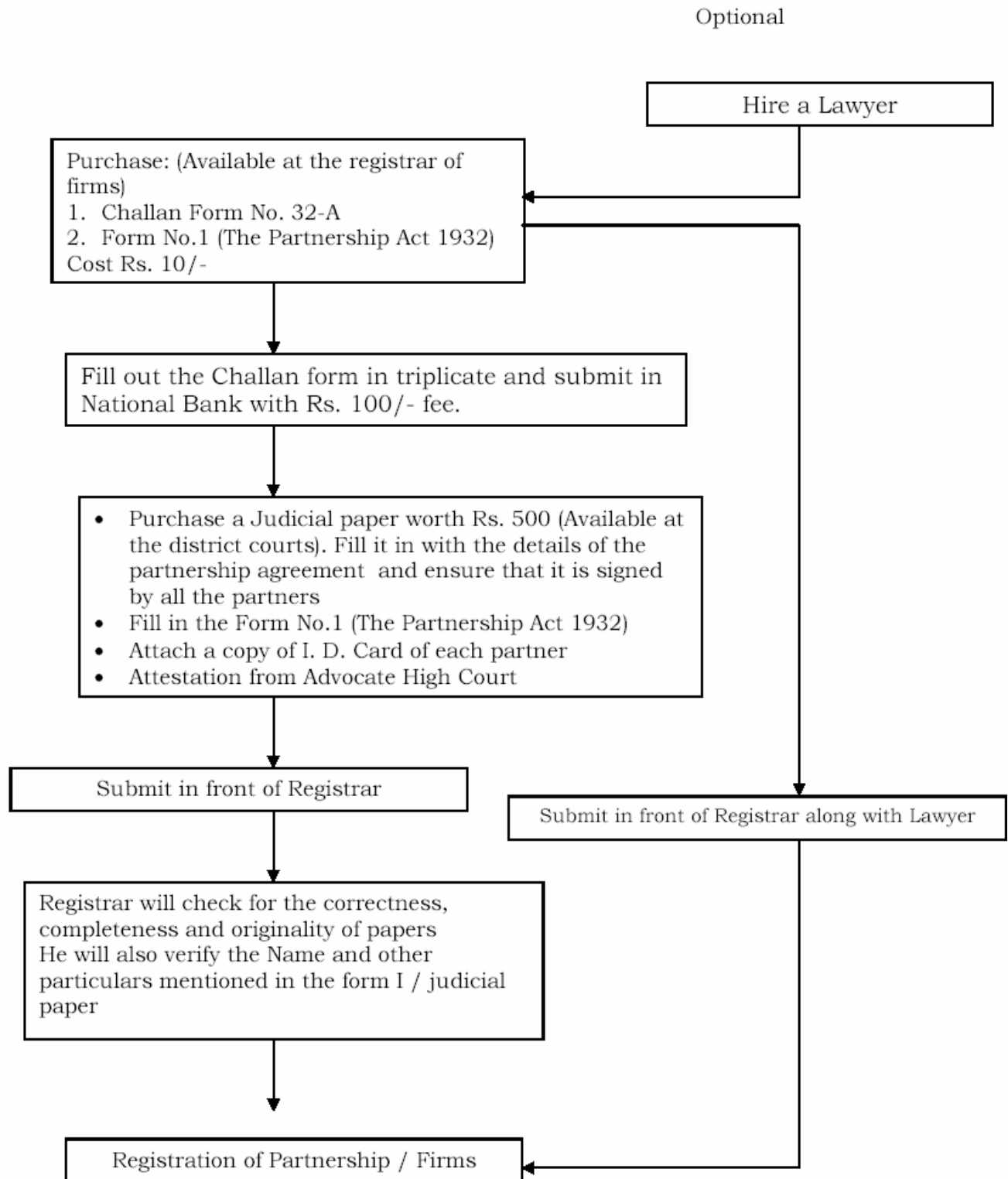
Constitution Avenue,

Islamabad.

Ph: 051-9207540 ext. 346.

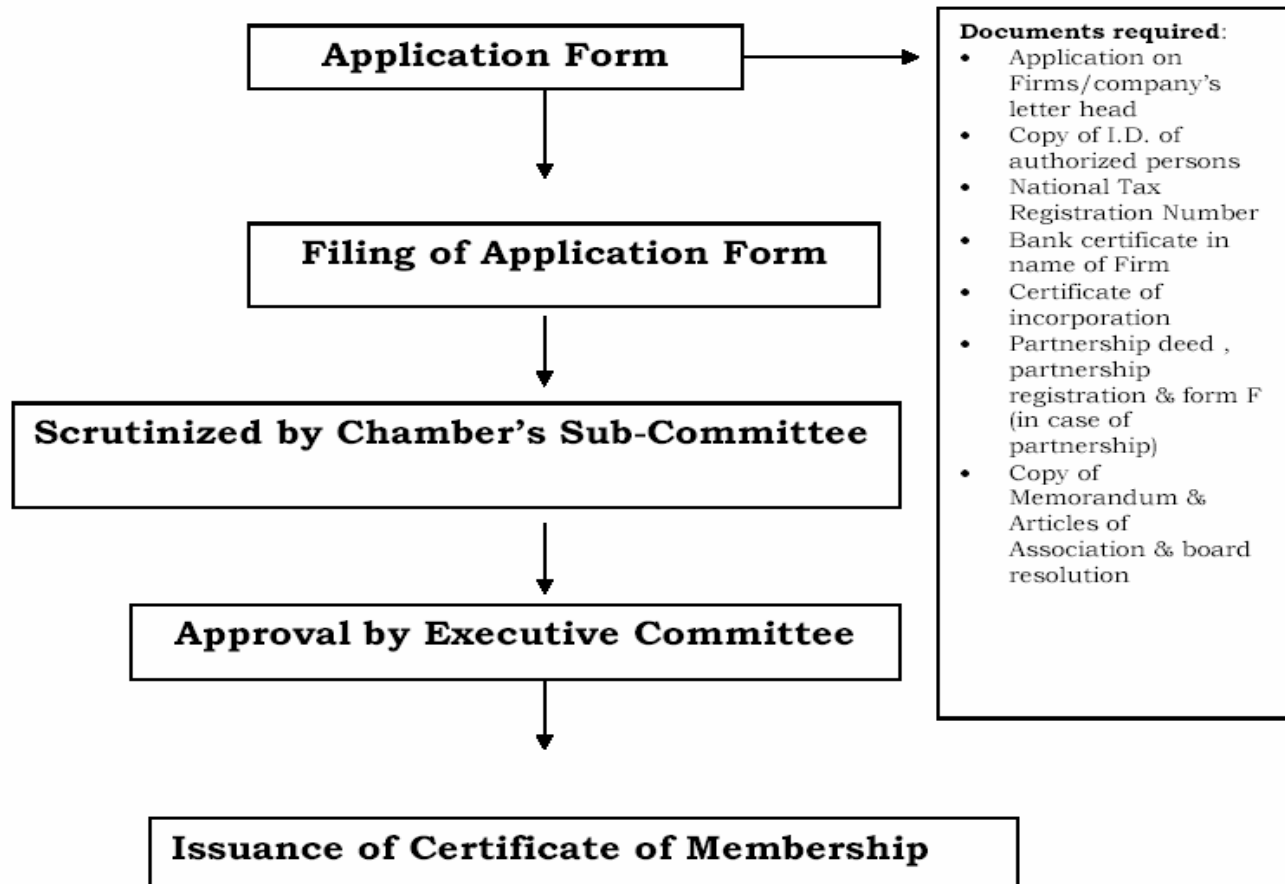
Registration Procedure for Partnership

FLOW CHART



Registration with Chamber of Commerce

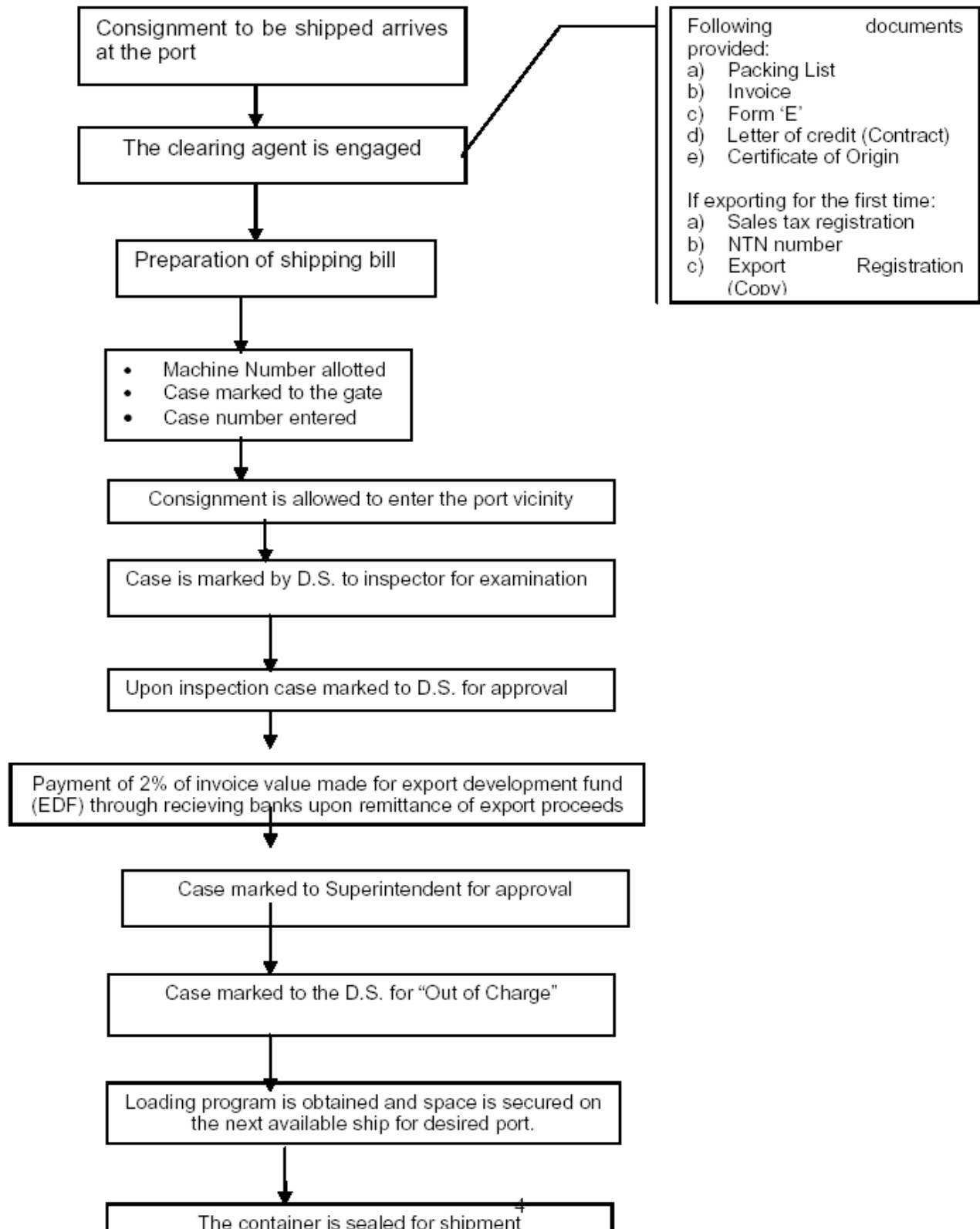
FLOW CHART



Custom Procedure for Exports

One of the initiatives taken by the Government of Pakistan to enhance & boost exports is to provide various export incentives as well as streamlining export processes. Among other steps taken by Government, the simplification of the export clearance procedure is considered to be a vital step in the facilitation of the exporter. The following procedure has been explained in terms of various stages of inspection, clearance and documentation required:

CUSTOM CLEARANCE PROCESS FOR EXPORT



MARKETING

PLAN

Marketing Plan

Middle East is the major market for Pakistan mangoes exports along with EU, China and Iran. Far Eastern and Central Asian Countries are also new emerging markets.

Market Size

	Value in \$ million					Quantity in '000 Tons				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
USA	2,127	2,223	2,304	2,609	2,498	5,183	5,343	5,547	6,224	5,927
CHINA	2,722	2,185	2,127	2,069	1,673	3,530	3,371	3,319	3,299	3,211
UNITED KINGDOM	1,672	1,688	1,708	1,550	1,406	2,027	2,033	2,207	2,066	2,117
UAE	1,329	1,186	1,133	1,101	970	1,602	1,579	1,557	1,540	1,569
NETHERLANDS	812	710	743	859	705	1,181	1,144	1,142	1,369	1,268
JAPAN	697	678	707	789	781	1,029	1,108	1,078	1,144	1,293
BELGIUM-LUX	810	1,166	1,136	1,034	912	983	1,769	1,762	1,652	1,720
Others	5,515	5,022	4,805	4,687	4,650	10,711	10,292	9,762	10,124	10,918

Market Analysis

The present demand of Middle East is estimated at 360 to 480 tons per day during the season. The total import of Middle Eastern countries is estimated at about 40,000 tones per season. Amongst the European Union (EU) countries, U.K. is regarded as the most promising market for mangoes in Europe. In terms of volume of import, France is closely behind U.K. In the recent years, markets in Germany and Holland have also shown opportunities for import of mangoes. Growth rate of European mango market as a whole works out to 20% per annum. Although, EU is a growing consumer market, however, Pakistan's share of export to EU is not increasing significantly. The main reason for attaining small market share in EU is due to the lack of appropriate modern processing technology, low quality standards and non-compliance of delivery schedules by producers and exporters. For example, palletizing is preferred in Europe, and in some cases, is a pre-requisite of the buyer, but Pakistani exporters are still hesitant to use pallets as this take up a large space in the container hold.⁹

⁹ [hht://www.sogosearch.com](http://www.sogosearch.com)

Market Prices

Export prices for EU are usually about £1.50 (Rs162.12) to £1.90 (Rs205.35) per Kg and the Middle East is about \$0.9 (Rs53.69) to \$1.4 (Rs83.53) per Kg. These prices are relatively very low as compared to prices received by other mango exporting countries such as Mexico, South Africa and Philippines.¹⁰

Vapor Heat Treatment (VHT)

Hot water or Vapor Heat Treatment of fruits is required to export to these countries and to control fruit flies and anthracnose. The food technologists at Post Harvest Research Center, Ayub Agriculture Research Institute, Faisalabad are studying this technology for adoptability and suitability on our local varieties and local temperature conditions.

UK Market Scenario

Generally, mango exporters from Pakistan to UK prefer to deal with buyers who are suppliers to the ethnic Asian community in different parts of the country. Their response to the idea of mainstreaming mango, through supermarkets in the U.K market, has not been positive due to the following reasons:

Higher UK quality standards

Pakistani exporters find quality requirements of supermarkets to be very stringent. Due to poor product quality, such as fruit blemish/marks, node leaks, lack of uniformity in size & color and short shelf life etc., it had been difficult for Pakistani exporters to cater to the higher end of UK retail market. But if exported mangoes are fulfilling required quality standards and proper quarantine processes than it will be very well possible to cater that hurdle.

¹⁰ <http://www.phdeb.com>

Lack of cargo space and poor infrastructure

Due to shortage of cargo space and unreliable service of national carrier, meeting delivery schedules for exporters becomes difficult. Exporters from Multan and other areas of Southern Punjab found it difficult to export without direct flights and adequate cargo space. The absence of cold chain infrastructure for air cargo also adds to difficulties.

Mangoes are exported mainly by air, however, shortage of air cargo space and absence of cold chain etc. calls for exploring alternate mode of transportation for mango exports. The mode of transportation by sea is another possibility for exporting mangoes to U.K. given that the size of consignment is large enough. The un-ripened mangoes have storage life of about 25 days, according to the market; it takes about 18 to 20 days for a shipment via sea to arrive at London from Karachi. This provides a fair period of time for mangoes to be ripened after their at the destination port.

Middle East Market Scenario

Currently most of the mangoes from Pakistan are exporting to Middle East and there is a huge market potential if proper marketing is done in this market. India and Philippine are major competitors of Pakistani mangoes there but fortunately due to shortest distance and cargo facilities it is possible for Pakistani exporters to increase their market share in Middle East.

China Market Scenario

From this year 2005 onwards China started importing mangoes from Pakistan. Due to geographic situation it is impossible for exporters to export mangoes to China via land and sea route is not possible but shipment shipped to China via air.

Marketing Strategy

Market Penetration

Pakistani mangoes are currently being exported to Europe and Middle East at very low prices. In the current year China started importing mangoes from Pakistan after fulfilling

required quarantine conditions. The prices obtainable in the chain stores (supermarkets) are much higher than those offered by current buyers who are suppliers to small grocery retail shops and stalls at Sunday markets. Pakistani has been unsuccessful in entering in the higher end of the market, regular wholesalers and agents. Generally, Pakistani mangoes exports are targeted to ethnic Asian community. With regular, consistent and continuous supply of high quality mangoes, Pakistan can enter middle and higher end market segments in UK and other EU countries along with China market as a whole.

It is believed that targeting higher end of the market will not be easier or perhaps possible without proper marketing strategy. Entering the said segment of the market would require establishment of a “brand name”. Other important factors for successful marketing include creating product and brand awareness in the international as well as in the local markets.

The important factor in enhancing mangoes exports would be the willingness of the exporter to enter the middle and upper segments of the market, and their ability to improve their product to meet the requirements of these segments. There is a tremendous information gap on the production, packaging and marketing techniques prevalent in developed markets. The average Pakistani producer and distributor are viewed as extremely primitive by the buyers. The production techniques and packaging and transport which are followed in the developed markets should be followed to improve the current export status.

Marketing Mix

In this project it is assumed that thirty five (35%) of the production shall be exported to Middle East, twenty (20%) of the production shall be exported to European Union and forty five (45%) of the production shall be exported to China and Iran. Services to exporters who wish to have their mangoes processed from this plant will also be provided on charges.

Promotions/Advertisements

We will have pre launch advertisement or promotional activity. The reason behind this is that since our idea is to create a value chain activity by backward integration and dealing with less educated farmers and they need now how to enter into our value chain activity.

However we will organize a pre launch seminar which will also be arranged before and after every season of fruit where we will invite owners of farms from adjacent areas of the Rahimyar Khan and government officials where we will inform them about our future objectives and what we will achieve with their help and tell them about the benefits to farmers and end customers as well. We will also use our web site for promotional purposes. Moreover we will paint rented vehicle to make it a moving advertisement. Lastly we will also rely on word of mouth. For all the purposes we will have kept Rs. 300,000 for this purpose initially that will increase by Rs. 50,000 every year.

Company will try its level best in participating not only nationally organized and also internationally organized exhibitions as well where possible.

SWOT Analysis

No business can have a success in its respective market without a comprehensive macro environmental analysis. Additionally, the market analysis through various tools like porter five forces and SWOT analysis play a pivotal role in the success or failure.

Strengths

- Experience in fruit farming
- Experience and skills possessed by the owners of the company
- Quality of products
- Human Resource
- Varieties like “Chaunsa” mango are recognized as one of the best varieties
- Pakistan is included among the top ten mango producing countries in the world
- Priority fruit crop supported by major programs

- Availability of raw material (mangoes) with a consistent growth in production
- Availability of farm labor and technical expertise
- Government is supporting growers and exporters as well
- China market opportunity

Weaknesses

- Irregular & inconsistent supply of quality fruits
- Short storage life and inadequate post harvest facilities
- Non availability of cold storage and reefer container facilities at airports & seaports
- Inexperience in the field of sales and marketing
- Limited air space and high freight costs
- Intense competition in exporting business from local as well as from international market

Opportunities

- Prospective markets within geographic proximity i.e., Middle Eastern countries
- Domestic competition level is moderate for a modern processing unit.
- Presence of premium domestic markets
- Lower tariff imposed by importing countries under GATT and by EU countries
- Expansion opportunity in new markets like Far East and Central Asia
- Branding (distinctive name and packaging)

Threats

- Competition from other mango producing countries
- Trade protectionism, which may be applied by countries due to “fruit/white fly virus etc.
- Ruthless competition amongst local exporters
- Trade restriction if imposed by the importing countries
- Illegal supplies of mangoes by local exporters through ferryboats to Dubai

The SWOT analysis brings to light how to build on strengths and exploit opportunities for the successful launch of the business. Similarly, the internal weaknesses and threats needs to work upon to subsidize the risks and failures.

Strategy for Branding

Branded products need to be different in a market where non-branded but similar quality generic varieties are available at competitive prices. Branded products are generally expensive as compared to their non-branded counterparts.

The Target Market

The target market for branded mangoes should be the segment where Pakistani mangoes are not available. Non-branded "mango would easily under cut the branded mango on the basis of price. Positioning of the branded product should be against the Indian and South American mango which has an inferior taste.

Product

In the absence of infrastructure in the country, it may not be workable to promote Pakistani mango as such by a brand name .Product should be a non standard size large mango available in two colors, yellow and green. Since the standard size of the already available mango is between 225-400 gm. A branded mango should be on the higher side. It would be placed on foam tray, covered by cellophane, labeled, and initially accompanied by instructions on various ways to cut and recipes for use such as in milk shake and ice cream.

Placement

The product would be available in supermarkets. A large importer would need to be tapped and exclusivity of the brand for distribution purposes to be given to him. Due to the fact that sea freight has not been developed in Pakistan, means of transport will be air for China, EU and Far East but sea freight has been used for Middle East and Iran.

Product will mainly cater to the non-expatriate British population and compete against the South American South African and Mexican mango in UK.

Pricing

Limited supply would necessitate higher profit margin for the retailer and the importer. Importer would need to be given incentive to start something new in the market.

Promotion

In-house promotion in a major supermarket chain, free samples to be distributed initially. Due to the exclusivity of the brand, general promotion in trade magazines is suggested.

Conclusion

Although the exports of Pakistani mangoes to UK have been increasing in the last few years these generally remain confined to the expatriate Asian population. Individual efforts have been made to break into the British retail multiples but without success.

The demand for Pakistani mango may even increase for a few more years but it is bound to reach a saturation level if market segment does not expand. The segment is approximately two million people. This will also result in gradually lower profit margins for the farmer and exporter.

Quantity-wise Pakistan has around 16% of the total import market in the UK. Worldwide it is the second largest market due to the large expatriate population. This could also explain why Dubai is the no. 1 market and Saudi Arabia no.3. The fact that countries like Singapore and Japan also import Pakistani mango shows general acceptance of its taste.

Pakistani mango will be air freighted to UK whereas to Middle East, China and Iran will be brought by sea with resultant low freight charges, longer shelf life and consistency in ripeness.

We have the great advantage that our mango is good, our task would be much more difficult if we had everything else right but that nobody liked the mango!

MANAGEMENT

PLAN

Management Plan

Organizational Structure

Our company, Ravi Starlet (Pvt) Limited, will have a functional structure. There will be 4 departments:

• MD Marketing & Distribution	-	Mr. Naeem Jamil
○ Staff of Regional Offices		
○ Drivers*		
○ Director Marketing		1
• MD Procurement	-	Mr. Fahim Jamil
○ Supervisor		2
○ Accounts/Inventory Manager		2
○ Picker		20
○ Packager		10
• MD Quality & Legal	-	Mr. Dr. Omer Farooq
○ Quality Control Supervisor		2
○ Quality Control Employee		4
○ Food Technologist		1
• MD Operations, Finance & HRM	-	Mr. Hassan Jamil
○ Director Operations		1
○ Director Finance & Administrations		1
○ Plant Supervisor		3
○ Accounts Officers		1
○ Personal and Admin. Officer		1
○ Skilled Machine Mechanic		1
○ Plant Labor		25
○ Plant Helpers/Peons/Security Guards		6

OPERATIONAL

PLAN

Operational Plan

Success of any business depends on effectiveness and efficiency of operations at various levels. As the company's business model is focused on exporting and to maintain steady flow in value chain activity it is much more important. The operations are divided into four (4) areas:

- Farm affairs management
- Plant affairs management
- Exporting offices affairs management
- Finance and legal affairs management

Chartered flights from Multan and Rahimyar Khan along with Karachi are very well on the cards of government but the best route is from Rahimyar Kahn and Multan. Initially a regional office at Karachi will start operations as the business starts but as government start cargo flight from Multan and Rahimyar Khan two new offices will be setup in these cities to facilitating smooth shipment of mango export.

HUMAN
RESOURCE
MANAGEMENT
PLAN

Human Resource Management Plan

As the business grows and we start processing more mangoes, we would not only be requiring more presence in other countries but our personnel requirement would also grow. Although there would continue to be four (4) departments but within these there would be considerable expansion.

Although hiring and managing the human resource requires proper recruitment, selection and placement policies however owing to our requirement of manpower initially we will use our contacts to hire technical and non technical staff. It will take considerable expansion and time before we will switch to more conventional ways of recruitment i.e. publishing advertisement in the newspaper. Similarly initially there would be no need for carrying out tests or interviews.

More farm labor and plant labor would also be required. Although it is difficult to forecast at the initial level, however the availability of these personnel is not difficult. It is expected that the requirement of additional manpower would increase within two to three years after the launch of the project. As business activity grows we would also require a director quality & director legal affairs.

The compensation package is above market average and that trend would be further consolidated as we believe that human resource is the true asset. Bonuses would be tied to on time delivery, quality of inspection and number of orders generated so that motivation level can be maintained. The company will have a well defined leave policy incorporating casual leave and medical leave. A total of 15 casual leave/year and medical leave as and when required would be allowed. However all leave expenditures will be born by the employee himself. The work hours will be from 9:00 am to 6:00 pm including one hour lunch break from 1:00 pm to 2:00 pm for plant employees, however, the employees would be required to stay on if need arises but will be paid over time which will be Rs.50 per hour for the labors and drivers and Rs.75 for the plant labor. Working hours for farm labor will be started from early morning according to the circumstances to 2:00 pm but similarly overtime will be paid to employees who will work over 8 hours.

FINANCIAL PLAN

Raw Material

List of Raw and Processing Material

<u>Description</u>	<u>Price (Rs.)</u>	<u>Availability</u>
<i>Mangoes (average price per Kg)</i>	20	Local
<i>Chlorine (per metric tone)</i>	7,500	Local
<i>Ethylene gas-in liquid form (per 13Kg)</i>	60,000	Imported
<i>Wax (per liter)</i>	3,000	Imported
<i>Card Board Box carton</i>	25	Local
<i>Size 10.2 cm x 43.2 cm x 27.9 cm for 5 Kg</i>		
<i>Pallet-for 150 Cartons (each)</i>	500	Local

Farm Labor Requirement

<i>Supervisor</i>	2
<i>Acc/Inv Manager</i>	2
<i>QC supervisor</i>	2
<i>QC Employee</i>	4
<i>Picker</i>	20
<i>Packager</i>	10

Quality Control

Every process involves quality control employees to take random samples, and ensure quality of processes as well as product. The manpower at farms has been trained to ensure quality in their respective area (a concept of internal quality customer). Quality control supervisor and employees are an additional quality check so that superior quality standards are maintained.

Total Manpower Required

<u>Positions</u>	<u>Number</u> <u>(Year 1)</u>	<u>Salary/month</u> <u>(Rs.)</u>	<u>Annual Salary</u>	<u>Number</u> <u>(Year 10)</u>
<u>Production Staff</u>				
<i>Processing Plant Operations</i>	1	8,000	96,000	4
<i>Plant Supervisor</i>	3	4,000	144,000	5
<i>Direct labor</i>	25	3,500	262,500	50
<i>Helper (for 3 months)</i>	2	3,000	18,000	4
<u>Farm Staff</u>				
<i>Farm Supervisor</i>	2	4,000	144,000	4
<i>Account/inventory Manager</i>	2	3,500	84,000	4
<i>QC Supervisor</i>	2	3,500	84,000	4
<i>QC Employee</i>	4	3,200	153,600	4
<i>Picker</i>	20	3,000	720,000	40
<i>Packager</i>	10	3,000	360,000	20
<u>Administrative Staff</u>				
<i>Managing Directors</i>	4	35,000	1,680,000	4
<i>Director Marketing</i>	1	30,000	360,000	1
<i>Director Operations</i>	1	30,000	360,000	1
<i>Director Finance/Admin.</i>	1	30,000	360,000	1
<i>Accounts Officers</i>	1	10,000	120,000	2
<i>Personal and Admin. Officer</i>	1	10,000	120,000	1
<i>Food Technologist</i>	1	10,000	120,000	1
<i>Skilled Machine Mechanic</i>	1	8,000	96,000	1
<i>Peon</i>	2	3,000	72,000	2
<i>Security Guard</i>	2	4,000	96,000	2
<u>Total</u>			5,450,100	

The direct labor and helper staff shall be employed for three (3) months only due to seasonal nature of business every year. The manpower for the plant will be gradually increased in relation to the increase in the production capacity over the years; the increase is accommodated in the financial model. The total projected manpower at the year 10th of operations is shown in the last column of above table.

Machinery & Equipment

Equipment List

<u>Processing Machinery</u>	<u>Quantity</u>	<u>Price (Rs.)</u>	<u>Availability</u>
<i>Mango washing grading drying waxing plant</i>	1	4,300,000	Local
<i>Ice bank for Water Chilling for Mangoes</i>	1	1,050,000	Local
<i>Cold Storage (9,000 cu.ft.)</i>	1	1,260,000	Local
<i>Ethylene gas regulator</i>	1	30,000	Imported
<i>Plastic Crates (2' x 1' x 1')</i>	2,000	400,000	Local
<i>Diesel generator (125 KW)</i>	1	1,000,000	Imported
<i>Water Pump of 4 HP motor and water tank fiber glass (1,500 gallons)</i>	1	100,000	Local
<i>Reefer containers for Hino Trucks (20ft x 8ft x 8ft)</i>	2	1,000,000 per container	Local
<i>Reefer containers for Mazda Van (14ft x 6.5ft x 6.5ft)</i>	1	500,000	Local
<i>Fork Lifter</i>	1	450,000	Local
<u>Total</u>		<u>11,090,000</u>	

Reefer Containers

Since it is essential that there should be no break in the cold chain up to the final sale point, two refrigerated containers for Hino trucks and one for Mazda van with the estimated capacity of 6 & 2 metric tones respectively may be required in the initial years of operations. The containers will be acquired on the basis of attained production capacity and volume of export. In this report, it is assumed that 2 (two) reefer containers for Hino trucks and one for Mazda van would be purchased in the initial operational years, however, further one container for Hino Truck may be purchased later on in years 4 and 8. These containers will be mounted on the vehicles, specially rented for the season.

The vehicles could be acquired on rent basis. The monthly rent of a Hino truck and van is estimated to be 30,000 and 15,000 per month respectively, with the running cost of Rs. 10.0 per km, including maintenance service.

Land & Building

Land

The Processing plant is proposed to be set up at Shahbazpur Road, Near Commerce College in Rahimyar Khan City. The vicinity of this site is selected after analyzing advantages and disadvantages of site and location of this place. First of all utilities and other infrastructure is available here and this piece of land is a sole property of owners. The requirement of land is 44,000 sq. ft (approximately 8 Kanals). The land requirement has been proposed keeping in view the future expansion needs (if any).

Building

	<u>Area (sq.ft.)</u>	<u>Construction Cost (Rs./sq.ft.)</u>	<u>Total Construction Cost (Rs.)</u>
<u>Processing Block</u>			
<i>Production Hall</i>	6,000	350	2,100,000
<i>Stores Dressing Rooms etc.</i>	1,000	300	300,000
<i>Generator Room</i>	225	330	74,250
<i>Boundary Wall</i>	840	300	252,000
	running ft.		
<u>Office Block</u>			
<i>Management Office</i>	450	700	315,000
<i>Toilets and Kitchen</i>	100	350	35,000
			3,076,250
<u>Total Building Cost</u>			
<i>Free Space</i>	36,550		
<u>Total Land Cost</u>	44,000		4,400,000
<u>Grand Total of Land & Building Cost</u>			7,476,250

Infrastructure Requirement

- Electricity (3-Phase)
- Telephone Facility
- Fax Facility
- Internet Facility
- Access Roads (Available)
- Water (own Tube Well)
- Drainage

Assumptions of the Project

Machinery Assumptions

<i>Capacity of processing plant (tons/hour)</i>	3
<i>Waste production (% of production)</i>	20.0%
<i>Total production per day (tons)</i>	24
<i>Machine maintenance cost</i>	Constant
<i>Machine maintenance growth rate</i>	2.50%
<i>Seasonal production capacity (tons) including wastage</i>	1,680

Operating Assumptions

<i>Production per season at 100% capacity utilization (excluding waste)(tons)</i>	1,344
<i>Hours operational per day</i>	8
<i>Annual Production Growth Rate (%)</i>	10.0%
<i>Days operational per month</i>	27 days
<i>Days operational per season</i>	70 days

Economy Related Assumptions

<i>Electricity Cost (per unit) Growth Rate</i>	<i>Constant</i>
<i>Electricity Utilization Cost</i>	<i>10.0%</i>
<i>Inflation Rate</i>	<i>Constant</i>
<i>Interest Rate on Long-Term Loan</i>	<i>14.0%</i>
<i>Mango Purchase Price Growth Rate</i>	<i>5.0%</i>
<i>Other Raw Material Price will Increase After Every Two years</i>	<i>10.0%</i>
<i>Wastage Price will Increase Annually</i>	<i>5.0%</i>
<i>Fuel Expenses will increase after every two years</i>	<i>10.0%</i>

Cash Flow Assumptions

Accounts receivables will not be outstanding on year closing due to seasonal nature of operations, and there is sufficient time of 8 months to collect the amount, however, in the beginning of the season, working capital will be needed. For initial working capital calculations following assumptions have been taken into account:

<i>Accounts Receivable (average)</i>	<i>15 days</i>
<i>Accounts Payable (average)</i>	<i>10 days</i>
<i>Mango Purchase Price (Rs. Per Metric ton)</i>	<i>20,000</i>

Financials Assumptions

<i>Project Life (Years)</i>	<i>10</i>
<i>Debt</i>	<i>40%</i>
<i>Equity</i>	<i>60%</i>
<i>Interest rate on Long-term Debt</i>	<i>14.0%</i>
<i>Debt Tenure (Years)</i>	<i>5</i>
<i>Debt Payments/year</i>	<i>1</i>

Revenue Assumptions

Maximum capacity utilization i.e., at 100% will increase from 50% to 100% over the seasons at the rate of 8% annually. The US Dollar and UK Pound Sterling rate is assumed to be Rs.60 and Rs.110 respectively.

Annual Increase in Production Capacity (average increase over the season)	10.0%
Mango C&F Sales Price for Middle East (US \$1.0/Kg)(Rs./Kg)(Average)	60.0
Mango C&F Sales Price for UK (£1.6/Kg)(Rs./Kg)(Average)	176.0
Waste Mango Sale Price (Rs./metric ton)	10,000
Service Charges to Exports (Rs./Kg)	15
Sales Price (for all options)	5.0%
Growth Rate per annum	
Market Mix UK, Middle East and China	20%, 35% & 45% respectively
Sale/Revenue (from all options)	10.0%
Growth Rate per annum	

Other Assumptions

Mango Packaging per Carton (Kg)	4.5
Cartons/Pallets	150
Pallets/20ft. Container load (Pallets)	10
Pallets/40ft. Container load (Pallets)	20
Air Freight for UK (Rs./Kg)	90
Air Freight for China (Rs./Kg)	55
Sea Cargo Middle East for 40ft. Sea Reefer Container (US\$)	2,500
Wax Consumption/ton of Mango Processing (liters)	1.3
Wax Price/liter (Rs.)	300
Promotional Expenses fixed in the 1 Year than it will be increased by Rs. 50,000 Annually	
Employees' Salaries Growth Rate after every two years	5.0%
Salaries of Managing Directors, Directors and other operational staff will increase after every two years	5.0%

Total Project Cost

Land: 4,400,000
Building: 3,076,250

Office Equipment:

Furniture 450,000
Air Conditioner (2) 50,000
Computer (2) 60,000
Fax Machine 12,000

Total 572,000

Plant & Machinery:

Mango Washing, Grading, Drying, Waxing Plant 4,300,000
Ice Bank for Water Chilling for Mangoes 1,050,000
Cold Store with Ammonia Compressor (9000 cu.ft.)
@ Rs.140 per cu.ft. 1,260,000
Ethylene Gas Regulator 30,000
Plastic Crates (2000@Rs200) 400,000
Diesels Generator 1,000,000
Water Pump and Water Tank 100,000

Total 8,140,000

Refer Containers 2,000,000
Fork Lifter 500,000

Preliminary Expenses:

100,000
Total 2,600,000

Working Capital:

10,000,000

Total Cost of Project:

28,788,250

Financed By:

Owners' Equity 60% 17,272,950
Bank Financing 40% 11,515,300

Total 28,788,250

Financial Forecasting

Forecasted Income Statement

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Sales/Revenue:	15,000,000	16,500,000	19,800,000	23,760,000	28,512,000
Cost of Goods Sold:					
Salaries:	2,066,100	2,169,405	2,277,875	2,391,769	2,511,358
Cost of Mangoes	3,150,000	3,622,500	4,165,875	4,790,756	5,509,370
Electricity Expenses	336,000	369,600	406,560	447,220	491,940
Utilities (Telephone, Fax etc)	150,000	165,000	181,500	199,650	219,615
Carriage and Freight (Inward)	150,000	165,000	181,500	199,650	219,615
Chemicals and Gases	600,000	660,000	726,000	798,600	878,460
Repair & Maintenance	300,000	307,500	315,190	323,070	331,140
Insurance-Containers	80,000	64,000	51,200	41,450	29,500
Plant Insurance	61,050	45,788	34,341	25,755	19,317
High Speed Diesel for Generator	30,000	31,500	33,075	34,730	36,465
High Speed Diesel for Wax Burners	30,000	31,500	33,075	34,730	36,465
Wax	350,000	385,000	423,500	465,850	512,435
Cardboard Packing	500,000	550,000	605,000	665,500	732,050
Depreciation	1,204,200	1,204,200	1,204,200	1,204,200	1,204,200
Total Cost of Goods Sold:	9,007,350	9,197,188	9,662,581	9,894,845	10,418,005
Gross Profit:	5,992,650	7,302,812	10,137,419	13,865,155	18,093,995
Operating & Administrative Expenses:					
MD's Salaries	1,680,000	1,680,000	1,764,000	1,764,000	1,852,200
Director Marketing	360,000	396,000	435,600	479,160	527,076
Director Operations	360,000	396,000	435,600	479,160	527,076
Director Finance/Admin. Accounts Officers	360,000	396,000	435,600	479,160	527,076
Personal & Administration Officer	10,000	11,000	12,100	13,310	14,641
Food Technologist	10,000	11,000	12,100	13,310	14,641
Skilled Machine Mechanic	8,000	8,800	9,680	10,648	11,712
Peon	3,000	3,300	3,630	3,993	4,392
Security Guard	4,000	4,000	4,400	4,400	4,840

Total Operating & Administration Expenses:	2,805,000	2,805,000	2,945,250	2,945,250	3,093,608
Promotional Expenses:	300,000	300,000	350,000	350,000	400,000
Entertainment Expenses:	50,000	50,000	50,000	50,000	50,000
Freight Charges (Outward):					
Middle East	650,000	715,000	786,500	865,150	951,665
UK	2,500,000	2,750,000	3,025,000	3,327,500	3,660,250
China	2,000,000	2,200,000	2,420,000	2,662,000	2,928,200
Total Freight Charges (Outward):	5,150,000	5,665,000	6,231,500	6,854,650	7,540,115
Operating Profit/EBIT:					
Interest Expenses	(2,312,350)	(1,517,188)	560,669	3,664,212	7,010,272
	(1,612,142)	(1,368,240)	(1,090,192)	(773,218)	(411,867)
Profit Before Taxation/EBT:	(3,924,492)	(2,885,428)	(529,523)	2,890,994	6,598,405
Taxation @ 35%	-	-	-	-	(752,485)
Profit After Taxation/EAT/Net Income:	(3,924,492)	(2,885,428)	(529,523)	2,890,994	5,845,920

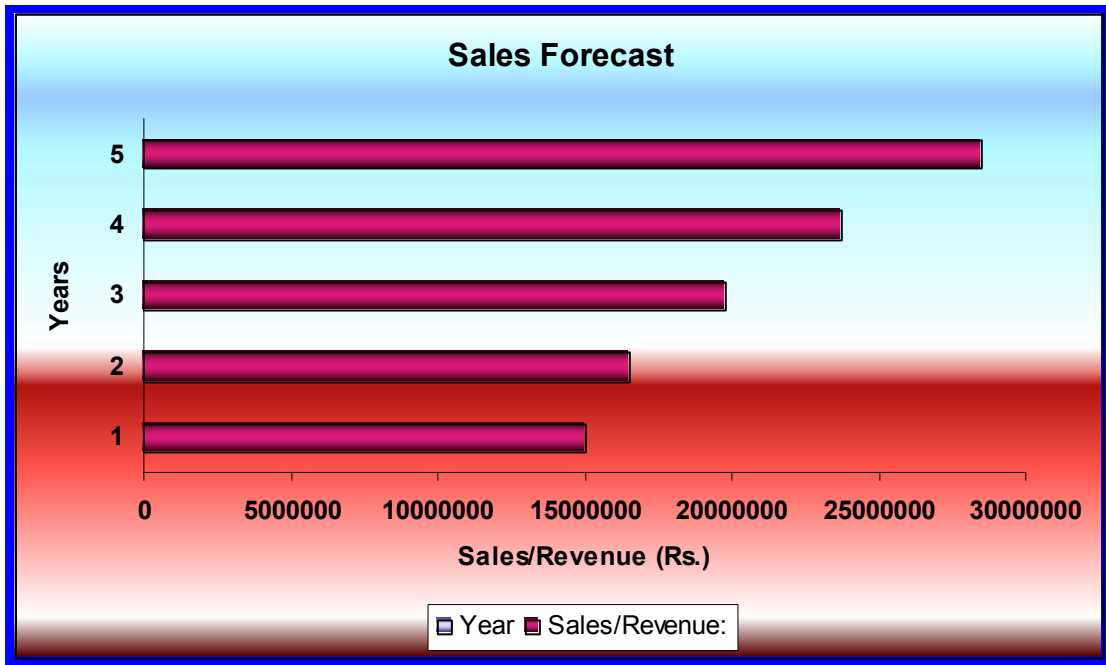
Forecasted Cash Flow Statement

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
<u>Cash Flows from Operating</u>					
<u>Activities:</u>					
Net Income	(3,697,528)	(2,692,802)	(376,042)	2,999,851	5,644,935
Add: Depreciation	1,204,200	1,204,200	1,204,200	1,204,200	1,204,200
Net Cash from Operating	(2,493,328)	(1,488,602)	828,158	4,204,051	6,849,135
Activities					
<u>Cash Flow from Investing</u>					
<u>Activities:</u>					
Purchase of Computer Hardware	(60,000)	-	-	-	-
Purchase of Office Furniture	(450,000)	-	-	-	-
Purchase of Air-Conditioners	(50,000)	-	-	-	-
Purchase of Fax Machine	(12,000)	-	-	-	-
Purchase of Plant & Machinery	(8,140,000)	-	-	-	-
Purchase of Refer Containers	(2,000,000)	-	-	-	-
Construction of Building	(3,076,250)				
Purchase of Fork Lifter	(500,000)	-	-	-	-
Net Cash flows from Investing	(14,288,250)	-	-	-	-
Activities					
<u>Cash Flow from Financing</u>					
<u>Activities:</u>					
Financing from Owners	17,272,952	-	-	-	-
Financing from Bank	11,515,300	-	-	-	-
Loan Re-Payment	(1,742,155)	(1,986,057)	(2,264,105)	(2,581,079)	(2,941,904)
Net Cash flows from Financing	27,046,097	(1,986,057)	(2,264,105)	(2,581,079)	(2,941,904)
Activities					
NET CASH GENERATED	10,264,519	(3,474,659)	(1,435,947)	1,622,972	3,907,231
FROM COMPANY					

Forecasted Balance Sheet

<u>Year</u>	<u>Opening Day</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Cash	10,100,000	5,864,519	4,883,190	4,935,845	5,730,058	5,433,838
Accounts Receivable	-	-	-	-	-	-
<u>Total Current Assets</u>	10,100,000	5,864,519	4,883,190	4,935,845	5,730,058	5,433,838
Office Furniture	450,000	450,000	450,000	450,000	450,000	450,000
Computers	60,000	60,000	60,000	60,000	60,000	60,000
Air Conditioners	50,000	50,000	50,000	50,000	50,000	50,000
Building	3,076,250	3,076,250	3,076,250	3,076,250	3,076,250	3,076,250
Land	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000
Plant & Machinery	8,140,000	8,140,000	8,140,000	8,140,000	8,140,000	8,140,000
Fax Machine	12,000	12,000	12,000	12,000	12,000	12,000
Fork Lifter	500,000	500,000	500,000	500,000	500,000	500,000
Refer Containers	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Accum. Depreciation	0	(1,204,200)	(2,408,400)	(3,612,600)	(4,816,800)	(6,021,000)
<u>Total Fixed Asset</u>	18,688,250	17,484,050	16,279,850	15,075,650	13,871,450	12,667,250
<u>Total Assets</u>	28,788,250	23,348,569	21,163,040	20,011,495	19,601,508	18,101,088
Account Payable	-	-	-	-	-	-
Long-Term Loan	11,515,300	11,515,300	9,773,145	7,787,088	5,522,983	2,941,904
Loan Re-Payment	-	(1,742,155)	(1,986,057)	(2,264,105)	(2,581,079)	(2,941,904)
<u>Total Liabilities</u>	11,515,300	9,773,145	7,787,088	5,522,983	2,941,904	-
<u>Capital Account</u>						
Mr.Naeem Jamil's A/c.	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238
Mr.Fahim Jamil's A/c.	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238
Dr.Omer Farooq's A/c.	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238
Mr.Hassan Jamil's A/c.	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238	4,318,238
<u>Current Account</u>						
Mr.Naeem Jamil's A/c.	-	(924,382)	(673,200)	(94,010)	749,813	1,411,234
Mr.Fahim Jamil's A/c.	-	(924,382)	(673,200)	(94,010)	749,813	1,411,234
Dr.Omer Farooq's A/c.	-	(924,382)	(673,200)	(94,010)	749,813	1,411,234
Mr.Hassan Jamil's A/c.	-	(924,382)	(673,200)	(94,010)	749,813	1,411,234
<u>Total Equity</u>	17,272,952	13,575,424	14,580,152	16,896,912	20,272,204	22,917,888
<u>Total Liability & Equity</u>	28,788,250	23,348,569	22,367,240	22,419,895	23,214,108	22,917,888

Sales Forecast



Asset Depreciation

Depreciation of Computer (Two)			
Straight-Line Depreciation Method: 10% Annually			
SV=0			
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	60,000
1	6,000	6,000	54,000
2	6,000	12,000	48,000
3	6,000	18,000	42,000
4	6,000	24,000	36,000
5	6,000	30,000	30,000
6	6,000	36,000	24,000
7	6,000	42,000	18,000
8	6,000	48,000	12,000
9	6,000	54,000	6,000
10	6,000	60,000	0

Depreciation of Building			
Straight-Line Depreciation Method: 5% Annually			SV=10000
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	3,076,250
1	150,000	150,000	2,926,250
2	150,000	300,000	2,776,250
3	150,000	450,000	2,626,250
4	150,000	600,000	2,476,250
5	150,000	750,000	2,326,250
6	150,000	900,000	2,176,250
7	150,000	1,050,000	2,026,250
8	150,000	1,200,000	1,876,250
9	150,000	1,350,000	1,726,250
10	150,000	1,500,000	1,576,250
11	150,000	1,650,000	1,426,250
12	150,000	1,800,000	1,276,250
13	150,000	1,950,000	1,126,250
14	150,000	2,100,000	976,250
15	150,000	2,250,000	826,250
16	150,000	2,400,000	676,250
17	150,000	2,550,000	526,250
18	150,000	2,700,000	376,250
19	150,000	2,850,000	226,250
20	150,000	3,000,000	76,250

Depreciation of Furniture			
Straight-Line Depreciation Method: SV=25000			
10% Annually			
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	450,000
1	42,500	42,500	407,500
2	42,500	85,000	365,000
3	42,500	127,500	322,500
4	42,500	170,000	280,000
5	42,500	212,500	237,500
6	42,500	255,000	195,000
7	42,500	297,500	152,500
8	42,500	340,000	110,000
9	42,500	382,500	67,500
10	42,500	425,000	25,000

Depreciation of Air-Conditioner (Two)			
Straight-Line Depreciation Method: SV=5000			
10% Annually			
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	50,000
1	4,500	4,500	45,500
2	4,500	9,000	41,000
3	4,500	13,500	36,500
4	4,500	18,000	32,000
5	4,500	22,500	27,500
6	4,500	27,000	23,000
7	4,500	31,500	18,500
8	4,500	36,000	14,000
9	4,500	40,500	9,500
10	4,500	45,000	5,000

Depreciation of Fax Machine			
Straight-Line Depreciation Method:			SV=0
10% Annually			
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	12,000
1	1,200	1,200	10,800
2	1,200	2,400	9,600
3	1,200	3,600	8,400
4	1,200	4,800	7,200
5	1,200	6,000	6,000
6	1,200	7,200	4,800
7	1,200	8,400	3,600
8	1,200	9,600	2,400
9	1,200	10,800	1,200
10	1,200	12,000	0

Depreciation of Plant & Machinery			
Straight-Line Depreciation Method:			SV=740000
10% Annually			
Year	Depreciation Expense	Total Accumulated Depreciation	Book Value Rs.
0	0	0	10,740,000
1	1,000,000	1,000,000	9,740,000
2	1,000,000	2,000,000	8,740,000
3	1,000,000	3,000,000	7,740,000
4	1,000,000	4,000,000	6,740,000
5	1,000,000	5,000,000	5,740,000
6	1,000,002	6,000,000	4,740,000
7	1,000,000	7,000,000	3,740,000
8	1,000,000	8,000,000	2,740,000
9	1,000,000	9,000,000	1,740,000
10	1,000,000	10,000,000	740,000

Total Accumulated Depreciation					
	Year 1	Year 2	Year 3	Year 4	Year 5
Building	150,000	150,000	150,000	150,000	150,000
Plant Equipment & Machinery	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Office Furniture	42,500	42,500	42,500	42,500	42,500
Computers	6,000	6,000	6,000	6,000	6,000
Air Conditioners	4,500	4,500	4,500	4,500	4,500
Fax Machine	1,200	1,200	1,200	1,200	1,200
Total	1,204,200	1,204,200	1,204,200	1,204,200	1,204,200

Loan Amortization

Loan Amortization				
Year	Installment	Interest Expense	Principal Repayment	Principal Remaining
0				11,515,300
1	3,354,297	1,612,142	1,742,155	9,773,145
2	3,354,297	1,368,240	1,986,057	7,787,088
3	3,354,297	1,090,192	2,264,105	5,522,984
4	3,354,297	773,218	2,581,079	2,941,904
5	3,353,771	411,867	2,941,904	-

Power Load Calculation

(At 100% capacity)

Items	No.	Load / Item Watts	Total Load Watts	Total KWh
Air Conditioner	2	2,250	4,500	4.5
Tube Lights	100	40	4,000	4.0
Ceiling Fans	20	100	2,000	2.0
Water Pump	1	3,500	3,500	3.5
Elect. Motors for Plant	10	2,000	20,000	20.0
Ice Bank	1	35,000	35,000	35.0
Cold Store	1	17,000	17,000	<u>17.0</u>

Total Kilo Watts **86.0**

Consumption hours / Day for cold store	24
Hours in 70 Days	1,680
Consumption hours / Day for others	8
Hours in 70 Days	<u>560</u>

Total Kilo Watts Hours per season	<u>67,200</u>
Cost of Electricity @ Rs. 5.00 (average)	<u>336,000</u>

Annually growth of unit cost of electricity and utilities assumed to be constant but annual growth rate in electricity and utilities utilization assumed to grow @ 10.0%.

Forecasted Net Present Value

<u>Net Present Value (Total Project Cost Perspective)</u>			
Year	Cash Flows	PVIF at WACC	Present Value
0	(28,788,250)	1.00	(28,788,250)
1	(2,312,350)	0.903342367	(2,088,844)
2	(1,517,177)	0.816027432	(1,238,058)
3	560,669	0.737152151	413,298
4	3,664,212	0.665900769	2,440,002
5	7,010,272	0.601536377	4,216,934
6	12,050,789	0.543393294	6,548,318
7	18,568,985	0.490870185	9,114,961
8	25,654,321	0.443423834	11,375,737
9	32,753,951	0.400563536	13,120,038
10	38,654,159	0.361846013	13,986,853
Net Present Value			29,100,990

Forecasted Pay Back Period

Pay Back Period (Total Project Cost Perspective)				
Year	Initial Investment	Investment at the Beginning	Cash Flows EBIT	Investment at the end
0	(28,788,250)			
1		(28,788,250)	(2,312,350)	(31,100,600)
2		(31,100,600)	(1,517,177)	(32,617,777)
3		(32,617,777)	560,669	(32,057,108)
4		(32,057,108)	3,664,212	(28,392,896)
5		(28,392,896)	7,010,272	(21,382,624)
6		(21,382,624)	12,050,789	(9,331,835)
7		(9,331,835)	18,568,985	9,237,150
8		9,237,150	25,654,321	34,891,471
9		34,891,471	32,753,951	67,645,422
10		67,645,422	38,654,159	106299581
Pay Back Period			6.5 Years	

Forecasted Profitability Index

Profitability Index	= Net Present Value / Initial Investment
	= 29,100,990 / 28,788,250
	= 1.01086

Forecasted Financial Ratios Analysis

Financial Ratios Analysis							
Activity Ratios:	Year	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Total Asset Turnover	=	<u>Net Sales</u>	0.64	0.74	0.88	1.02	1.24
		Total Asset					
Leverage Ratio:							
Debt Ratio	=	<u>Total Debt</u>	0.49	0.44	0.35	0.24	0.13
		Total Assets					
Debt/Equity Ratio	=	<u>Total Liabilities</u>	0.72	0.53	0.33	0.15	-
		Owners' Equity					
Times Interest Earned	=	<u>EBIT</u>	(1.43)	(1.11)	0.51	4.74	17.02
		Interest Expense					
Profitability Ratios:							
Gross Profit Margin	=	<u>Gross Profit</u>	0.40	0.44	0.51	0.58	0.63
		Net Sales					
Profit Margin	=	<u>Net Income</u>	(0.26)	(0.17)	(0.03)	0.12	0.21
		Net Sales					
ROA	=	<u>Net Income</u>	(0.17)	(0.14)	(0.03)	0.15	0.32
		Total Assets					
ROE	=	<u>Net Income</u>	(0.29)	(0.20)	(0.03)	0.14	0.26
		Owners' Equity					

WTO CHALLENGES

WTO's Appearance and the Reality



World trade is based on the principle of comparative advantage, a principle undisputed in the economists' community. Specialization and trade, the result of this principle, increase the productivity of a nation's resources and allows for a larger total output than otherwise.

Why the global protests and the feeling of unease against the WTO? These are not unfounded. The WTO has its plus points and its drawbacks. To improve upon what has already been a tremendous

leap forward in global trade, we need to understand the intricacies involved.

If we are able to comprehend both sides of the argument, we will find a course of action to solve the maladies believed to be caused by the WTO. The disagreements do not arise from the global trade but the resultant effects of globalization and the very rules of the body governing world trade.

Globalization is a foregone conclusion. Its ills must be regulated and benefits availed. So, leaving globalization and its spillover costs aside, the exact nature of the opposition must be analyzed.

The opposition to the WTO is centered on the following main points:

- WTO is too powerful; it can compel sovereign states to change their laws if it feels that the laws do not comply with the agreements made. The rich for the rich run it; it does not give significant weight to the problems of the developing countries, in practice, if not in theory. It is indifferent to the negative fallout of free trade; its commercial interests take priority over everything— from child labor to workers' rights and environment to health. It lacks democratic accountability. Its trade dispute hearings are closed to the public and the media, while free trade presupposes open debates and transparency.

- To govern the international trade, WTO was set up in 1995. The WTO has clauses to protect the environment, but they contain no ‘minimum standards’ to protect the environment, labor rights, social programs or cultural diversity. What makes it so powerful is that it can intervene in the everyday administration, of any member country, and force it to change its laws if the WTO feels that they are detrimental to free trade and are against WTO agreements.
- The member states themselves have given both legislative and judicial authority to WTO to challenge laws, policies and programs of countries, which do not conform, to its rules. Once a case is decided, in secret by a panel, worldwide conformity is required. The country affected, must bring its laws in conformity with the decision or face retaliation in the form of sanctions.

Pascal Lamy, the ex-European Trade Commissioner, before his departure, called for environment and social organizations, such as the World Health Organization (WHO) and the International Labor Organization (ILO) to be brought at par with the WTO. If this step is not taken then the generally held belief is that, there is little point in having treaties to protect anything other than free trade.¹¹

The anti-WTO demonstrators see that the world is beginning to look a lot like France, a few years before the French Revolution. The 500 richest people on Earth now own \$1.54 trillion, more than the entire annual GDP of the African Continent, even more than the combined annual income of the poorest half of the globe.

In the Guantanamo Bay and the Abu-Ghraib jails we see the Bastille of our time, where the rich and powerful keep men and women confined, tortured, abused and dehumanized without charge or trial. If the principles of justice and fair play are not observed in the process of globalization, revolutions may erupt worldwide.

The ‘Doha Round’ of trade talks held in November 2001 was meant to work towards a system of trade rules that were fairer to developing nations. But its subsequent meeting in Cancun failed; agriculture being the lifeblood of developing and least developed nations was the stumbling block.

¹¹ <http://www.dawn.com>

The poor countries accused the developing nations of protecting their farmers through subsidies, usually funded by tax payers via governments or trade associations, and then dumping their goods on poor countries at knock down prices, undermining local farmers. The subsidies made the farmers of developed nations more competitive and led to inefficient resource allocation. On the other hand, while trying to import their good to developed nations; poor countries had to face an unfair competition, due to subsidies, which goes against the very concept of comparative advantage, the foundation stone of the WTO. A new alliance of developing nations arose and refused to agree to the proposed agreement and rose to the occasion high above what was expected. Instead of slashing the \$330 billion subsidies lavished on their farmers, as promised during the meeting in Doha, the rich countries have ramped up their support of this sector. US alone has increased its support by \$ 175 billion over 10 years and European Union's Common Agricultural Policy, which swallows up nearly half of its budget, was maintained – any real cuts being put off until 2013.¹²

Services, is one of the fastest growing sector of the world. It accounts for about 60 per cent of global output, 30 per cent of global employment and 20 per cent of global trade. For developing countries, this is one of the most important sectors, due to abundance of population and shortage of jobs. By comparative advantage, the abundance of cheap labor can help poor countries to specialize in trade in services. With the free flow of goods, developed countries – are required to recognize the need for free, cross border, mobility of labor.

Despite the recent agreement of August 2004, recognizing the need of free trade in services, the emphasis on free trade in goods is quite prominent while cross border mobility of labor is a distant dream.

Sectors favoring developed countries that is in which they have comparative advantage, such as manufactured goods, are a priority while sectors like agriculture and services are out of focus. Without balanced liberalization can the developing countries really benefit from WTO? Unless simultaneous liberalization of cross border mobility of labor with

¹² <http://www.dawn.com>

free trade in goods is ensured, the poor countries will face more widespread unemployment and penury.

Current international trade rules are keeping millions of people in poverty. This situation is maintained by man-made rules that favor the rich over the poor. These rules are agreed between countries at WTO meetings. Every member country is entitled to representation. But the situation is not as it appears or is led to be believed. For example the US has 250 permanent representatives lobbying their case and negotiating, while Bangladesh has only one.

The official business of the WTO takes place in Geneva and so do the equally important unofficial contacts. But as the WTO itself states, “Only about one third of thirty or so least developed countries in the WTO have permanent offices in Geneva, and they cover UN activities as well as the WTO.” Every country can influence what can happen at the WTO but rich and powerful countries have stronger, more professional lobbies with greater leeway, to negotiate. This may seem unfair but the world is unfair unless you have temerity to make it just.

A case in study is Nigeria who has threatened to default on its \$33 billion overseas debt, unless it is helped. It is mind-boggling how this so-called development loans chain the poor to the debtors’ block.

As aptly put by Farouk Lawan, the chairman of the finance committee in Nigeria’s House of Representatives said, “It is inconsiderable that Nigeria has paid \$3.5 billion in debt service over the past two years but our debt burden has risen by \$3.9 billion – without any new borrowing. We cannot continue. “We must repudiate this debt.”¹³

World trade might have helped countries specialize and increase the efficiency of resource allocation but what about the poor countries in Africa whose level of poverty has risen because they are weak in trade. The WTO scenario seems to be a dog eat dog situation, whoever gets ahead of the line wins and whoever is left behind is left to perish.

¹³ <http://www.dwn.com>

Is that what humanity has come down to? Are these rules, these iron chains representative of the evolution of human thought?

Unless we are able to make health and environmental organizations stand on equal footing with the WTO, we will keep hurtling towards a catastrophe. Japan is considered to be a major force in the destruction of the world's forests and the greatest contributor to global deforestation. It has just two per cent of the world's population but its wood product market is second only to the US.

The settlement procedure depends heavily upon trade sanctions, which first of all isn't the best way to promote trade. Secondly, it depends on the fact that if rich countries like the US is awarded and applies sanctions on a poor nation like Pakistan then we might be in a predicament. But on the other hand if Pakistan is awarded and applies trade sanctions against America, it will not only be laughable but in the end we will be the loser.

These are genuine problems but if we tackle them with a genuine will to resolve them, then developing nations must combine and get their right, as in a democracy majority is always right.

The recent development in agriculture is an exemplary breakthrough and a welcome reprieve for poor countries. The breakthrough was reached after five days of negotiation in Geneva last year. The deal approved by all 147 members, will cut farm subsidies, in return developing countries will have to open their markets to manufactured goods, which most of them already are in the process of doing.

It was a success for the new system of "Multilateralism" (different countries and regions with common goals gathering together to pool their resources and votes to get their rights). These trade blocks will decide the future of world trade. But surprisingly, most of the poor countries is not a part of any block, and have not had the insight to make one of their own. The dissention between the poor is their greatest weakness. The road is diverging in the yellow wood we just have to take the right path.

Pakistan & WTO

Pakistan has a vast natural resource base, which covers various ecological and climatic zones; therefore it has great potential for producing all types of food commodities. Agriculture has an important direct and indirect role in generating the economic growth of our country. The importance of agriculture can be seen in three ways: first it provides food to consumers and fibers for domestic industry, second it is a source of scarce foreign exchange earnings and third it provides a market for industrial growth.

Agriculture is the largest sector of our economy. Majority of our population largely depends directly or indirectly on this sector. It contributes about 24 per cent of gross domestic product (GDP) and accounts for half of the employed labor-force and is the largest source of foreign exchange earnings.

The sector is usually divided into four main sub-sectors: crops, livestock, forestry and fisheries. Crop sector accounts for about 65 per cent of agriculture share in the GDP, while livestock accounts for 30 per cent, forestry and fisheries make up less than 2 per cent of the total.

According to the Economist Intelligence Unit report the agriculture sector is expected to perform well in 2003-04 on the back of improved water availability and easy access to farm credit. The present government expects to meet the production targets for major crops, with the exception of cotton, for which the target has been reduced from 10.55 million tones to 10 million tones because of a pest attack. The target for rice is set to 4.55 million tones, 52.5 million tones for sugarcane and 20.5 million tones for wheat.¹⁴

WTO Agreements

In the year 1994, Pakistan signed three agreements with World Trade Organization (WTO) related to food, agriculture and livestock commodities through the ministry of commerce. These agreements included agriculture, sanitary and phyto-sanitary measures

¹⁴ <http://jang.com.pk/thenews/index.html>

(SPS)/technical barriers to trade (TBT) and trade related intellectual property rights (TIPS). So what are the commitments under the agreement on agriculture?

Under the agreement on agriculture, all WTO members have rule-based commitments in respect of domestic support, export subsidies and market access measures, such as the prohibition on the use of border measures other than ordinary customs duties except those permitted under WTO provisions, which are applicable to trade in goods generally. Also, each WTO member has an individual schedule of tariff concessions and of commitments limiting subsidization covering agricultural products. The schedules commit developed country members to tariff and subsidy reductions over 6-year period and 10-year period for developing country members. Each schedule of tariff concessions sets out the maximum tariff that can be applied on imports of agricultural products into the territory of the member concerned. But what does the commitment to reduce tariffs and subsidies mean in practice?

For developed country members, the initial tariffs are being reduced over a six-year implementation period, which began in the year 1995, on average, 36 percent with a minimum reduction of 15 percent for each product. For developing country members an average reduction of 24 percent is taking place over 10 years, with a minimum reduction of 10 percent for each agricultural product.

Developed country members are required to reduce the base-period volume of subsidized exports by 21 per cent and the corresponding budgetary outlays for export subsidies by 36 per cent in equal annual installments over the 6-year implementation period. For developing country members, the reductions are spread out over 10 years, and the rates of cut are 14 and 24 percent respectively.

In order to face the highly subsidized exports from the developed countries, the developing countries like Pakistan, are forced to give support to their agriculture sector. Under the provision of domestic support in "agreement on agriculture", de-minimize payments are the domestic agricultural support payments representing only a small percentage of transfer to producers. This is 5 percent for developed and 10 percent of production value (GDP) for developing countries.

These payments are paid in addition to the green, amber and blue boxes. The said payments are exempted from reduction commitments even if the effects of such support are potentially production or trade distorting. 10 per cent of total GDP allowed to be given as domestic support to agriculture sector. Therefore, we are legally allowed to give support to our agriculture sector in the coming days of WTO regime. But how do developing and least-developed countries benefit from the agreement on agriculture?

The agreement tackles the reform program in an equitable way among all the member countries. It recognizes the special situation faced by some members by including aspects relating to food security and by providing for special and differential treatment for developing countries. The latter includes a significant improvement in the opportunities and terms of access for agricultural products of particular interest to developing country members, including the fullest liberalization of trade in tropical products.¹⁵

WTO Challenges

Pakistan is an agricultural country. Therefore, the ensuing WTO challenges have sparked heated debates among various circles. A sub-set of four WTO agreements specifically deals with agricultural issues. These include: agreement on agriculture, agreement on the application of sanitary and phyto-sanitary measures, agreement on technical barriers to trade and agreement on trade-related aspects of intellectual property rights. In this scenario a question crops up in the mind. What does it exactly entail from the member countries? Yes, members of the WTO are bound to fulfill the conditions. They are supposed to bring their trade-related laws into conformity with the WTO agreements. It calls for substantial institutional change. These should bring about greater transparency in their trade-related laws, regulations and practices, and participate fully in WTO negotiations on the rules and disciplines that govern international trade in goods, services and intellectual property, and engage in periodic rounds aiming at substantial reduction of tariffs and other barriers to trade.

As far as Pakistan is concerned, it needs to cope with two opposite pulls. On the one hand, it has a strong interest in earning higher prices for its agricultural exports and on

¹⁵ <http://jang.com.pk/thenews/index.html>

the other hand, being net importer of food, it always looks forward to arrangements that lower international prices of its agricultural imports. For this very reason, Pakistan could never wholeheartedly support regimes that led to a reduction in rich countries' agricultural subsidies and consequent prices in internally market for agri-products.

Fortunately, this tension has now subsided because Pakistan's agricultural trade is more or less in balance. In fact, the current mild imbalance should soon turn into a surplus. Pakistan, therefore, should step up its efforts in the WTO to bring about a lowering of domestic support and export subsidies among organization of economic co-operation and development or OECD countries. While agreement on agriculture does require the OECD countries maintaining high subsidies to reduce them, it allows ample room to the developing countries to support its agricultural products.

Had Cancun conference succeeded, a process would have raised international prices of agricultural products and improved incomes, productivity and competitions of developing countries' products. According to some studies sponsored by the World Bank and the IMF, termination of OECD agricultural subsidies, is likely to lead to a 10-20 per cent increase in the prices of cotton, 20-40 per cent increase in dairy product prices, 33-90 per cent price increase in the case of rice and a 20-40 per cent rise in the international prices of sugar. No doubt, Pakistani producers and the Pakistani economy will be better off provided that the government of Pakistan allows higher international prices to reach the farmers. Pakistan has no reason to be afraid of the WTO round of negotiations on agriculture.

As the Harbinson proposal envisages average tariff cuts from bound rates of 40 per cent for tariffs above 120 per cent, a cut of 35 per cent for tariffs between 60 per cent and 120 per cent, a cut of 30 per cent for tariffs between 20 per cent and 60 per cent and an average reduction of 25 per cent in tariffs below 20 per cent. These cuts are to be implemented over ten years. Moreover, cuts are not to apply to products considered strategic by the developing countries. Even the Harbinson proposal was accepted in its entirety. And the resulting bound tariffs of Pakistan would still be higher than its applied rates. This is so because the average agricultural bound rates of Pakistan are higher than 100 per cent. Rationally speaking, Harbinson proposal virtually makes no difference to

the actual level of protection available to the producer. It needs to be understood clearly that a country of the size of Pakistan cannot remain a free rider for very long.

Whereas, the agreements on sanitary and phyto-sanitary measures has attempted to develop a multilateral, rule based discipline for adopting or enforcing measures necessary to protect human, animal or plant life or health. Food safety is one of the central concerns of this agreement. In view of this it is vital for the ministry of food, agriculture and livestock to expedite up-dating and revising laws of the land, collecting rules of major trading partners and disseminating among the concerned business organizations. Pakistan must seek technical assistance in the areas of processing technologies, research and establishment of national regulatory bodies.

On the agreement on technical barriers to trade, which is concerned with the use of technical regulations and standards including packaging, marking and labeling requirements and procedures for assessment of conformity to the regulations and standards should not create unnecessary obstacles. Indeed, the agreement has a direct bearing on international trade in processed foods and beverages. Therefore, Pakistan needs to modernize its laws, regulations and standards to promote its relatively new agricultural exports such as fruits, vegetables in raw and processed forms and to educate its producers and traders in the requirements of its international trading partners.¹⁶

The extension of TRIPS to agriculture, of course, is pregnant with difficulties. The development of commercial seed industry, the tension between the rights of plant breeders and the rights of the farmers in the context of new varieties of plants, the conflicts between different readings of the TRIPS and the convention on biological diversity, issues relating to disclosure of origin and the protection of traditional knowledge are matters which have generated a very lively controversy all over the world. Pakistan needs to develop an exhaustive policy not only on the TRIPS on Agriculture but also about multilateralism, bilateralism and regionalism. Hastily designed, overlapping preferential agreements will create a mess for the business community and encourage

¹⁶ <http://www.dawn.com/2004/07/22/nat25.htm>

corruption in the ranks of those who matter. And that does not augur well for global free trade in the country.¹⁷

Pakistan Agri-Sector in the era of WTO

The successive past governments in Pakistan were intimidated by the WTO to do the needful, but the suggestions were not taken seriously. Besides agriculture - which is the backbone of our economy – efforts in other sectors are particularly zero. Candid officials from the concerned ministries acknowledge that the hopes from an international regime about policy makers talking of establishing a fair and market-oriented agricultural trading system are, in fact, being belied. They opine that the WTO is going to explode with ample challenges at the door of our agricultural sector. These challenges will have to arise, first, from the declining growth of our major crops and second, from unfair competition from cheap imports that pose an enormous threat to the livelihoods of the farmers.

According to one economist, there has been a continuous decline in the agricultural sector during the past years. This analysis is based on the fact that there has been little decrease in the share of population that is dependent on agriculture.

Therefore, our agriculture should focus on exports to provide impetus for its growth. It is an assumption that the relatively low cost agriculture sector such as fruits and vegetables in the country will have the competitive advantage in the global market place, which can help generate additional markets. However, as food standards become increasingly important in the larger markets, mere price advantages that Pakistan enjoys with others, can contribute little in obtaining additional market access. Pakistan would therefore have to invest heavily in upgrading its production facilities – from the farm to the processing units – to have a look-in into the larger markets. But with investments in agricultural sector decreasing steadily, it would require a complete turnaround in the government's priorities to reverse the trend. The larger issue that needs to be addressed is the impact such a policy orientation would have on the country's food security. For growth of our agricultural sector we have to utilize our available resources in the best possible way.

¹⁷ <http://jang.com.pk/thenews/index.html>

Poverty and malnutrition are the grim realities that are still facing Pakistan in the 21st century. Therefore, Pakistan has to go extra mile to make its population food secure. A comprehensive framework needs to be evolved that addresses specific problems of the agricultural sector.

According to one expert, we need to develop a two-part strategy. The first is to protect the domestic market with appropriate levels of bound tariffs. The bound tariffs should be able to protect the domestic producers against the pressures of international prices. It is therefore, imperative for the present government, to resist pressures for tariff reducers.

Second is to ensure that adequate resources are provided to this resource-starved sector in order that it is able to gather the necessary growth momentum. At sane time, however, there is need for bringing about meaningful institutional reforms domestically with an eye to reaching the benefits to the lower rungs of the farming communities'.¹⁸

Hopes from Agri-Sector

The State Bank of Pakistan (SBP) foresees that the agriculture sector will grow by four percent during FY05, above the 3.5 per cent target for the year due to significant improvement in the crop sub-sector, which may cross eight per cent.

In its second quarter report for FY05, the SBP stated that the wheat harvest would be close to the FY05 target as serious water shortage in the Rabi season has been overcome significantly following much-needed rains and snowfall.

On the other hand, Kharif FY05 crops have been considerably higher than the initial estimates with the revised cotton production figure exceeding 14 million bales against the target of 10.7 million bales. The cotton and wheat production is expected to compensate for the shortfall in sugarcane and rice crops.

The report said that the crop sub-sector comprises approximately 46 per cent of the agriculture sector; while prospects for a better out-turn by the livestock sub-sector also appear promising at the stage. Describing the performance of crop sub-sector, the report

¹⁸ <http://jang.com.pk/thenews/index.html>

stated that the cotton crop was provisionally estimated at 14.2 million bales in FY05, which was not only far above the 10.7 million bales annual production target, but was also the record highest cotton output in Pakistan.

"Wheat harvest is 1.8 million tones below target, and could ever be over twice the target rate if the more optimistic scenarios materialize." Meanwhile, the report stated that heavy rains had benefited Barrani crops but had probably had some adverse impacts, particularly on some of the less important major crops (e.g. gram) as well as minor crops like chilies and pulses.

However, "since these less important crops contribute less than 10 per cent of the crop sub-sector, the negative impact of the rains on the aggregate crops sub-sector is unlikely to be significant," added the report. However, it warned that continued heavy rain and snowfall might damage the standing wheat crop and some minor crops as well.

According to the water situation, canal water shortage for Sindh and the Punjab during the Rabi FY05 season had initially been estimated at a crop-threatening 47 per cent of normal requirements. Fortunately, the unexpected and timely winter rains and snowfall substantially averted this risk.

Fertilizer off take during the first half of Rabi FY05 (Oct-Dec) remained below than the corresponding period of Rabi FY04. The off take of urea was down by 5.8 per cent YoY, while DAP declined by 14.5 per cent YoY during Oct-Dec FY05.

As a result, the SBP estimated that the overall fertilizer off take for the whole of Rabi FY05 was likely to be down by about 3.0 per cent for urea and 11.8 per cent for DAPS. The major reasons for the lower fertilizer off take during the first half of FY05 include water shortages (that discouraged farmers' usage of inputs), higher fertilizer prices and supply shortages.

The SBP stated that in contradiction to the urea off take, the credit disbursement for fertilizer was 29.1 per cent higher during H1-FY05 as compared to H1-FY04. However, the total amount disbursed (Rs.49.1 billion) during H1-FY05 was 49.4 per cent higher

than that in the corresponding period of H1-FY04, and 57.8 per cent of the FY05 annual target.

The highest YoY increase of 52.0 per cent in the disbursement was witnessed in the Punjab followed by 48.2 per cent for NWFP and 41.5 per cent for Sindh. Whereas, Agri-credit disbursement for Balochistan fell by 27.0 per cent. Meanwhile, H1-FY05 witnessed an improvement in the recovery ratio to 43.8 per cent from 38.8 per cent in H1-FY04.

WTO on Slippery Track

The World Trade Organization seems slowly submerging in a pathetic perplex. All efforts to fortify it by going round of rounds of talks have not resulted in any meaningful form - undesirable slippages without let-up. The latest trade ministerial meeting held in Dalian, China, concluded on July 12, ended on a note of utter disappointment regarding the talks meant for trade liberalization and resultantly expressing an added concern on the negotiations to collapse. The WTO Chief summed up the situation in these words, to quote: "My realistic assessment for the end of July is that we are not going to meet with the kind of optimism put up since the beginning of the year".

Shifting sands seem from his further observation that decisions have now to be made at the political level, so as to realize the economic realities, before the 2005 bids farewell. The talks were as part of the four-year old WTO Doha Round, aimed at to expand free trade that "benefits poor nations". It seems now a notion than perhaps a pursuit. The Dalian deliberations concluded on the note that services offered so far were "overall disappointing." So nobody should, it was added, imagine that Hong Kong talks are going to be a success, if efforts are set for the last minute uplift! It would be a recipe for disaster.

This inspires to go into the concept of WTO, its realization strategy and steps tantamount to defeat, if not sabotage the program. Have a fresh second look to it.¹⁹

19 <http://www.dawn.com/2002/10/28/ebr5.htm>

GATT to WTO

The World Trade Organization emerged in 1995 from the ashes of the General Agreement on Trade and Tariff, which was created during 1940s, by end of the World War II. It was organized with focus on reconstruction and development of economies ravaged by the World War II, specifically in Europe.

The prime distinction between the two institutions set up under the United Nations has been that the GATT prescribed general agreement on tariff to promote trade, while WTO is meant for specific tariffs for trade.

GATT did not cover agricultural sector and some of the services segments. The WTO covers entire gamut, with over emphasis on financial services (banking, insurance and extensions), intellectual property rights (IPR) etc. The WTO is comprehensive in effect, being all embracing.²⁰

WTO Motives

The WTO is explained as ‘vocalized political will’ for pursuing economic objectives of the developed countries. Ravages of the World War II shaped political independence of a large number of countries of Asian and African continents from subjugating aliens’ rule. The WTO seems as means to the end of bringing these countries back under subjugation on economic basis.

The Europe and the United States of America could read well in advance emergence of the Asian nations as economic force to reckon with and the WTO has been made a vehicle to strangulate their economic growth by crippling their access to technical and financial strength.

The vocalized political will, as the WTO is explained to be, needs translating into definite progress on Geneva based negotiations relating to agriculture and non-agriculture market

20 <http://www.wto.org/>

access. This has been a critical mass of market opening in services, trade facilitation and reflection of development dimensions.²¹

Time Frame

During February (7 to 11) 2005 negotiations held by WTO terminated in impasse over the conversion of tariff based quantities into advalorem equivalents. This refers to tariffs based on price of product. Unless agreement was arrived on it, to quote the director general of the WTO, "the whole game plan of WTO is in jeopardy".

The EU and G-10 group of countries are net food importers. They insist for prior agreement on the tariff reduction formula. This must, in their view precede 'advalorem equivalents'. It is like 'putting the cart before the horse'. It is meant for creating roadblocks to access of developing countries to their agriculture markets.

The chief of committee suggested 'a fair approximation of 'Aves'. As a result, the different tiers would face different levels of tariff cuts. Developing countries called for strict criteria for the conversion process, while the EU wanted more flexibility. The conversion process has thus become controversial.

In this process of interaction is involved the issue of 'sensitive products'. Such products will be subject to less stringent tariff reduction requirement.

The issues at dispute have been:

- Subsidy cut of 20 per cent, which is deemed not sufficient.
- Export credits, defeating the specific tariff criterion.

In July 2004, package commitments were made to fully phase out export subsidies creating trade distortions. However, flexibilities to developing counties are yet to be determined.

²¹ <http://www.dawn.com/2002/05/26/int9.htm>

Future of WTO

The WTO seems threatened by proliferation of discriminatory trading agreements, which, is likely to render the WTO irrelevant in mid-term and obscure on long-term if the process of trading agreements in several forms is not reversed and ended.

In a report on the 'Future of the WTO' its Director General Supachai Panitchpakdi observed that the biggest concern was the erosion of the multilateral trading system's founding principle of non-discrimination by ever increasing number of:

- Customs unions,
- Common markets,
- Regional and bilateral free trade areas,
- Trade preferences schemes,
- Trade pacts of most favored nation, etc.

The EU applies its MFN tariff to only nine trading partners. This sort of proliferation getting more strength is a real threat to the WTO's survival, lest it get strength.

The theme of WTO of uniform trade tariffs and practices is, in my opinion, brute negation of the finest principle of economic growth and its meaningful, equitable distribution by 'Law of comparative advantage' to make operative. Let this law rule the economics and global vision of economic benefits by free trade would early materialize.

Government Efforts

Pakistan Horticulture Development and Export Board (PHDEB) have suggested giving industrial status to mango exporting orchards.

The report suggesting measures to increase mango export asserted quick transportation, quarantine facilities, grading, improved packing and training of farmers in managing the fruit farms and post-harvest processing.

The report said that low yield of mango was due to unbalanced fertilizer use, lack of irrigation at critical stages and lack of orchard management awareness among farmers. Several mango orchards have been cut due to taxation and competition with other crops. Banana in Sindh generates more income than a mango orchard, while income from cotton and sugarcane is equal to mango, the report said.

Pakistan Horticulture Development and Export Board (PHDEB) added that government should encourage the growers through subsidies and other facilities to maintain and improve their mango farms and gardens of 10 acres or more and they should be provided industry status and permissible facilities. The report said that although volume of mango export has decline only slightly export earning have fallen sharply due to lack of quality.

Due to quick ripening and poor handling of the fruit, the quality degrades by the time it reaches the international markets therefore; there is an urgent need to improve the processing, the packaging and the transportation.

Furthermore, technological advances in mango should be studied and implemented here for maintaining competitive grading of our product.

Growers and exporters should be trained in modern post-harvest and export strategies and airtime on popular media should be allotted for sharing the modern methods with growers and exporters.

The board also stressed regular cargo facilities by the PIA in Multan, Rahimyar Khan, Sukkur, Hyderabad, and Mirpur Khas as fruit rots and loses freshness during transportation to Karachi and fruit meant for export has to be disposed off in local markets.

Quarantine and clearinghouse formalities need to be completed in a day to maintain the grade of this perishable commodity and cold storage facilities should be provided near the airports and preferred that exporters purchase mango from the gardens near the airports.

The report said that Pakistani mangoes go to Middle East, UK, France, Germany, and Singapore while efforts were required to extend our export to Far East, China and USA for which mango shows need to be arranged in countries where potential exists.

Unfortunately, no tangible efforts have ever been made to improve its quality and marketing both domestically and unemotionally.

That is why; Pakistan could not improve its position in the world context, which is still pretty low with about two per cent of the global output and still lower in world export regime with only 1.7 per cent volume-wise.

To be specific, Pakistan is presently exporting about 10.7 thousand tons of citrus fruits and about 24.7 thousand tones of mango, as against only a nominal volume of pears. Apart form other constraints to increase its export, the foremost hurled is its poor quality from the international standpoint.²²

Rootstock

The majority of commercial plantings are based on seedling stocks of dubious origin. This results in to great variations in quality, particularly low productivity.

Planting Material

A large number of nurseries get rootstock from side-stock collection from private orchards, root budding when used are very poorly managed. Also, selection, grading and budding too are badly carried out with the result that majority of planting material is by international standards, very poor and sub-standards.

Planting

Densities vary from orchard to orchard, planting even on model orchards is poorly done with much evidence of second rooting, staking is rarely done.

²² <http://www.phdeb.org>

Pruning

It is generally restricted to the removal of dried branches; however, some model farms initially pruned correctly into new limbs which well formed and lay down but sometimes showing signs of reversion in natural form.

Nutrition

There appear to be no attempt to fertilize according to soil analysis; occasional doses of urea, phosphate and potash are applied. Likewise irrigation is done haphazardly.

Problems

Major cultural deficiencies as outlined above result in to producing low-yielding crops of poor quality, small fruit size, color, shape and keeping quality being the major defects.

Effects of Half-Hearted Cultural Practices

Production of pears in Pakistan is still generally carried out traditionally based on age-old practices making no tangible efforts to grow this popular fruit scientifically adopting modern technology. Adoption of modern technology in cultivation of pears would not improve the quality of local varieties but also pave the way to cultivate improved exportable cultivars.

Export Diversification

At present our pears are exported mainly to countries not very much conscious of quality like Gulf States and some Middle East and Far East countries. No meaningful diversification of exports can be possible without making a tangible export plan by sending trade delegations comprising of promising growers, exporters and production and marketing experts to various importing countries and holding exhibition of quality fruits.

Government Trade Policies

It is obvious that Government trade policies announced each year are mainly oriented toward industrial items; of agricultural items only cotton; rice and presently wheat and few non-traditional items like green vegetable are included. Measures and policies regarding foreign trade of fruits are announced in a collective package form, which fail to produce the desired results.

Unless generous incentives are provided to exporters for increasing the export of delicious fruits like bass and necessary steps are taken to improve then its quality, it seems very difficult to enhance its export.

Conclusion and Suggestions

Pear being considered a delicious and nutritious fresh fruit is in great demand in the development countries. Unfortunately its importance is not so far been realized in our country giving it a prominent place in the country's various fruits development plans is considered imperative so as to enable it to contribute its bit.

To Improve the Agrarian Economy

It is obvious that Pakistan has an erratic balance of payment and trade to its discredit since long. Government is also conscious of this and has been taking various steps from time to time to rectify the adverse situation. If improvement in the production and export of pear is brought about the taking necessary measures, thus fruit can also contribute its humble way to bring the country's depressed economy to an even keel.

It is, therefore, suggested that a pear development board having the active representation of the progressive growers, leading export and production and marketing experts may be set up as soon as possible for bringing this long ignored fruit to the lime light technical guidance and finance assistance may be obtained from and other International Organizations like World Bank and ADB.

Mango Exhibition

An exhibition of mango and summer fruits has been organized from July 12 to 14 in Islamabad a statement. About 40 exhibitors participated in that exhibition. Commercial counselors from various embassies also witnessed the show. A one-day seminar on fruits was also held during the exhibition in collaboration with the Pakistan Horticulture Foundation.²³



Pak-EU Talks

The European Commission has assured technical assistance to Pakistan in improving the quality of its agricultural products. In a meeting between the EU Director General for Agriculture and Pakistan's commerce secretary, who was on a visit to Brussels, the two sides held wide-ranging discussions to draw up a program to structure the technical assistance in developing the know-how for putting in place the geographical location for basmati rice, mango and other agricultural products. The EU will also look into the list of other varieties for such assistance. The commerce secretary raised the issue of tariff-related quotas to the ten new countries of the European Union. This is of considerable importance to Pakistan because it means opening of new trade and export opportunities. As the EU is one of the big export markets for Pakistan, any new opportunity to enhance its exports to that region should be fully utilized.

In order to boost the exports of agricultural products, it is essential that their quality standards should be comparable with the best available in international markets. With their cost of production being kept low, it will be possible to get the much-needed

²³ <http://www.phdeb.org>

competitive edge also. Seen in this context, the EU's offer of technical assistance can prove immensely useful, and the policy-makers as well as the farmers should derive full benefit out of it. At the same time, it is also necessary that the quality of agricultural inputs should be improved, vitally important to augmenting agricultural production.

Agriculture sector has been offered a number of incentives in recent years so that the country is not only able to sustain its self-sufficiency in food but is also able to create exportable surpluses. At a WTO meeting held last month, the developed and the developing countries were reported to have agreed on gradually slashing subsidies given by the rich nations on their agricultural products. This should obviously create new export opportunities for agricultural products from the developing to the developed countries. With greater market access to farm products of the developing countries, the development of agriculture sector in the country has assumed still greater importance.²⁴

Conclusion

The agriculture sector needs to be promoted and strengthened to meet the forthcoming challenges of WTO. For this, suitable measures should be taken by both public and private sectors to safeguard the interests of farmers and other stakeholders. Also, the need is to make people aware of the agreement and its repercussion.

Besides these, Pakistan need to evolve target-oriented policies to meet food requirements of Pakistan and also to face challenges posed to the agrarian economy after the implementation of the WTO regime. After the said implementation of WTO regime, Pakistan would have to battle with about 200 nations of the world only in the agriculture sector, so effective policies on war-footings along with huge money are required for this purpose alone.

²⁴ <http://www.phdeb.org>

RECOMMENDATIONS

- ✚ To make mangoes ripen faster our farmers are using a chemical, which is supposed to emit a gas that makes the process quicker. The mangoes available in the market these days have been treated with this chemical. It is not acceptable by importers only recommended ethylene and wax has to be used for processing and packing.

- ✚ The mango, the king of fruits, is a major export item of Pakistan. Our agricultural experts should look into this matter before the use of the chemical is detected abroad and a ban is imposed on import of mangoes from this country.

- ✚ There is a need to launch a series of activities by the private sector, taking benefit of the fast-growing UK, Middle East, Iranian, Far East and Chinese markets, Pakistani exporters have made an initial breakthrough to introduce Pakistan's food products in the Chinese market. The proper advertisements and promotions have to be launched to promote Pakistani mangoes in these fast growing markets. In this regard government should take aggressive measure to promote Pakistani mangoes by giving incentives to exporters and motivating mango producers and processors to participate in international exhibitions, regularly participating in the major trade fair and advertising its products in the special magazines.

- ✚ Although mechanized grading and packaging has started but still nearly 50 percent of total fruit and vegetable production is lost during harvesting, transportation, preservation and storage. Proper knowledge has to be share with growers too to save losses occur during post and before harvest time.

✚ It would be appropriate that the Government of Pakistan encourage fruit downstream industry in Balochistan, NWFP for apple growing areas and in Punjab and Sindh for mango and kinno growing areas. This will help to reduce wastage of fruits during season, create employment in the under developed areas and increase foreign exchange earnings. Special fiscal and financial incentives should also be given to the apple and citrus growing areas.

✚ Therefore, in order to maintain Pakistani's current export level and increase market share diversification is must Pakistani agriculture exports presently cater only to the ethnic community while the American consumer is almost ignored? In order to attract the American consumer, EPB considering the participation in the exhibitions like Natural Products Expo West March 2004, Anaheim; CA USA, Natural Products Expo - East, September 4-7, 2003, Washington, DC, Washington Convention Center; Fancy Food Show Chicago, IL May 4-6, 2003, McCormick Place, Chicago, IL; Fancy Food Show New York, Jacob Javits Center, New York, June 29- July 1, 2003 and IFT Show, New Orleans, LA, 2004 date to be announced soon.

✚ The main consideration during harvesting should be to ensure that mangoes are harvested at correct maturity and staining of latex (Sap) on the fruit is avoided. Mangoes should be harvested by cutting the stem 1 to 2 centimeters away from the fruit; this technique reduces latex exudation and staining, as well as the possibility of fungal organisms entering the fruit.

- ✚ Hydro cooling process during mango processing will be done to remove field heat from the fruit. It is important to remove the field heat as soon as possible because mango is sensitive to heat and if it is exposed to a temperature more than 35-45 Celsius after picking from the tree before shipment, it causes harmful effects on the fruit.

- ✚ Ravi Starlet (Pvt) Limited wishes to become a significant long-term exporter to the EU and other growing markets like Iran, China, Middle East and other countries, considering the necessity of investing in post-harvest cool chain facilities such as field coolers, climate-controlled trucks, cold stores, packing facilities, traceability, and all the other equipment that goes to make up a modern fresh produce pack house.

- ✚ The 'current initiative' has potential if it has the backing of government. It cannot be achieved in a single mango season before launching a promotional campaign / branding of product; the back-up infrastructure must be in place.

- ✚ Many small and poor countries have developed post-harvest technologies, perhaps with EU or World Bank assistance / funding. Examples are Ghana and Ivory Coast. Pilot projects have been started in Pakistan and assistance of UNDP taken. There is an urgent need to find out why we haven't been successful in post-harvest technology as desired by the EU market, and given the constraints, should we even aim for supermarkets.

- ✚ Export Promotion Bureau needs to work closely with exporters and lead them to breaking into EU and other markets with its Commercial Officers providing the foreign arm required for the purpose.

- ✚ At present our pears are exported mainly to countries not very much conscious of quality. No meaningful diversification of exports can be possible without making a tangible export plan by sending trade delegations comprising of promising growers, exporters and production and marketing experts to various importing countries and holding exhibition of quality fruits. So export diversification is must to reduce WTO's after effects.

- ✚ The agriculture sector needs to be promoted and strengthened to meet the forthcoming challenges of WTO.

- ✚ The challenges posed by World Trade Organization can be met by taking the following steps: enhancing the technical capability of agriculture sector, decreasing the cost of production of its agricultural produce through latest agricultural technology, and increasing the quality of agricultural products to compete in foreign markets.