



Trade Development Authority of Pakistan
Report on
Potential Markets of

Potato



Prepared in March, 2010 by:

Mr. Muhammad Amir Khan
Product Officer.
Agro Food Division
Trade Development Authority of
Pakistan

Supervised by:

Mr. Shahid Latif Khan
Director General
Agro Food Division
Trade Development Authority of
Pakistan

Contents

Serial

Introduction

Varieties of Potato grown in Pakistan

Potato Harvest Seasons

Pakistan and Provincial shares by area, yield and production

Pakistan Potato Exports to major countries during six years (2003 to 2008)

Potato products Exported by Pakistan

Pakistan Potato Imports in last five years

Potato products Imported by Pakistan

World Potato Exports

Top Ten Exporting countries of the World

Top ten Importing countries of the World

Potential of Potato Importing countries for exports of Potato from Pakistan

Supply Chain Issues

Suggestions/ Recommendations

References

Introduction

The Potato is the world's fourth most important food crop, after maize, wheat and rice. Potato is rich in starch and carbohydrates. Potato is now cultivated around the world.

The potato is already an integral part of the global food system. It is the world's number one non-grain food commodity, with production reaching a record 325 million tonnes in 2007. Potato consumption is expanding strongly in developing countries, which now account for more than half of the global harvest and where the potato's ease of cultivation and high energy content have made it a valuable cash crop for millions of farmers.

At the same time, the potato – unlike major cereals – is not a globally traded commodity. Only a fraction of total production enters foreign trade, and potato prices are determined usually by local production costs, not by the vagaries of international markets. It is, therefore, a highly recommended food security crop that can help low-income farmers and vulnerable consumers ride out extreme events in world food supply and demand.

The year 2008 was declared the **International Year of the Potato** by the United Nations. In the international year of potato, they consider it as the food for future to ensure food security for present and future generation.

The potato produces more nutritious food more quickly, on less land, labour is abundant and in harsher climates than any other major crop.

Potato is a very nutritive food from medical point of view well matched to human requirements.

World potato production has increased at an annual average rate of 4.5 percent over the last 10 years.

Prominent Potato Varieties

The potatoes are broadly categorized into red skinned and white skinned. It is almost a native crop to Pakistan. A number of potato varieties have been 13 introduced in Pakistan from time to time, mainly originated from Holland. The prominent varieties are as follows:

Red skinned varieties:

- Desiree
- Cardinal
- Raja
- Synphonia
- Coroda
- Barna

White skinned varieties:

- Sante
- Santana
- Diamont

Potato Harvest Seasons

The agro-ecological diversity obtained in the country enables production of potatoes almost around the year. However, production volumes greatly differ from crop to crop as follows:

November-March Autumn Crop (Punjab & NWFP plains)-
Jan-Feb peak harvest (85% of national potato production)
April-May Summer Crop-Punjab & NWFP plains (5%)
July-September High Hills - Northern Areas (5%)
September-October High hills - NWFP & Balochistan (5%)

It is apparent from the above that bulk of the potato crop is harvested from January to March. Potato can be safely stored up to 6 months. The autumn crops placed in cold stores in addition to feeding the instant market. The stored potatoes are gradually released during the lean crop periods generally from June onward. Production of potato in the high lands is increasing owing to demand in the domestic market for fresh potato which fetches premium price. The size of the hill crop therefore directly impact prices of stored potatoes. The autumn is the main potato crop. It is harvested from January to

March. The market prices during these months are lower than the remaining months. This encourages exports which too are mostly made from the autumn crop.

Production of potatoes varies from district to district in a province. The main potato producing districts are as follows:

- **Punjab:** Okara, Sahiwal, Pakpattan, Sialkot, Kasur, Jhang & Lahore.
- **NWFP:** Nowshera, Mardan, Swat, Dir & Mansehra.
- **Balochistan:** Killa Saifullah, Kalat & Pishin.
- **Sindh:** Khairpur & Shikarpur.

**Provincial shares in Area and production of potato in year
2006-07 and 2007-08.**

Country/provinces	Area/hect			Yield/hect			Production			Provincials shares in year 2007-08
	2007-08	2006-07	% change	2007-08	2006-07	% change	2007-08	2006-07	% change	
	`000` hect			Ton/hect			`000` tons			
Pakistan	128	133.4	(3.75)	23	19	21	2919	2582	13	
Punjab	116	120.6	(3.4)	24	20	20	2767	2407	15	94.79
NWFP	9	9.6	6.25	13	13	0	118	130	(9)	4
Balochistan	2.5	2.8	(11)	13	14	(7)	32	42	(24)	1.43
Sindh	0.5	0.3	67	6	9	(33)	3	2.7	11	0.09

Source: Pakistan horticulture development and Export Board (PHDEB)
Ministry of Food, Agriculture and Livestock (MINFAL)

The above table shows that potatoes are cultivated on area of 128 thousand hectares in 2007-08 and 133 thousand hectares in 2006-07 shows 3.75 % decreased in area. On the other hand the total production and yield was increased by 13% and 21% respectively.

While province wise in production major contributor was Punjab with share of 94.79, NWFP with 4%, Balochistan with 1.43%, and Sindh with 0.09%.

Pakistan Potato Exports to major countries during last six years (2003 to 2008)

Value in `000` US\$

Importers	Exported value in 2003	Exported value in 2004	Exported value in 2005	Exported value in 2006	Exported value in 2007	Exported value in 2008	% change in Export
World	7240	5450	2236	4501	34526	20600	(40)
Sri Lanka	3187	2902	1331	3664	12541	11615	(7)
Iran (Islamic Republic of)	0	3	0	0	16055	3513	(78)
Malaysia	1119	1457	808	692	982	2384	142
Afghanistan	2555	582	8	82	125	1684	1247
United Arab Emirates	112	174	8	23	2661	1014	(61)
Iraq	0	0	0	0	20	116	480
Singapore	117	127	47	5	12	79	558
Oman	3	3	2	10	294	62	(80)
Qatar	0	0	0	0	27	39	44

Source: www.trademap.org

The above table shows downward turn in export of potatoes. The total export value of potato during year 2008 decreased by 40 % as compared to year 2007. Although our export to some countries is increased but the decline in export is more than the increase in export with other countries.

Pakistan Potato Export by value, quantity and unit price during year 2008

Importers	Exported value 2008, USD thousand	Share in Pakistan's exports, %	Exported quantity 2008 in tons	Unit value, (USD/ton)
World	20600	100	142570	144
Sri Lanka	11615	56.4	71312	163
Iran (Islamic Republic of)	3513	17.1	30600	115
Malaysia	2384	11.6	13485	177
Afghanistan	1684	8.2	15591	108
United Arab Emirates	1014	4.9	8494	119
Iraq	116	0.6	913	127
Singapore	79	0.4	528	150
Oman	62	0.3	565	110
Qatar	39	0.2	403	97

Source: www.trademap.org

The above table shows that Pakistan total export of potatoes in year 2008 was US\$ 20.6 million. Sri Lanka was the major importing country of potato with the share of 56.4% in Pakistan total potato export and the average unit price was US\$ 115/ton. Iran was the 2nd major importing countries and the share was 17.1% in Pakistan potato exports, the average unit price was very low and it was only US\$ 115/ton. Malaysia was the 3rd major importing countries with the share of 11.6%, the unit price was US\$ 117/ton. Pakistan also exporting potato to Afghanistan, U.A.E, Iraq, Singapore, Oman, Qatar etc, but the export and average unit price was very low.

Potatoes products exported by Pakistan

Product Label	Exported value 2008, USD thousand	Share in world exports, %	Ranking in world exports
Potatoes, fresh or chilled nes	20159	0.83	21
Potatoes seed, fresh or chilled	441	0.05	29

Source: www.trademap.org

The above table shows that the potatoes, fresh or chilled nes exported value was US\$ 20,159,000 and potatoes seed, fresh or chilled exported value was US\$ 441,000 in year 2008. Pakistan was on rank 21 in potatoes, fresh or chilled nes and on rank 29 in potatoes seeds, fresh or chilled in world imports.

Pakistan Potatoes Imports in the last five year

	Imported value in 2004	Imported value in 2005	Imported value in 2006	Imported value in 2007	Imported value in 2008	% Change from year 2007 to 2008
World	3403	5038	8109	6533	32286	394.19
India	0	157	6	19	25182	132436.8
Netherlands	2793	3140	5121	4784	3460	(27.6)
Afghanistan	189	456	1111	772	1307	69.3
Iran (Islamic Republic of)	0	133	581	0	1030	10300
United Kingdom	0	0	62	506	638	26.08
Belgium	0	137	473	21	542	2480.9
Germany	202	123	341	72	109	51.3
France	0	96	179	98	9	(90)
China	0	110	74	237	5	(97)

Source: www.trademap.org

The above table shows that Pakistan total imports of potatoes was significantly increased by 394% change during year 2008 as compared to year 2007. The import value of potato during year 2008 was US\$ 32 million .The major exporting countries were India, Netherlands, Afghanistan, UK, Belgium, Germany etc.

Pakistan Potato Imports by value, quantity and unit price during year 2008

Exporters	Imported value 2008, USD thousand	Share in Pakistan's imports, %	Imported quantity 2008	Unit value, (USD/unit)
World	32286	100	197427	164
India	25182	78	104835	240
Netherlands	3460	10.7	3860	896
Afghanistan	1307	4	13035	100
Iran (Islamic Republic of)	1030	3.2	74067	14
United Kingdom	638	2	801	797
Belgium	542	1.7	669	810
Germany	109	0.3	114	956
France	9	0	12	750
China	5	0	7	714

Source: www.trademap.org

The above table shows that in Pakistan import value of potato was US\$ 32 million, trade balance deficit of US\$ 11.7 million , imported quantity was 197,427 metric tons, and the average unit price was US\$ 164 /ton in year 2008.

Potato products imported by Pakistan

Product label	Imported value 2008, USD thousand	Trade balance 2008 in USD thousand	Ranking in world imports
Potatoes, fresh or chilled nes	27497	(7338)	21
Potatoes seed, fresh or chilled	4789	(4348)	33

The above table show that Pakistan potato imports by product in year 2008 for potato, fresh and chilled nes imported value was US\$ 27,497 and for product of potato seed, fresh or chilled value was US\$ 4,789.

World Potato Exports

Top Ten Exporting Countries of The World.

Exporters	Value exported in 2008, in USD thousand	Quantity exported in 2008	Share in world exports, %
World	3328512	10099190	100
Netherlands	658510	1444309	19.78
France	546662	1935808	16.42
Germany	266880	1396579	8.02
Canada	207143	604555	6.22
United States of America	162132	380146	4.87
Egypt	157766	452695	4.74
Belgium	156976	709131	4.72
United Kingdom	146687	240862	4.41
Spain	135732	260987	4.08

The above table shows that the top ten exporters of potatoes in the world in the year 2008 was Netherlands, France, Germany, Canada, USA, Egypt, Belgium, UK and Spain.

Top Ten Importing Countries in the World

Importers	Value imported in 2008, in USD thousand	Quantity imported in 2008	Share in world imports, %
World	3571222	10161150	100
Belgium	290370	1299979	8.13
Germany	261417	532430	7.32
Netherlands	244614	1187928	6.85
Spain	232241	822936	6.5
United Kingdom	229439	482591	6.42
Russian Federation	223963	537491	6.27
Italy	209254	582643	5.86
United States of America	186736	367201	5.23
France	162298	481264	4.54
Portugal	98631	297290	2.76

The above table shows that Belgium, Germany, Netherlands, Spain, UK, Russian Federation, Italy, USA, France, and Portugal was the top ten importers of potatoes in the world.

Potential of Potato Importing countries for exports of Potato from Pakistan

Quantity in MT
Value in US\$ '000'

Importers	Value imported in 2008, in USD thousand	Quantity imported in 2008	Unit value (USD/unit)	Share in world imports, %	Pakistan share	Pakistan rank
United Kingdom	229439	482591	475	6.42	Nil	Nil
Russian Federation	223963	537491	417	6.27	Nil	Nil
Algeria	89612	113865	787	2.51	Nil	Nil
United Arab Emirates	52602	123934	424	1.47	2.9	7
Malaysia	48017	130254	369	1.34	7	3
Saudi Arabia	26568	34571	769	0.74	Nil	Nil
Sri Lanka	24771	100560	246	0.69	61.2	1
Singapore	19294	43208	447	0.54	0.7	10
Turkey	13304	14447	921	0.37	Nil	Nil
Kazakhstan	11888	51099	233	0.33	Nil	Nil
Qatar	5992	15709	381	0.17	1.4	9
Ukraine	5697	9644	591	0.16	Nil	Nil
Bangladesh	5075	6813	745	0.14	Nil	Nil
Indonesia	4895	8289	591	0.14	Nil	Nil
Iran (Islamic Republic of)	4758	31487	151	0.13	73.8	1
Kuwait	4575	8698	526	0.13	0.7	10

UK

UK imported potatoes value of 229.4 million in year 2008. The unit price is very high compare to other importing countries i.e. US\$ 475. Pakistan had no share in UK potatoes imports.

Russian Federation

Russian Federation import of potatoes was US\$ 223.9 million in year 2008 close to the value of UK. The unit price is comparatively high then other importing countries i.e. US\$ 417 .In Russia potato imports Pakistan had also no share.

Algeria

Algeria imported worth of potato US\$ 89.6 million. The unit price of potato was US\$ 787/ton which was very high then other importing countries.

UAE

UAE import of potato was US\$ 52.6 million in year 2008. The unit price of potato was US\$ 424/ton. Pakistan share in UAE potato imports was only 2.9 and on rank 7th.

Malaysia

Malaysia imported worth of potato was US\$ 48 million and the unit price was US\$ 369 which was comparatively low then the other importing countries. Pakistan share was only 7% and was on rank 3rd in Malaysia potatoes imports.

Saudi Arabia

Saudi Arabia potato imported value was US\$ 26.5 million in year 2008 and the unit price was US\$ 769, which was very high compare to other potato importing countries. Pakistan had no share in Saudi Arabia potato imports.

Sri Lanka

A Sri Lanka potato import value was US\$ 24 million and the unit value was US\$246, which shows low unit price comparatively to other importing countries. Pakistan share in Srilanka potato imports was 61.2 % on rank 1st.

Singapore

Singapore potato imports worth US\$ 19.3 million and the average unit price was US\$ 447/MT. Pakistan share in Singapore Potato Imports was only 0.7% and on rank 10 in the year 2008.

Turkey

Turkey imported value of potato was US\$ 13.3 million and the unit price was US\$ 921/MT, comparatively very high than other importing countries. Pakistan had no share in the Turkey potato imports.

Qatar

Qatar potato import value was US\$ 6 million and the unit price was US\$ 381. Pakistan share in Qatar potato import was only 1.4% and stand on rank 9th in year 2008.

Ukraine

Ukraine total import value of potato was US\$ 5.6 million and the average unit price was US\$ 591/ton.

HONG KONG

The total import value of Hong Kong potato Imports was US\$ 5.6 million. The average unit price was US\$ 573/ton.

Mauritius

Mauritius total import value of potato was US\$ 5.3 million and unit price was US\$ 559/ton.

Bangladesh

Bangladesh total import value of potato was US\$ 5 million and the unit price was comparatively very high that was US\$ 745/ton during year 2008. Pakistan had no share in Bangladesh potato imports.

Indonesia

Indonesia potato import value was US\$ 4.9 million and average unit price was US\$ 591/ton during year 2008.

Iran

Iran potato import worth was US\$ 4.7 million and unit price was US\$ 151/ton in year 2008. The unit price of potato to Iran was very low comparatively to other potato importing countries and Pakistan share in Iran potato import was 73.8 % and stand on rank 1st in the year 2008.

Kuwait

The total Kuwait potato import was US\$ 4.5 million and the unit average unit price was US\$ 526/ton. Pakistan share in Kuwait potato imports was 0.7% and on rank 10.

Copyright (C) TDAP

Supply Chain Issues.

- Lack of credit for farm inputs and credit system for farmers
- The use of low quality seeds
- Lack of availability of sufficient quantities of good seeds and low purchasing power of the farmers, forcing them to rely on seed sources of unreliable quality
- No proper gene pool is available in the country
- Inappropriate usage of Fertilizers for better quality yield.
- The pesticides used not only damage the quality of crop but also affect its nutritional value thus having damaging impact on our potato export.
- Lethal pesticides banned worldwide are manufactured as well as used in Pakistan without any restriction.
- DDT or Thiabendazole is used for potato crop for which, the effect of cooking is zero percent pesticides residue reduction.
- The trading partners concern about the level of aflatoxin maximum residues level and drug residues in different agriculture and food items are growing with each passing day.
- Supply of raw material from farm to plant is usually accomplished in an open environment with raw material exposed to pathogenic microorganisms and their toxins, pests, and rats.
- Lack of processing plants and inefficient quality assurance system.
- Fake quarantine certification for the execution of shipments.
- No standardization of crop quality in terms of size and variety.

- Absence of certifications required to meet international hygienic standards.
- Lack of descriptive labeling
- Lack of free market access because of the food safety in major potato importing countries.
- Absence of cold chain and limited cold storage facilities causing wastages of potato crop.
- Absence of pricing mechanism causing uncertainty and subsequently hampering the confidence of the exporters for negotiating the export deals.
- High transportation cost which result high price of potato and can not compete in the international market.

Copyright © EDAP

Suggestions/ Recommendations

NARROW SUPPLY CHAIN

There is a need of a 'narrow supply chain'. The idea is to deal with a single supplier for a particular raw material upon whom an organization can trust. But unfortunately this solution will confine an organization to check the quality and safety of raw material in quality control labs inside the plant. Ignoring the malpractices of farm and supply of raw material is a barrier to effectively reduce risk in supply chain. Moreover depending upon limited suppliers might create problem for an organization to continuously run processing in the current unstable political condition in Pakistan. Most importantly, limited suppliers mean limited options! What will be the significance of this supplier-manufacturer relationship if demands of those limited suppliers rise needlessly? Trust on limited supplier might result in loss.

In order to achieve the goals of risk minimization in supply chain coupled with stability of retail price for the consumer, implementation of Hazard Analysis and Critical Control Point (HACCP) HACCP principles is by far the most economical and feasible way. HACCP helps an organization to systematically trace out hazards from supply chain and by the effective allocation of those areas where there is a possibility of safety risk; an organization can continuously monitor them. And in my view the highest risk area in the supply chain is 'farm' from where most of the food safety risk arises. Food processors are ignoring this high risk area mainly because they are unable to find access over there. Pakistan food industry is badly in need of minimizing malpractices and food safety risks in farms. There is a need of establishment of a 'bond' between processors and farms. And this bond, which can be an organization, should work for:

1. Certification of farms and implementation of Good Agricultural Practices.
2. Providing education to the farmers
3. Audits of farms
4. Providing access to the food processors inside farms.

By the existence of an organization which will work as bond between food processors and farms, food processing organizations can achieve food safety risk minimization from supply chain to a greater extent, it will be easy for them to *analyze* quality and sensory aspects of raw

material, minimizing risk in farms will permit food processors to cut down further 'in plant¹ processes for risk minimization, it will help processors to change the perception of local and foreign consumers about food safety issues in Pakistan and to raise the image of Pakistan's processed food products internationally. If Pakistan food industry wishes to deal with the food safety issues in an economical way and to capture international market, an initiative must be taken to make this theory a practical possibility. Ministry of food, agriculture and livestock in collaboration with food processing organizations in Pakistan should take the initiative to establish such an organization because this is in mutual interest of *both*. Above all, this bond will economically reduce food safety risk in supply chain .In the current economic crises when consumer is unable to tolerate the existing price of processed food product, food processors cannot add the cost of food safety risk minimization in the product. But if all food processing organizations and ministry will operate jointly to minimize risks, this will be economically feasible for an organization to minimize risk from supply chain rather than by working solely.”

Other Suggestions for Export of Potato in addition to food safety are as under.

- The Government may fix the Export Price of potato, because as self sufficient country the trade deficit of potato was around US\$ 11 million in year 2008. On the other hand Pakistan average unit export price was US\$ 144/ton and average unit Import price of Potato was US\$164/ton. Pakistan is spending a big foreign exchange on import of potato.
- The import duty on potato is only 25%, and in India price of potato is Rs 2 to 4/kg. In this scenario Pakistan potato is more expensive than the Indian potato and harming the grower of potato. It's also noted that the consumer price is very high than price imported. Pakistan Government may take primitive action to give benefits to growers as well to end consumer and impose at least 100 % import duty on Indian potatoes.

- Pakistan potato quality is one of the best quality in the world and it use for e.g. French fries, chips, appetizer etc. Pakistan Government may encourage private sector to invest in the value addition industries to meet the local as well international demands for example in India.
 - McCain invested in identifying the best varieties and area for potato in India
 - Trained farmers : irrigation system, sowing seed treatments, planting methods, fertilizer application programs and better storage methods
 - Constructed Potato processing plant
 - 40 tons/ hectare (before 18 tons/ hectare)
 - More profit for farmers
- TDAP may invite delegations of international investor or agreement of brand licensing with international brand e.g. Pringles, Lay's, Oishi from Philippines etc.
- The government may provide credits for farmers especially at the time of cultivation to buy good quality of seeds, fertilizers, and pesticides at right time for quality and better yield of potato.
- Because of fake quarantine certificates some exporters are corrupting the market resulting ban. The government may take primitive action on these kinds of practices.
- Export Association may standardize the packaging which is easy in handling and acceptable in the international market.

- The government, private and public-private sectors may focus on construction of cold storages in different part of the country to meet demand of potato in different seasons locally and internationally.
- TDAP with the exporters may focus on countries like UK, Russia, Algeria, UAE, Saudi Arabia, Turkey, Bangladesh etc, where the market is large having high price to boost our potato export on optimum level, rather than only focus countries like Srilanka and Iran etc where the market is very small and the unit price is very low.
- TDAP may organize seminars on Food safety, cultivation, use of fertilizers and pesticides, harvesting and storage awareness in major potato growing areas to educate farmers.

Copyright © TDAP

References:

<http://www.potato2008.org/en/aboutiyp/index.html>

www.en.wikipedia.org

Pakistan Horticulture Development & Export Board (PHDEB)

Ministry of Food, Agriculture and Livestock (Minfal)

ELIMINATING FOOD SAFETY RISKS IN THE SUPPLY CHAIN

KAUSER NOOR

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY 7th March, 2009.

<http://www.commodityonline.com/news/Pakistan-potato-exports-nosedive-6254-3-1.html>

Copyright (C) TDAA