MARKET INTELLIGENCE SYSTEM

Baseline Data for

Potato & Onion

APRIL 2012

Contents

ONION

Introduction

India is the second largest producers of onions in the world after China, with over 15 million tonnes produced in 2010-11.

Onion in India is grown across the country and also consumed in all parts of the country. As a culinary ingredient it adds to the taste and flavor in a wide range of food preparations, besides its use in salads. Thus there is a steady demand for onions not only in India, but also the entire Asian continent, where Indian onions have found wide acceptance.

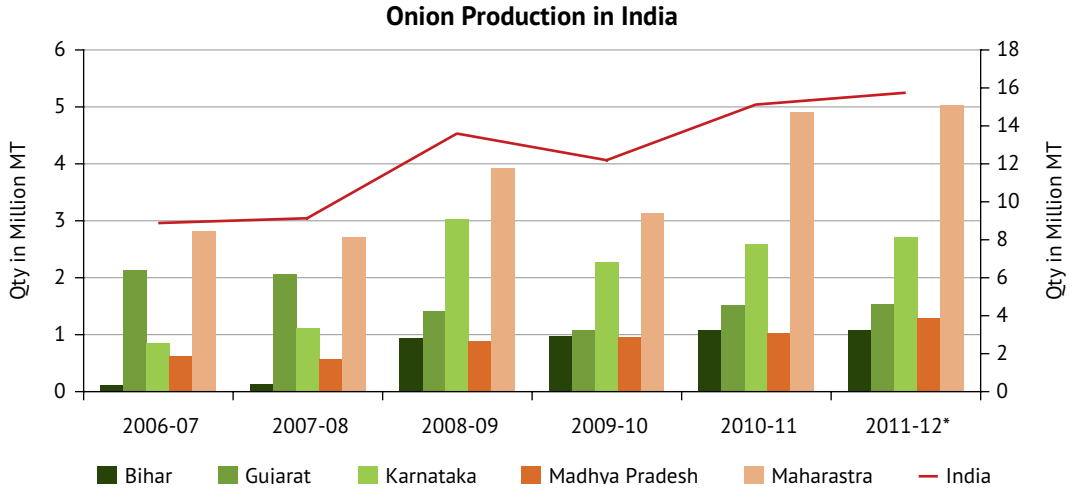
Onion production in the country has shown steady increase in the last 5 years, except in 2009 when the production dropped significantly due to unseasonal rains during late kharif season. Hereunder latest production estimates for Onion in various states:

Statewise area and production data for Onion

State	Area ('000 ha)	Production (in '000 MT)	Yield (tonne/ha)
	2011-2012		
Andhra Pradesh	48.50	824.80	17.01
Assam	8.10	24.00	2.96
Bihar	53.30	1,082.00	20.30
Chhattisgarh	15.00	239.30	15.95
Delhi	1.60	28.80	18.00
Gujarat	64.10	1,535.50	23.95
Haryana	22.20	410.00	18.47
Himachal Pradesh	2.20	36.30	16.50
Jammu & Kashmir	2.80	65.30	23.32
Jharkhand	15.00	303.00	20.20
Karnataka	200.00	2,721.90	13.61
Madhya Pradesh	74.10	1,298.40	17.52
Maharastra	359.00	5,036.00	14.03
Mizoram	0.50	4.40	8.80
Orissa	35.50	395.00	11.13
Pondicherry	0.10	0.40	4.00
Punjab	8.20	182.40	22.24
Rajasthan	49.00	494.20	10.09
Sikkim	0.30	1.60	5.33
Tamil Nadu	33.80	338.90	10.03
Uttar Pradesh	23.70	383.50	16.18
Uttaranchal	3.80	38.00	10.00
West Bengal	21.70	304.60	14.04
Total	**1,042.50**	**15,748.30**	**(Avg. 15.11)**

Source: Directorate of Economics and Statistics, Krishibhawan, New Delhi.
–Horticulture Division, Ministry of Agriculture, Govt. of India.

Production of Onion between 2006-07 and 2010-11



Crop Year	All India Production in Million MT
2006-07	8.885
2007-08	9.138
2008-09	13.588
2009-10	12.191
2010-11	15.117
2011-12*	15.748

Source: NHRDF *Estimated

Production and Yield

The key onion producing states of Maharashtra, Karnataka and Gujarat contribute over 50 percent of All India production, with Maharashtra alone accounting for over 30 percent of India's onion production. The other significant contributors are M.P., Bihar, A.P. and Rajasthan. However yields vary from state to state and are often inconsistent except Gujarat, which has a better record on yield. Onion production in the country has shown steady increase in the last 5 years, except in 2009 when the production dropped significantly due to unseasonal rains during late kharif season. Onion production in 2006-07 season was 8.89 million tonnes which rose to 15.12 million tonnes in 2010-11 season and is further expected to increase in the current season to over 15.5 million tonnes.

On the yield front (as reported by FAO 2009), compared to Korean Republic at 66.67 MT/ha followed by USA with 56.56 MT/ha, Spain (53.53 MT/ha) and Netherland (48.81 MT/ha), China (22.21 MT/ha) average onion yield in India is just around 15-16 MT/ha although India is the second largest onion producer in the world. Thus there is a wide gap between yields obtained in India and other developed countries, reflecting the huge scope to increase yields in India. Non-availability of storable and high yielding quality seeds for all the three seasons coupled with sub-optimal standards of cultivation adopted by farmers, have been identified as the key reason for poor yields. In addition susceptibility to pests and diseases, lack of post-harvest facilities and policy support has contributed to sluggish growth in yield and production of onion in India. Notwithstanding the seed and cultivation related shortcoming in onion production, weather too has been responsible for crop losses and consequent drop in yields and production.

Seasonal Factors Resulting in Crop Loss

Production of onions in India reflected a steady uptrend in the last six years except in the year 2009-10 when onion production dropped to 12.19 million tonnes from 13.59 million tonnes in the previous year, due to cyclone and unseasonal rains in Maharashtra, Gujarat and Karnataka accompanied by hailstorm in November 2009. Again during crop year 2010-11 unseasonal rains hit production of late kharif crop in the aforesaid key onion producing states, which resulted in skyrocketing onion prices due to temporary shortages across the country. In the earlier years prior to 2006, it has been reported that abnormal weather resulted in crop losses during rabi 1997, kharif 1998 and kharif 2005.

Had it not been for the smaller size of kharif onion crop, the losses would have been even higher. The component of kharif and rabi onion crop is as under:

Kharif/Early Kharif	20 Percent
Late Kharif	20 Percent
Rabi	60 Percent

The following table will give a better idea of Onion Seasons in India

S. No.	Seasons	Time of Sowing	Time of Transplanting	Time of Harvesting
1	Maharashtra and some parts of Gujarat 1. Kharif 2. Early Rabi or late Kharif 3. Rabi	 May-June Aug-Sept Oct-Nov	 July-Aug Sept-Oct Dec-Jan	 Sep-Dec Jan-Mar Apr-May
2	Tamil Nadu/Karnataka/A.P. 1. Early Kharif 2. Kharif 3. Rabi	 Mar-Apr May-June Sept-Oct	 Apr-May July-Aug Nov-Dec	 July-Aug Oct-Nov Mar-Apr
3	Rajasthan/Haryana/Punjab/ Uttar Pradesh and Bihar 1. Kharif 2. Rabi	 May-June Oct-Nov	 July-Aug Dec-Jan	 Nov-Dec May-June
4	West Bengal and Orissa 1. Kharif 2. Late Kharif	 June-July Aug-Sept	 Aug-Sept Oct-Dec	 Nov-Dec Feb-Mar
5	Hills 1. Rabi 2. Summer (long day type)	 Sept-Oct Nov-Dec	 Oct-Nov Feb-Mar	 June-July Aug-Sept

Problem of Plenty

Early production estimates in onion tend to be misleading, as these are based on nursery stage estimates. Further acreage and yields are subject to changes, hence it has been found in the past that there is a pressing need to check/cross check acreage and adopt more reliable yield estimates. This will go a long way in formulating guidelines and policies concerning domestic price support operations and exports.

It is now estimated that 2011-12 production is likely to go up to 15.50-15.75 million tonnes (MMT) from 15.14 MMT (first nursery estimate in 2011), as compared to 15.17 MMT during 2010-11. While Maharashtra seems to be heading for a record production in 2011-12, onion production in Gujarat and Karnataka are reportedly lower compared to last year, mainly due to decline in Kharif crop. Major rabi crop across the country is harvested from March onwards and continues till June/July and accordingly the arrival pressure in the coming 2-3 months will be strong, in view of the higher rabi production.

Thus in the current year, based on the present/emerging scenario it appears that onion production would exceed domestic needs and consequently prices are likely to be under pressure.

Onion Consumption and Demand (Domestic)

Consumption of onion in India is subject to fluctuation on account of religious considerations. A section of the society avoids onions totally and a few others leave out onion from their daily diet during observance of religious occasions (Navaratras/Pitru Paksh). Table consumption of onions tends to decline when other fresh vegetables like carrot, radish and cucumber are available at affordable prices. Thus during winter, onion consumption in North India is comparatively lower.

I. In the absence of reliable survey based consumption estimates for Onion, we have to rely on NSSO based total annual household consumption and estimated indirect demand from all other users including wastage. Thus there is a demand potential of 15.7 MMT as under:

Total Annual Consumption (Household) for 2009-10	11.00 MMT
Indirect demand (assumed at 30% of total consumption)	4.71 MMT
Total:	**15.71 MMT**

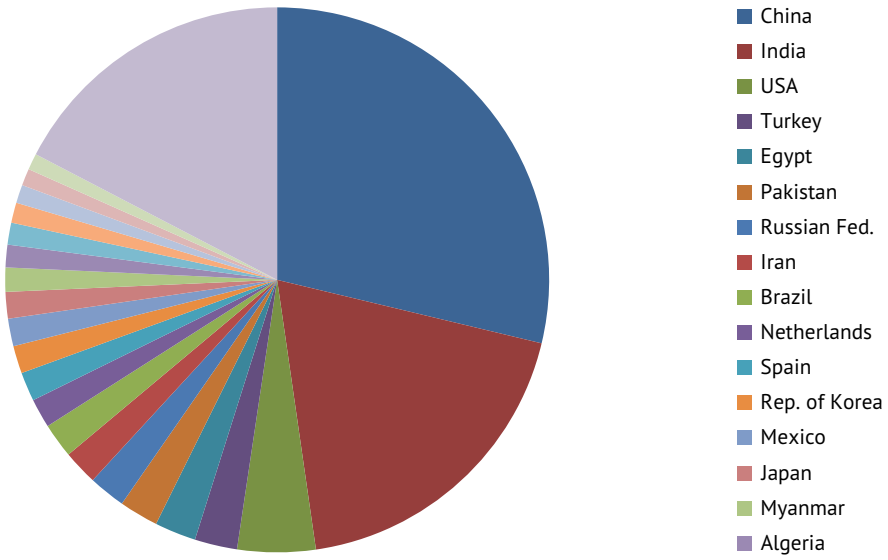
II. Given the fact that exports range between 1.5 to 2 MMT, we are of the opinion that actual household consumption demand is not more than 9 MMT currently and indirect demand is around 3.5 MMT. In other words the present demand for onion in the country can be indicatively considered as under:

Total Annual Consumption (Household) 2011-12	9.00 MMT
Indirect demand	3.50 MMT
Export demand	2.00 MMT
Total:	**14.50 MMT**

We would like to hasten here that a more precise consumption estimate will be helpful in tackling price volatility and determining surplus availability for exports. It has been found that onion exports and domestic prices are a subject of intense speculation with various related issues surrounding Market support operations, MEP on exports, etc. and these are sought to be handled on ad-hoc basis.

Global Scenario and Exports from India

Major Onion Producing Countries



Source: FAO (2009)

With over 70 million tonnes onions produced globally, China occupies the first position accounting for over 25 percent of total production, followed by India contributing around 20 percent of world onion production. However India leads the list of exporters of onion followed by Netherlands. Netherlands has traditionally dominated global trade in onions and is having a strong hold over the European market for onions, which are basically white/yellow varieties that are less pungent.

Destination-wise Onion exports from India – 2008-09 to 2010-11

Country	2008-2009		2009-2010		2010-2011	
	Qty. in MT	Value*	Qty. in MT	Value*	Qty. in MT	Value*
Dubai/UAE	199492	24912.66	159294	20748.78	139199	19318.46
Sharjah/Abu Dhabi	4559	489.86	128	18.58	91	25.09
Bahrain/Jeddah	20191	2619.77	15080	2244.33	11660	1744.49
Dammam	18231	2191.81	14497	2344.03	11657	1672.3
Doha	22465	2724.13	19099	2693.77	20624	3091.36
Kuwait	21142	2714.03	13762	1924.96	18394	2824.22
Muscat	11353	1271.52	8387	1151.58	18645	2650.4
Re Union	6550	1324.08	4842	1088.28	3553	758.91
Seychelles	1092	218.95	844	228.86	962	225.47
Singapore	27387	3468.62	27153	4033.96	24152	3751.91
Malaysia	279515	35171.72	320616	47653.96	293790	55860.29
Sri Lanka	165401	20563.72	137618	22770.16	130919	20799.6
Bangladesh	722359	88194.43	916118	141418.68	488930	71931.35
Nepal	33987	2963.42	37562	5805.1	31266	4403.34
Maldives	6274	1161.94	6103	1287.38	5023	1199.71
Philipines	23987	4139.2	16241	3781.65	1886	517.87
Mauritius	11017	2306.03	13782	3138.97	6535	1418.41
Pakistan	169918	21045.1	104637	11168.36	49992	6092.14
Greece			1468	375.64	1121	214.31
China/Hongkong	92	12.93	6694	1096.45	3639	707.53
Brunie	2021	524.1	2337	545.5	1875	656.37
Indonesia	9388	1394.83	8678	1395.12	40087	9452.65
Italy	2160	400.62	3673	933.35	2055	462.31
Jebel Ali						
Vietnam			2152	378.41	15162	2350.55
UK	12020	2146.48	2279	677.64	2127	551.54
Oman			8047	891.64	2932	374.35
Iran	1007	129.24	12684	1883.75	5221	855.64
Others	11672	2223.06	9227	1749.29	9248	2000.51
Total	**1783280**	**224312.25**	**1873002**	**283428.18**	**1340745**	**215911.08**

Source: All STEs *₹ in Lakhs

Bangladesh, Malaysia and Sri Lanka form the largest block for Indian onion exports, followed by Arabian Gulf countries. Indian onions are preferred in these destinations for the pungency and extensive usage in daily food preparations. Price is not a critical issue as they continue to buy all through the year at prices ranging from US$ 125 pmt to US$ 500+ pmt FOB.

While Indian government might think that higher MEP could moderate exports and thereby cool domestic prices, it has been observed that exports are driven by

- Demand from importing countries – In this regard a casual look at the per unit value realization shows that exports tend to increase notwithstanding higher FOB levels. Thus even when per unit value realization is over US$ 500 pmt exports were brisk. Whereas now the MEP is US$ 125 pmt exports are sluggish.

- During the last four years, exports during the month of March have been comparatively higher and likewise in three years out of last four years exports during month of July have been higher. It is interesting to note that export volume has little co-relation to domestic prices. Nevertheless when domestic prices are higher, exports do fetch a higher unit value realization.
- Buyers are willing to pay higher prices year after year, as Indian onions are well received in the destination markets for their taste, color and size. In fact Indian onions command a premium over Pakistani and Chinese produce.
- Soil, Climate and Geographic factors in the onion belt of Maharashtra have bestowed unique advantage for Indian onions in export market. Hence demand for Indian produce will continue to flourish but we have to sharpen our preparedness for capitalizing on global opportunities for better price realization and greater market share.
- Onions produced in Gujarat, besides Bengaluru Rose and Krishnapuram varieties are also being exported regularly.

Instead of focusing on MEP, Government should gather market intelligence on our competitors' position in the global markets – In Asia, China and Pakistan are the main competitors and unless we have definite idea about their surplus and daily prices, India cannot take advantage of the emerging scenario in the global markets.

- Hence we need to have sound market intelligence/data on Pakistani and Chinese production, FOB prices, etc.
- Indian Onions are quite well known in the Asian markets and exporters too are well equipped to tap the potential. However, we have to gear ourselves to serve European markets in terms of quality, packing, taste preferences, etc.
- It is also believed that Indian onions find their way to European markets through Dubai where they are repacked as per destination market needs.

From export point of view, kharif onions from India are not export worthy. Hence our competitors get an opportunity to grab a share of the market during the time of shortage of quality Indian onions i.e. during non-availability of Rabi/Nasik origin produce. Government should look into this aspect and ensure that producers of quality onions get a fair price, as they are in demand globally.

There is a niche market for white/yellow onions from Gujarat and some South Indian varieties, which are also exported.

From export point of view it is important to know the production of quality (export worthy) onions in Maharashtra, stocks lying with resourceful farmers, stockists and exporters, then take an informed view on restrictions if any are required.

India has a natural advantage in the production and export of onions which needs to be strategically improved, so that the country can increase its share in the global market.

Farmers Interest versus Domestic Prices in Onions

Onion farmers have demonstrated their capability to increase production year after year. However onion prices have been highly volatile and more recently the prices have been sluggish. This has resulted in **MSAMB seeking price support**.

In view of the huge rabi onion production in Maharashtra State in the current season, Maharashtra State Agricultural Marketing Board (MSAMB) is seeking central government assistance to implement price support

operations, which will ensure a fair price to farmers and stem distress sale by farmers. A pragmatic view and a pro-active policy in this situation will go a long way in ensuring a robust onion economy.

Cost of production of Onion during 2011-12 in Maharashtra

S. No.	Operations	Cost ₹/ha		
		Kharif	L. Kharif	Rabi
1	Land Rent for Six Month	10000	10000	10000
2	Seed Cost	4800	4800	4800
3	Nursery Raising	3500	3500	3500
4	Land Preparation	7000	7000	7000
5	Transplanting	8000	8000	8000
6	Irrigation	4000	6000	8000
7	Manures & Fertilizers	16000	17500	17500
8	Weeding & Hoeing	6000	6000	6000
9	Plant Protection	4000	4000	4000
10	Harvesting, Curring, Sorting, Grading & Packing	7000	8000	8500
11	Transportation	3000	3500	4000
12	Supervisory Charges	1500	1500	1500
13	Overhead Charges	1000	1000	1000
14	**Total (₹)**	**75800**	**80800**	**83800**
15	Bank interest @10% p.a. for 6 Months	3790	4040	4190
16	**Total Cost (₹)**	**79590**	**84840**	**87990**
17	Average Yield (q)	160	245	250
18	Cost per Quintal (₹)	497	346	352

Source: NHRDF

In view of the affordable cost of production, especially rabi onion (which accounts for 60% of total onion production in the country), farmers will continue to favor onion production.

Extreme price volatility in onion has been observed during the period October through February, coinciding with the arrival time of kharif/late kharif Onions, especially when there is a drop in production due to weather aberrations/unseasonal rains at the time of harvest. Thus in the year 2009-10 and 2010-11 onion prices hit the roof forcing the government to resort emergency measures. Exports too had to be suspended and further subjected high Minimum Export Prices (MEP). However in the current season prices have been extremely sluggish threatening farmers' margin and viability of onion cultivation.

Onion prices below ₹ 6/kg seem to be low/insufficient to induce farmers to undertake onion cultivation in a big way. If this issue is not addressed dispassionately farmers are likely to incur losses and other consequences will follow. Shortage of onion in the market has always resulted in extreme volatility in prices, unnerving the government.

With a population of over 1.2 billion, current production of onions (over 15 million tonnes) cannot be termed as excess and hence the present sluggish wholesale price of onions seem to be seasonal and the prices will start recovering as soon as the stocks move into strong hands. On the other hand, the mindset of consumers towards onion prices is also partly responsible for the hue and cry that is made, when the onion prices increases. It is common knowledge that vegetable prices tend to be cheaper during season and slightly expensive during offseason. However undue rise in prices of onions, as was witnessed during September 2010 to January 2011 too is not acceptable.

We have to stress here that a stable price can be ensured if there is reliable data on production and build-up of stocks is monitored. This alone will help in deciding market intervention for price support operations, as also release of stocks for stabilizing prices.

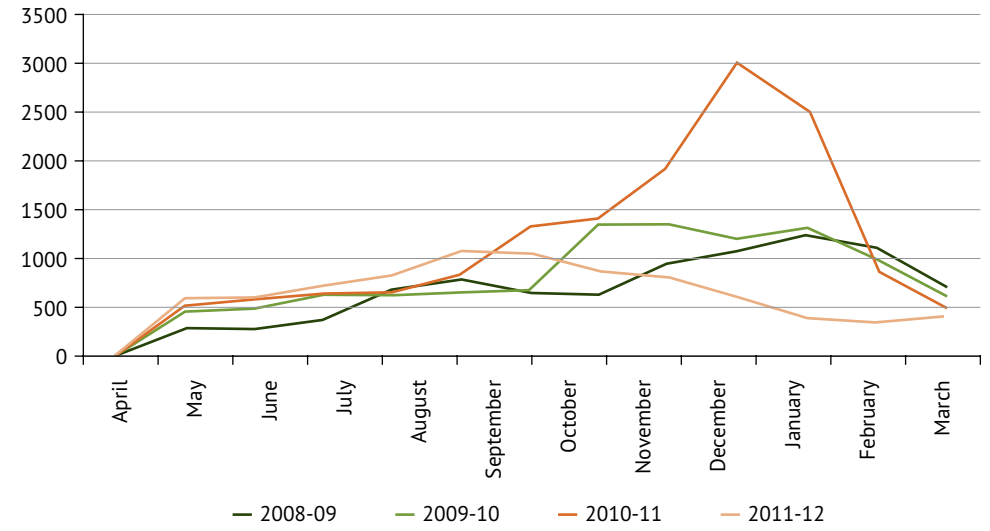
Both Maharashtra government and the Central Government are unable to quickly address the situation, with the result farmers in Maharashtra are threatening to resort to agitation if the government is unable to ensure a fair price to the farmers.

Of late we come across farmers selling directly to retail chains and F&V outlets like Mother Dairy. While this will help in better price realization for farmers, traditional marketing channels still dominate onion distribution across the country.

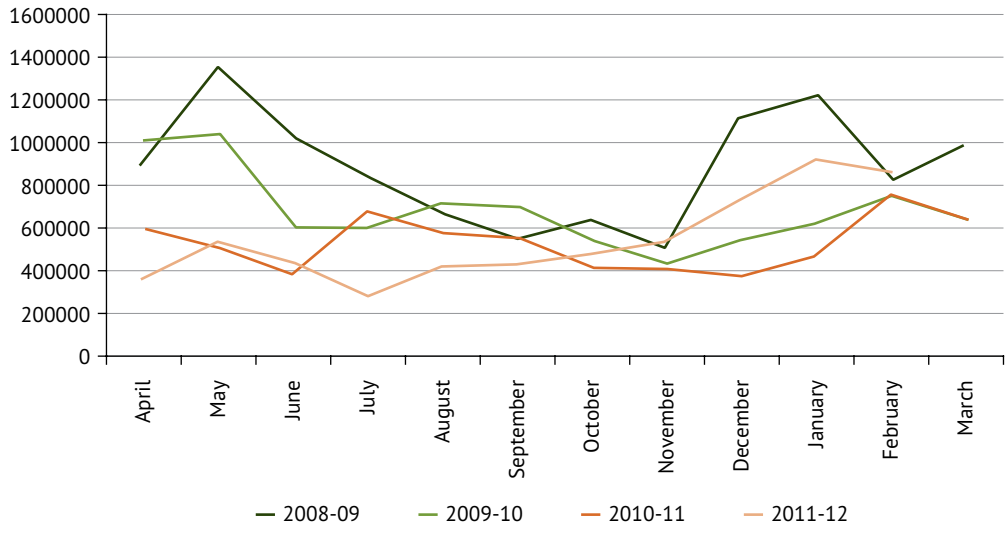
Storage Issues

Cold storage in onion is not a common practice in India, due to prohibitively high costs and technical feasibility. Considering the low prices of onions, expensive storage models will threaten viability and hence the need for cheap and efficient storage structures. This way rabi onions can be stored conveniently during the period May/June to October.

Wholesale rates of Onion in Nasik (₹/Qtl) – 2008-09 to 2011-12



Onion arrivals in Nasik during 2008-09 through 2011-12
(*In Quintals*)



POTATO

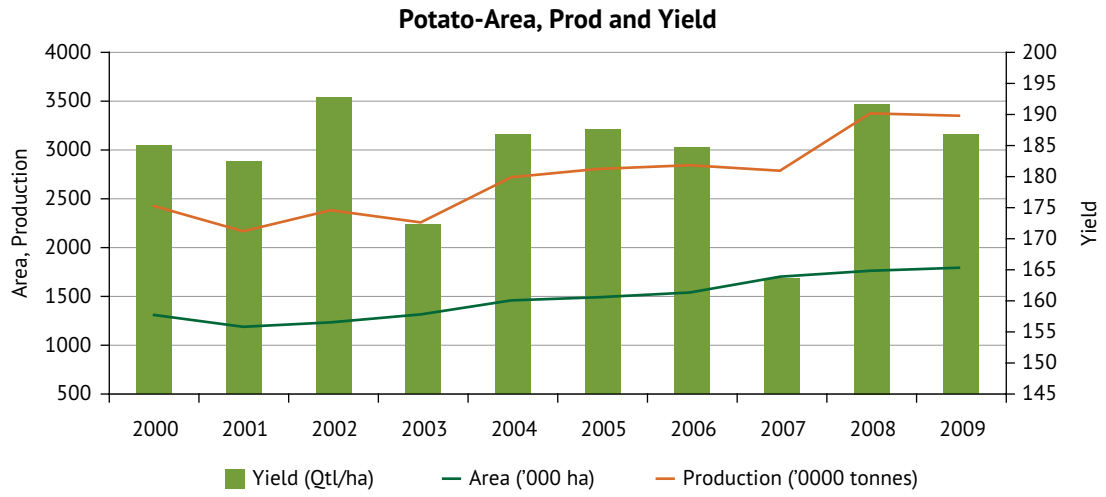
Potato- "The Food for Future"

The potato is the third most important food crop in the world after rice and wheat which is consumed by more than a billion people worldwide. Both potato production and consumption are accelerating in most of the developing countries including India and it is expected that the trend will continue for the years to come. The two emerging Asian economies, viz. China and India together contribute nearly 1/3rd of the global potato production today. Potato is preferred in these densely populated countries largely because of its high productivity, flexibility in terms of fitting into many prevailing cropping systems, and stable yields under conditions in which other crops may fail. Potato consumption in this region is increasing due to increasing industrialization and participation of women in the job market that created demand for processed, ready-to-eat convenience food, particularly in urban areas. Keeping in view the potential of potato in the food security of developing nations, FAO has declared it as the "food for future".

Potato in India

Potato in India is considered as vegetable item not as staple food. The per capita consumption of Potato in India is far below many of the developed nations. In fact, China has identified potato as the key crop from which 50% of its extra food demand during next 20 years will be met (http://www.cipotato.org/press-room/press- releases/feeding-the-future).

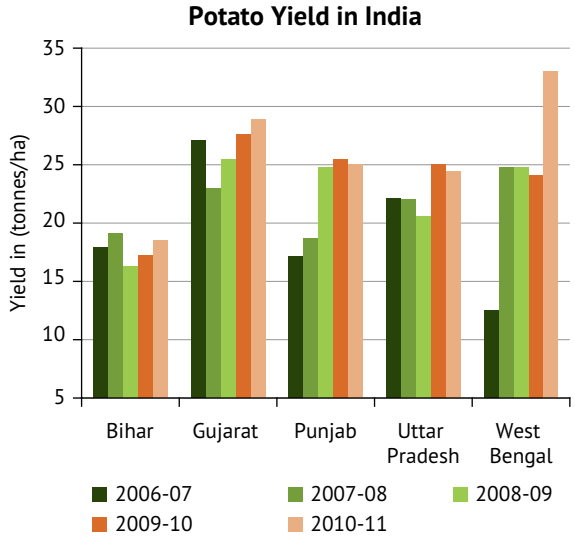
Potato in India is cultivated in approx 18-19 lakh hectare which is around 1.25% of total cultivable area in India. It contributed around 2.42% of agricultural GDP in 2008 from 1.25% cultivable area. Among the vegetables segment, the share of potato is estimated to be approx 26%. The below chart shows the production, Area and Yield trends of Potato in India:

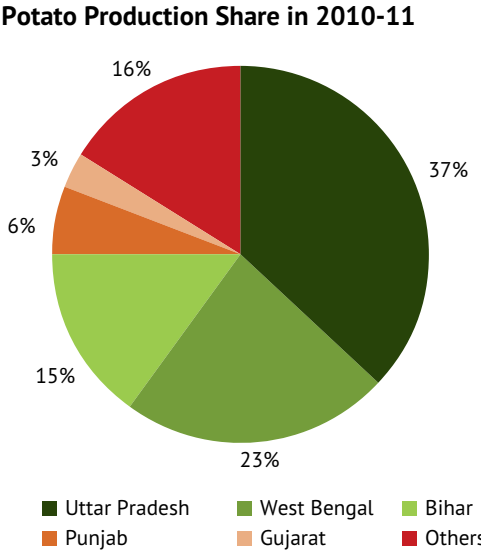


Source: NHB

Production of potato has increased in the last ten years due to increase in area under cultivation. The yield is more or less static except in year 2003 and 2007 when it decreased substantially due to abrupt weather condition during tuber formations and untimely rain in producing regions. The continuous growth in acreage is not possible, India has to improve its productivity to cater the demand and stable productions. After every 3rd year a dip in yield is seen which severely impacts the demand and supply balance sheet of Potato the very next year.

Although potatoes are widely grown in India, the climatic variations across the country determine its distribution and cropping patterns. More than 80 per cent of the potato crop is raised in the winter Season (Rabi) under assured irrigation during short winter days from October to March. Generally one crop is grown in this belt during winter, planted from late October to early November and harvested in January through February. However, in UP and in some of the eastern states farmers go for two crops in succession, the first during September to November-December, and the second from November to March. The major producing states and their production share during year 2010-11 is shown in adjacent graph.

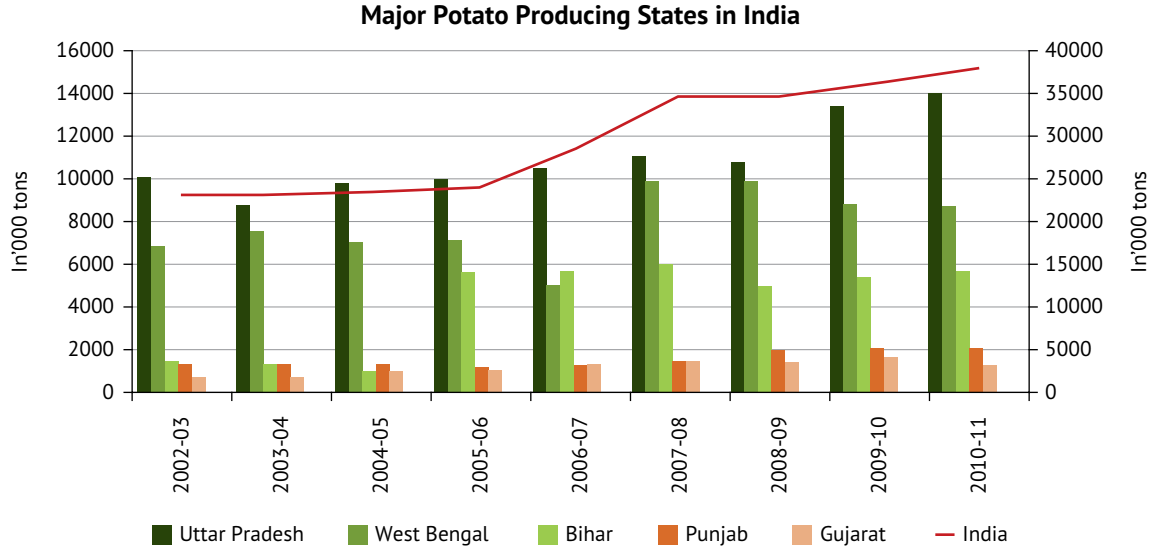




Source: Agriwatch

The potato productivity of Indian states has become stable with exception seen in W. Bengal during 2010-11. Otherwise all major producing states except Gujarat have productivity of less than 25 tonnes/ha. Bihar is least productive states at present among top five producing states.

Production trend of major Potato producing states



Source: NHB

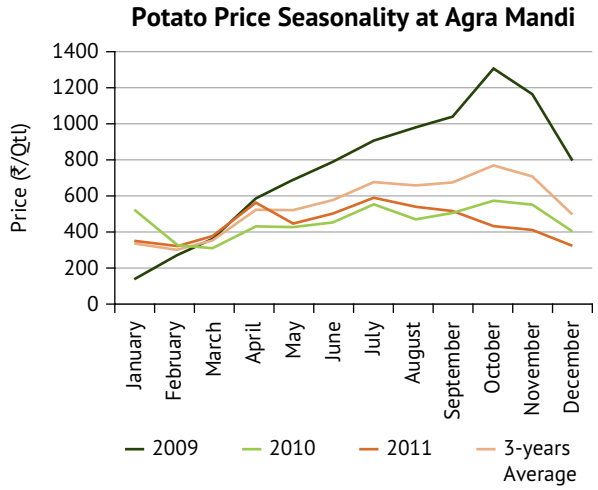
The above graph shows production trend of top five states of India along with India. Since UP and W. Bengal contribute more than 50% of total potato production, any minor deviation in these two states affects the total indian production.

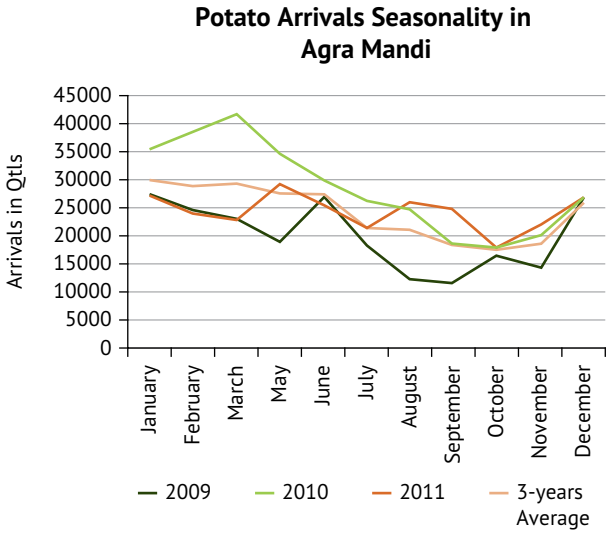
Major Potato varieties in India & its suitability

Potato Variety	Average Yield (tonne/ha)	Crop Duration (Days)	Suitability
Kufri Sinduri	40	110-120	Processing
Kufri Chandramukhi	25	80-90	Flakes & Chipts
Kufri Jyoti	20	80-90	Processing
Kufri Laukar	30	75-80	Processing
Kufri Badshah	50	100-110	Table Consumption
Kufri Bahar	45	100-110	Table Consumption
Kufri Lalima	40	100-110	Table Consumption
Kufri Jawahar	40	80-90	Table Consumption
Kufri Satlej	40	90-100	Table Consumption
Kufri Ashoka	40	70-80	Table Consumption
Kufri Pukhraj	40	70-90	Table Consumption
Kufri Chipsona-1	40	90-110	Chips & French Fries
Kufri Chipsona-2	35	90-110	Chips & French Fries
Kufri Anand	35-40	100-110	French Fries

Potato Prices & Arrivals Seasonality in India

The following table shows the potato prices and arrivals seasonality in metro cities and major producing center:



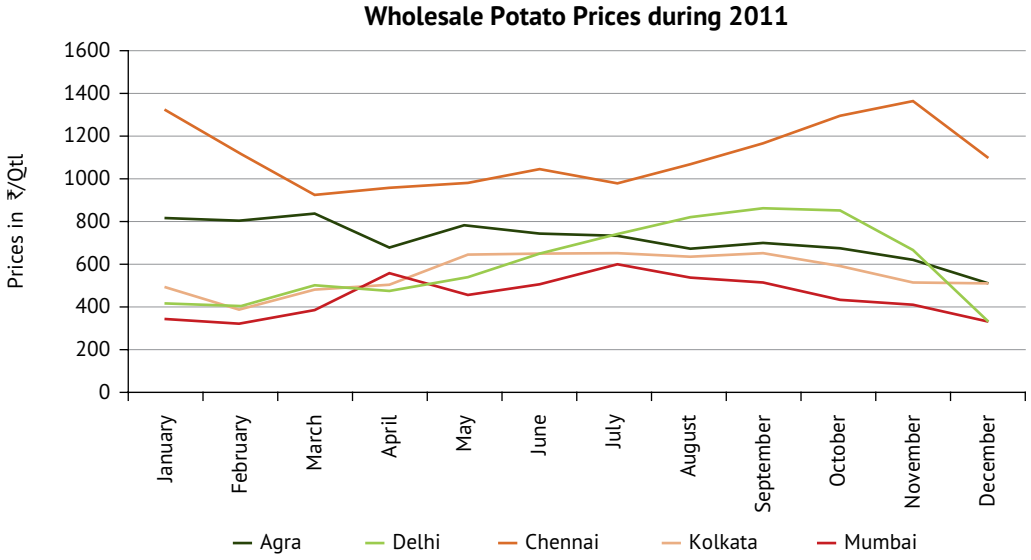


Source: Agriwatch Research, NHRDF

The above adjacent charts show the co-relation between price and arrivals of Potato. Prices start increasing from Feb month onwards as harvesting season comes to an end in UP and Punjab. From April to October, potato kept in cold stores comes to market at higher prices. During peak arrival period, Farmers and Traders store potatoes in anticipation of selling at higher price during lean season of April to October.

Potato Prices in Consumption Center vs Producing Region

The below graph show the monthly average prices during year 2011 in four metro cities of India and Agra. The potato prices and its fluctuation is more in Chennai due to its distant location from producing region like UP and West Bengal.



Source: Agriwatch Research, NHRDF

Potato Consumption in India

Potato is primarily consumed as a vegetable in India although potato processing has gained ground during the last decade. Due to tropical and sub-tropical conditions in most parts of the country, a sizeable amount of potato output is wasted due to post harvest losses. Table consumption of potato tends to decline when other fresh vegetables like Brinjal, Cabbage, Bitter gourd and Onion etc. available at affordable prices and vice versa. The table below shows the average potato utilization during 2007-09:

Potato consumption break-up

	In Million Tonnes	% Share of Total Production
Processing Purpose	2.67	8.20
Seed Purpose	3.42	10.51
Post - Harvest Losses	4.07	12.50
Exports	0.09	0.28
Table Consumption	22.3	68.51
Total Production	32.55	100.00

Source: CPRI, Shimla

Average per capita consumption considering 1.25 billion of population comes to be 18.58 Kg/Year which is much lower than world's average. A major portion roughly 10-15% of total production is wasted due to post harvest losses. This is mainly because of tropical and sub-tropical conditions in most parts of the country and inadequate advanced storage facilities.

The below table shows the Potato Cold storage capacity and Production in major potato producing states:

Potato Production vs Cold Storage Capacities

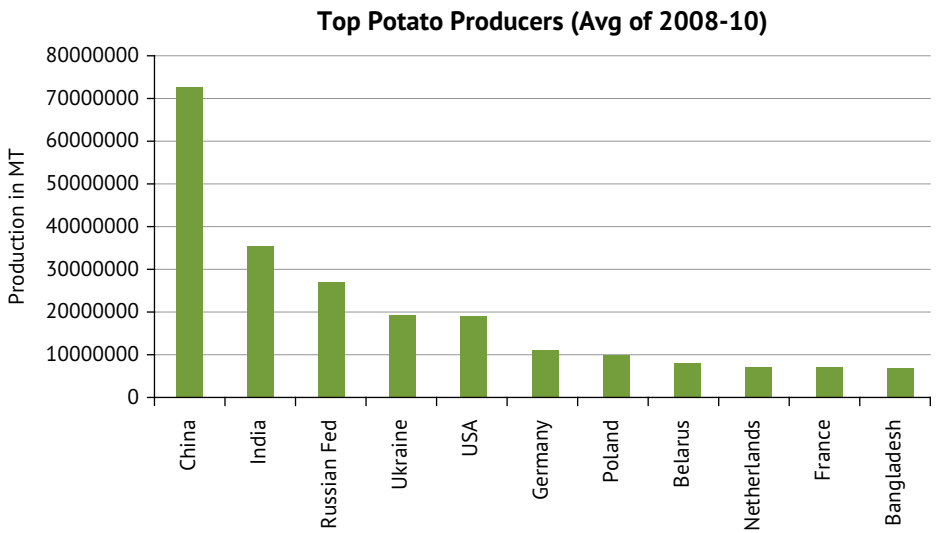
States	No. of Cold Stores	Total Capacity (in MT) as on 31/12/2009	Potato Production in 2010-11 (in MT)	% Storage Capacity to Production
Bihar	228	1069841	5748000	18.61
Gujarat	213	967000	1881800	51.39
Orissa	39	139630	191400	72.95
Punjab	344	1097609	2088000	52.57
Rajasthan	19	65896	75700	87.05
Uttar Pradesh	1286	8719533	13576000	64.23
West Bengal	402	5460000	13391000	40.77

Source: Directorate of Marketing & Inspection and NHB

In the absence of storage capacities prices fluctuates throughout the year. Sometimes, prices fall below the cost of production during peak harvesting season of Dec-Feb and reaches peak during lean season. This forces small farmers into distress sales and losses. The small growers cannot take benefit of cold storages. Yearly prices fluctuation is visible in below weekly price chart of Potato at Agra Mandi.

World Production of Potato

As per latest available data, world average potato production during 2007-09 was 325.84 million tonnes with average area covering under potato was 18.35 million Hectare. India ranks 2nd in terms of production while ranks 3rd as per area under potato cultivation. India has share of 10% total potato production in world. China ranks top with approx 20% share in total potato production worldwide. The top ten country's details are provided in below table:



Country	Production (in MT)	Rank
China	72973542	1
India	35208733.3	2
Russian Fed	27040300	3
Ukraine	19305500	4
USA	18802366.7	5
Germany	11062800	6
Poland	9643620	7
Belarus	7901573.33	8
Netherlands	6982403.33	9
France	6876240	10
Bangladesh	6615333.33	11

Source: FAO

Potato yield (Qtl/ha) of top four Potato producing nations

Country	2005	2006	2007	2008	2009	Last 3 Years Average
China	128.24	146.28	147.57	145.31	146.39	146.42
India	185.92	164.1	193.08	188.13	181.77	187.66
Russian Fed	130.21	128.99	137.23	142.66	136.3	138.73
USA	440.95	444.34	444.37	462.73	450.48	452.53

Though productivity of India is better than other top producers like China, Russian Federation and Ukraine, it is less than half of USA and major European countries. One of the reasons of getting poor productivity by subsistence farmers is the use of locally produced degenerated seed and non-adoption of modern agro-techniques. Making available certified healthy seed coupled with appropriate agro-techniques will immediately improve productivity.

Key Thrust Areas which Needs to be Addressed

Considering the importance of Potato in Indian agriculture and its ability to address the food security issue, following measures are required for sustainable potato production:

- Improving productivity through high quality seeds.
- Development of advanced varieties with high yielding capacities and can sustain weather vagaries.
- Increasing the storage capacities through energy-efficient cold storages.
- Facilitating soft-loans to small farmers and crop insurance at nominal cost.
- Improving the supply chain through proper monitoring at each stage.

Report Compiled by:

AGRIWATCH

INDIAN AGRIBUSINESS SYSTEMS PVT. LTD.

H-128, First Floor, Sector 63, Noida - 201 301, India
Tel: (0120) 4618100 | **Fax:** (0120) 4618118

Email: services@agriwatch.com
Web: www.agriwatch.com

Report Produced by:

SFAC
लघु कृषक
कृषि व्यापार संघ

SMALL FARMERS' AGRIBUSINESS CONSORTIUM

NCUI Auditorium Building, 5th Floor, 3 Siri Institutional Area
August Kranti Marg, Hauz Khas, New Delhi - 110016
Tel: (011) 26862365, 26966017 | **Fax:** (011) 26862367

Email: info@sfacindia.com, sfac@nic.in | **Web:** www.sfacindia.com